



**Karnataka
Curricular
Framework for the
Foundational Stage
(3 – 8 years)**

Report of the Subgroup 1

February 2023

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MESSAGE

Karnataka has been at the forefront of implementing the transformative recommendations put forth by the National Education Policy 2020. The State associated itself with the conceptualization of the policy by preparing the position papers, adopted the new policy and set up the Task Force for supervising the implementation of the Policy. With the National Curricular Framework for Foundation Stage (NCFFS 2022), the State got a clarity to go ahead with the implementation of suggestions with regard to children of 3-8 years. Now, with the Report of the group assigned with the task of preparing a Karnataka Curricular Framework for Foundation Stage (KCFFS), Karnataka has become the first state to bring out a draft for State Curricular Framework for the Foundational Stage based on NCFFS 2022. With this, the legacy of activity-based pedagogy of teaching-learning of the State which got reiterated by the National Education Policy 2020 and Curricular Framework will be continued with contextual modifications.

Reiterating the importance of the Foundation Stage for the later years of learning, the Department of School Education & Literacy and Women & Child Development consciously decided to relook at the existing methods of teaching and learning of their children in both Anganwadis and Primary Schools for further improvement. Karnataka has a unique practice of multi-grade teaching which supports the individual child to learn at their own pace. Both the Departments and the independent experts have taken up evaluation of different aspects of Nali Kali - the content, transactions within the classrooms, levels of learning across the ladder etc. The competencies expected at the end of Foundation Stage as per the NCF call for better inputs and engagement from the Nali Kali classrooms. The new State Curricular Framework is expected to guide the Department to fine-tune the syllabus and activities taken up in the primary classrooms. Moreover, it gives direction on the steps taken up in pre-primary sections of Government Schools though their numbers still remain very small

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compared to the number of Anganwadis or Primary Schools. It is also expected that the State Curricular Framework for foundational stage will help private pre-primary schools to benchmark their classroom transactions to defined levels. Though it may take more time to effect all the changes recommended in NCFFS and SCFFS as it demands a restructuring of existing systems, the direction is defined and demands are articulated. As soon as wider consensus is arrived upon and increased requirements of resources for pre-schools and primary schools are understood and acted upon, the roll out of revamped ECCE for all children of 3-8 years in the State would be a reality. The State Curricular Framework for the Foundation Stage will further improve the overall learning of the children of pre-primary and primary levels of the State.

With the addition of new 'Viveka' classrooms, induction of 15,000 newly recruited teachers and continuation of Kalika Chetharike in 2023-24, Public-School Education in Karnataka will continue to see the positive changes.


(B.C. NAGESH)



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MESSAGE

The Department of Women and Child Development (DWCD) in Karnataka has taken up several initiatives to improve the conditions of Anganwadis in the State. The infrastructure of a large number of Anganwadis saw a visible improvement using the funds allocated to the DWCD, Department of Rural Development and Panchayati Raj and with the support of the Community. The enhancement of the unit cost of Anganwadi construction to 20 lakhs helped to reimagine the space and facilities available inside the Anganwadi. With the addition of 4000+ new Anganwadis declared in 2022, the coverage of the Integrated Child Development Scheme (ICDS) will be more, covering hitherto uncovered habitations and colonies, especially in Urban areas. Other components of the ICDS program viz., supplementary nutrition, immunization, health education etc., also saw better support and coordination among various departments. One area that continued to remain a concern was the Pre- School Education. Though efforts to improve the existing Chili Pili curriculum and the overall Education component under ICDS were progressing for some time, the Covid-19 Pandemic slowed down the process. With the release of the National Education Policy in 2020 and the successful progress of the piloting of the new Early Childhood Care and Education (ECCE) component in Kalyan Karnataka districts, the proposed changes became clearer and more convincing to all.

The specific attempt to bring out a new comprehensive ECCE system in the State for the Children of the age group of 3-8 years started with the formation of expert teams in 2022. The different teams have deliberated various aspects of the new system to be adopted in the State - ensuring that children in Anganwadis have all-around development in the domains listed in NEP and ensuring that the foundational competencies are developed. The teams also worked out the mechanism of capacity building of Anganwadi staff, the Departmental officials and the strategies to ensure the support of parents

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and the wider community in this effort. Taking the inputs from NCF and findings of recent developments in ECCE, the First team of experts has finalized their report as a draft State Curricular Framework for the age groups of 3-8 years of children. I understand that this report will help to finalize the next set of administrative actions that are needed to roll out the new ECCE component of ICDS in the State- a first in the entire country.

The department has already taken some of the administrative decisions to support the rollout of new ECCE in the department – setting up of demonstration Anganwadis, the constitution of an ECCE cell in the Directorate, refixing the eligibility of selection of new Anganwadi staff, redesignating the Anganwadi Worker as Anganawadi teacher, increasing the allocation of funds in the State budget for rolling out new ECCE in more Anganwadis etc. These are only the first set of steps and will need to be supported with many more administrative follow-ups and academic interventions.

The implementation of the recommendations of the various groups will ensure the successful transformation of existing Chili Pili to Chili Pili 2.0 – an initiation to a new approach to learning for our children in Karnataka.

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Ritesh Kumar Singh IAS
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Date: 15.02.2023

MESSAGE

Karnataka has implemented programmes which ensure child-centred learning and activity-based pedagogy in Anganwadis and lower grades of primary schools for many years now. The *Chili Pili* programme for Anganwadis and *Nalikali* for grades 1-3 of primary schools are customized teaching-learning method developed within the State for children of 3-8 years. Both programmes are progressive and improved versions of those previously used. The Anganwadi workers and Nali Kali teachers improvised the content and pedagogy to contextually suit the learning needs of their students, thus strengthening the effectiveness of the programme.


In some places, NGOs were facilitating the ECCE programs by attempting variations which enabled better results while continuing to ensure child-centred learning and activity-based pedagogies. Under Kalyana Karnataka Regional Development Board (KKDRB), this attempt was started at scale to cover all Anganwadis in those districts. A consistent effort to improve the content and the structure of the program continued to take place in the State. While Nali kali was regularly revised and changes suggested were implemented across the state, Chili Pili revisions were tested in selected Integrated Child Development Scheme (ICDS) Blocks. However, a large section of parents aspired for better engagement, curricula and learning environments for their children in the Anganwadis and primary school classrooms.


The NEP released in 2020 brought focus on the importance of formative years and the foundational stage of learning. The state undertook an effort to review the ECCE programs in their entirety and formed six groups comprising experts and practitioners to formulate a better ECCE framework for the State at the beginning of 2022. The mandate given to the groups covered the development of a new Curricular Framework, preparation of syllabus & teaching-learning methods, detailing the plan for capacity building, clarifying the community's role in child development, proposing better mechanisms of monitoring and supervision, and defining the interventions for the children of age 0-3 years. The groups held multiple interactions with the department and stakeholders. In the meantime, the National Curricular Framework for the

Foundation Stage by the Ministry of School Education, and the Task Force Report on ECCE from the Ministry of Women & Child Development were released. These reports gave further clarity and momentum to the finalization of the recommendations of the groups. All groups have completed their initial deliberations and finalized their draft reports which will be made available for wider consultation and comments shortly.

We are happy to present the report of the first group led by Ms Venita Kaul, Professor Emeritus of Ambedkar University, Delhi. The members of this group included Ms Lata Menon, Education Specialist, Mr Mohammad Baig, retired Director Education Department, Ms Kinnari Pandya, Assistant Professor Azim Premji University, Ms Radhamani ECCE specialist, Mr Gajanan Londe, Executive Director Samvit Research Foundation, Ms Gunavathi Samagra Shikshana, Ms Shanta Maria Dean Mount Carmel College and Ms Veena K Shivakumar Advisor (Education) UNICEF. We thank the groups who have undertaken the challenging task and diligently prepared the report. We hope that this report will help and enable focused discussions and informed decision-making that can be translated to administrative actions and roll out of a new system of ECCE for the children of 3-8 years in the State.

The reports of the other groups will be released soon.


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About the Document

This document has been prepared after discussions with the Department of Women and Child Development and the Department of Education and is meant for the use of all departments and agencies that manage Foundational programmes for children aged 3-8 years in Karnataka. It adapts the National Curriculum Framework released in October 2022 for the education of children from three to eight years of age to the Karnataka context. The Framework presents the direction for the proposed changes in the curriculum and the reasons for it. It describes the pedagogy for Foundational education and identifies a few of the systemic reforms necessary for effectively implementing these changes.

This Framework is developed for use by all those who are interested in the care and education of children in their earliest years of life. These include all who work directly with the child including teachers, Anganwadi workers, parents, and community leaders. It is also to be used by teacher educators, supervisory personnel, policymakers and officials of the government as well as the management of private institutions who contribute to improving the quality of early education and development of children between three and eight years of age. The Framework has been prepared with the aim of familiarizing all stakeholders with:

1. The *concept and objectives of the new Foundational stage* of School Education, which now consists of an upward extension of the early childhood stage (from 3 to 6 years), to children up to 8 years of age.
2. The *need, rationale and importance of this structural change* which consists of the curricular integration, upward continuity, and a smooth transition across the two developmental sub-stages – i.e., 3 to 6 years and 6 to 8 years.
3. The *objectives, structure, and content* of an age/developmentally appropriate and outcome-focused curriculum, within the Foundational stage. The interventions described have kept in mind the different innovative curricula used by the state such as the Chili Pilli, Chili Pilli Plus and the programmes developed by NGO partners like Prajayatna, Akshara Foundation, and Kalike for preschool education and Nali Kali for the primary stage of Education.
4. The rationale and curricular implications for the emphasis on *play and discovery-based pedagogy* that is required by the NCF (2022) for the Foundational stage.
5. The *systemic reforms* required - which describe the support to be provided to parents and community, support to teachers to deliver quality, the mechanisms that will be put in

place for effective supervision, monitoring and mentoring, and providing appropriate service conditions for all functionaries.

6. Some *basic principles or guidelines* for adoption of a comprehensive and coordinated approach, from an immediate and medium- term perspective, at the state and sub state levels to make sure that the proposed reforms receive the attention, time and resources, necessary for equitable and quality services for children.

The reforms will enable every child in the 3-8 age group to get the benefit of a cognitively and socio-emotionally stimulating, enriching and age-appropriate curriculum in the early years.

Structure of the Document

The State Curriculum Framework for the Foundation Stage (SCF) comprises eight sections which provide stakeholders with the option of more comprehensive reading or more selective usage, as per their needs and interests.

Chapter 1 lays out the *context* for the State Curriculum Framework in terms of (a) the larger vision for education in the 21st century (b) Multidisciplinary research evidence from fields of Neuroscience, Economics and Child Development /Education that demonstrates the critical importance of the early years for lifelong learning ; (c) Our traditional practices, and views from philosophers and educationists, both from India and the west, who have contributed to our understanding of what is a developmentally appropriate curriculum for young children, d) the National Education Policy (2020) and its recommendations for the Foundational stage.

Chapter 2 focuses on and provides an analytical *review of the Karnataka situation*, its long history of innovations both in ECD and Foundational education and discusses issues that will be addressed and includes some solutions that keep in mind, the unique situation and challenges faced in the state. The section has to be read with Annexure 1, which provides a more detailed view of the situation in the state, including infrastructure and human resources for Foundational stage education, the state's performance on major educational indicators and the linguistic diversities in the population that call for nuanced curriculum decisions.

Chapter 3 spells out (a) the *goals and objectives of early childhood education and Foundational stage* as envisaged in the NEP 2020 and the NCF and adapted for the state context ; (b) what constitutes all round development and school readiness i.e. the developmental domains, emergent literacy, and numeracy in the early years and twenty first century skills and c) principles and processes in developing the early learning curriculum framework- developmental domains, sub domains, learning competencies and learning outcomes.

Chapter 4 discusses the *three main pillars of children's learning* focusing on the language of interaction and instruction i.e., the importance of education in the mother tongue, the role of play in children's learning and the critical role of the teacher. It discusses play and its importance, how play parallels development in the child and how this knowledge is useful for curriculum designers. In addition, it discusses the importance of teachers and the community as enablers of children's learning.

Chapter 5 on *Pedagogy and assessment in the Foundational Stage* details out important

educational principles and pedagogical approaches for ensuring effective learning in the foundational stage including a) the importance, principles and content of play and play based pedagogies, b) strategies for development of early literacy and numeracy skills including children with developmental delay and disability and d) principles , methods and tools of assessment

Chapter 6 deals with *planning and organizing the foundational curriculum*, organizing the learning calendar and organizing the learning environment in the classroom. It discusses different curriculum approaches (thematic, activity and story- based approaches) principles of curriculum planning, arranging the classroom environment for play- based learning and selecting and use of appropriate teaching and learning material.

Chapter 7 discusses state plans for *Ensuring an Enabling Environment* and training and empowering teachers. This includes a) the implications of the NEP recommendations for creating an equitable school environment b) immediate measures for Enabling Teacher Effectiveness (ensuring minimum teaching hours, creating inclusive teacher led curricula, creating awareness on play- based pedagogies, and supporting joint mentoring teams) c) principals for teacher empowerment programmes and setting up structures and systems for joint training.

Chapter 8 discusses the *five central principles of educational reform* and its implications for early education (inclusion of 3-6 years in the educational structure, a focus on foundational literacy and numeracy, support to play - based pedagogies, advocating for mother tongue as a medium of instruction with multilingual approaches and professionalizing of the teaching force in early education.) It then goes on to discuss the implication of the reform for Karnataka. The chapter also presents a detailed road map for actions and timelines to get the reform process up and running in the state- including policy, administrative and academic actions with indicative timelines.

Table of Contents

Chapter 1: Introduction to the State Curriculum Framework: Setting the Context.....	1
1.1 Reimagining Education in the 21st Century and the Early Childhood and Foundation stage:.....	1
1.2 Scientific Evidence to Support the Significance of ECCE	1
1.3 Indian and Western Philosophers and Theorists and their Guidance on Foundational Curriculum	3
1.4 Important Initiatives in the Area of ECCE in India.....	5
1.5 National Education Policy (NEP-2020).....	8
1.6 Nipun Bharat (National Initiative for Efficiency in Reading with Understanding and Numeracy)	10
1.7 Envisioning the State Curriculum Framework (SCF): Some guiding principles	10
Chapter 2: Analysis of ECCE and Foundational Stage Education in Karnataka	13
2.1 Current State of Foundational Education in Karnataka	13
2.2 Issues in education: viewing Foundational stage education from the NEP/ NCF framework.	15
2.3 Demographic Challenges Needing Action.....	21
Chapter 3: Curricular Goals and Learning Competencies for the Foundational Stage.....	24
3.1 About this Chapter	24
3.2 Aims, Goals and Objectives of the Foundation stage	25
3.3 Developing the Foundational Curriculum Curricular Goals, Competencies and Learning Outcomes	29
Chapter 4: How Children Learn at the Foundational Stage	45
4.1 Mother tongue or home language of the child as medium of instruction/interaction.....	46
4.2 Importance of Play for Children’s Learning.....	50
4.3 The Foundational Stage Teacher.....	54
4.4 Significance of Family and Community.....	56

Chapter 5: Play based Pedagogy & Assessment in the Foundational Stage.....	58
5.1 Curriculum Reform in the Karnataka Context	58
5.2 Play Based Pedagogy	62
5.3 Early Language and Literacy	69
5.4 Emergent and Early Numeracy.....	80
5.5 Including Children with Developmental Delay and Disability	89
5.6 Assessment of Children’s Learning and Development at the Foundational Stage.....	94
Chapter 6: Planning and Organizing Learning in a Foundation Classroom	104
6.1 Planning and Organizing a Play-Based Curriculum	104
6.2 Organizing the Learning Calendar	108
6.3 Organizing the Learning Environment.....	112
6.4 Teaching Learning Materials (TLM) for Preschools and Schools.....	117
Chapter 7: An Enabling and Empowering Environment for Teachers	119
7.1 Vision for Foundational Stage and Role of Teachers	119
7.2 Ensuring an Enabling Environment for Teachers.....	120
7.3 Immediate Measures for Enabling Teacher Effectiveness.....	120
7.4 Medium Term Measures.....	127
7.5 Ensuring an Inclusive Teacher Empowerment Programme	131
Chapter 8: The Way Forward – Recommendations and Road Map of Action	133
8.1 Reforms and their Implication for Education in the Early Years.....	133
8.2 Roadmap for Immediate, Medium & Long-term Policy Decisions, Administrative Actions and Academic Interventions to Implement the SCF	145
Annexure 1: Karnataka – A profile of situation and services for children 3-8 years.....	150
Annexure 2 : TLM & Activities list for the foundational stage.....	178
Annexure 3 - The Road Map for operationalizing the KSCF.	184

Chapter 1: Introduction to the State Curriculum

Framework: Setting the Context

1.1 Reimagining Education in the 21st Century and the Early Childhood and Foundation stage:

The National Education Policy (NEP, 2020) observes that children, in large numbers, are going through our schooling system today without being able to even learn the basic skills of literacy and numeracy! The challenge before us presently is ‘*Can we invert this pyramid*’? Can we ensure that every child born in India is able to get opportunities to engage with learning that is meaningful, contextually relevant and enabling to help her/him realize her full potential?

As children currently in primary school move into adulthood, they will face a world that is rapidly changing, where technology is rapidly taking over many jobs otherwise done by humans. The World Bank has discussed the role of technological advances, and its implications for jobs in the future. In their 2019 report “*The Changing Nature of Work*,” the report cautions that as adults, today’s school children will work on jobs not yet invented! As innovations drive the need for specific skills, future generations (unlike their grandparents and even parents) will change jobs frequently and learn new skills. *What children need to prepare for the future, are a set of skills that will prepare them to be lifelong learners -ready to learn, unlearn and relearn existing knowledge, with skills and attitudes to respond to the emerging opportunities.* Educationists today emphasize what are essentially soft skills, also referred to as 21st century skills or the 5 C’s i.e., critical thinking, creativity, collaboration, communication, and compassion – skills that are best introduced in the early years to be reinforced and built upon in succeeding years.

1.2 Scientific Evidence to Support the Significance of ECCE

In recent decades, particularly since the late nineties, there has been an emergence of very significant and credible research from multidisciplinary sources which has confirmed the importance and need for an emphatic focus on early childhood, to ensure a sound foundation for not only learning but also health, wellbeing, and psychosocial adjustment of individuals all through life. Some highlights of these learnings from different disciplines which have clear implications for the curriculum are described below.

Neuroscience research has shown that the brain synapses that connect the neurons or information processing cells of the brain grow most rapidly during the early childhood years. Two essential

principles of brain development are (a) that more complex brain structures build on the base of simpler ones, and that (b) development occurs on the principle of *use it or lose it*. Brain cells, if not stimulated and supported to grow during the early years, when the development is most rapid, cause the synapses to wither, creating a weak foundation, affecting the development of more complex structures.

All circuits of the brain do not develop at the same time. For example circuits for basic senses like vision and hearing are formed before those for language or higher-level cognitive functioning like problem solving, working memory and impulse control. The periods when circuits are being made, are called *sensitive* or *critical periods* in development. During the early years, the child's brain growth is very responsive to the environment and in particular to the experiences the child is exposed to for development of specific competencies such as sensory development, language skills, social skills, physical motor development and formation of basic cognitive concepts- which are all foundational for higher order thinking in later years. It is for this reason that it is important that children have the right conditions for growth and development in the early years. Ensuring good health and nutrition, opportunities for early stimulation and learning and responsive care within a safe and secure environment are essential for a child's development.

Evidence from Economics: The findings from neuroscience are reinforced by evidence from Economics. Research by James Heckman, the Nobel Prize winning economist, suggests that investment in young children yields maximum dividends, as compared to investment in later school years and adulthood. Heckman asserts that economic benefits to countries and societies are highest when spent on young children and therefore investments in education should target early childhood education programs where the focus should be on developing cognitive and character skills such as attentiveness, motivation, impulse control, persistence, and teamwork.

Research from Child Development and Education: Research in the field of child development from both India and internationally has consistently reinforced the importance of ECCE for-learning achievement in later life. The most recent study to reiterate these findings is the *India Early Childhood Education Impact Study (IECEI)* which is longitudinal research, carried out on 14000 four-year-olds in three Indian states who were tracked annually for five years from 2011 to 2016 and their educational experiences and outcomes studied. This study which contributed to the NEP (2020) recommendations, confirmed that participation in preschool education does make a difference to a child's school readiness levels at age 5 + years. The impact is however more significant if the curriculum is play based and developmentally appropriate for children compared to formal, didactic teaching. It further found that the positive impact of good quality preschool education on school readiness is best sustained over time if there is an upward and seamless

continuity of play-based and developmentally appropriate curriculum and pedagogy from preschool into the early primary years. This leads to a significant and sustained impact on children's learning levels in school, particularly in mathematics and language domains.

1.3 Indian and Western Philosophers and Theorists and their Guidance on Foundational Curriculum

Indian heritage: The understanding that the first few years of life are most significant for lifelong learning and development is not new to India. Our ancient scriptures have extolled the virtue of the first five years of life as important for laying down the *sanskars* in children, which it is believed stay for life. Further, the importance of play for children's development and learning has also been appreciated for generations, as is evident in our rich heritage of songs, grandmothers' stories, lullabies, infant games and rhymes for young children, all examples of this inherent belief that young children learn best through play, rhymes, and storytelling. What is notable is that these traditional practices, while being fun for children, directly support their sensorimotor and language development, thus having developmental significance for the child. The proposed curriculum is aligned with this view that play is the best medium for children's learning in the early years. Both Indian and western thinkers and philosophers have also further contributed to this understanding.

Learnings from Indian Philosophers: Amongst Indian thinkers, *Mahatma Gandhi* introduced the concept of *pre basic education* for the younger children which he believed should focus on holistic education with an emphasis on the *head, heart, and hand*. *Rabindranath Tagore* emphasized learning through play and interaction in a natural environment. *Sri Aurobindo* advocated a free environment for the child to develop all her latent faculties with an emphasis on creativity and expression. *Savitribai and Jyotiba Phule* were strong proponents of social justice committed to the cause of the marginalized. Savitri Bai pioneered girls' education and ensured that girls were also taught science and mathematics, which was exclusively considered to be a male prerogative. For both of them, the cause of education would always be thought of in the context of a larger social agenda for change in society. *Jiddu Krishnamurti*, another well-known Indian philosopher believed that education was about educating the whole person (all parts of the person), educating the person as a whole (not as an assemblage of parts), and educating the person within a whole (as part of society, humanity and nature), thus emphasizing on holistic development in a social context.

Maria Montessori, who was invited to India by Mahatma Gandhi, introduced her exceptional child centred, play and activity based and multilevel pedagogical approach for early years' education,

which was indigenised by *Gijubhai Badheka* and *Tarabai Modak*, in the tribal areas of Gujarat and Maharashtra. Gijubhai conceptualised a child-centred approach for the care and education of young children that must be imparted in the mother tongue and connected with the child's social and cultural environment, while also actively involving the community. The thinking of many philosophers on language as the vehicle of self-expression and the importance of mother tongue to help children freely express their thoughts has been echoed in successive national policies that emphasize that early education should be imparted in the mother tongue.

Learnings from the Western thinkers: Some Western philosophers and thinkers like *Rousseau*, *Froebel*, *Dewey*, and *Montessori*, have been pioneers in the movement of early childhood education. While Dewey emphasized on the wonderful learning opportunities everyday experiences provided for children's learning and believed that the child's own instincts, activities, and interests should be the starting point of education, Froebel believed that action and direct observation were the best ways to educate children, for which play is the best medium. He gave the concept of *free and guided play*. Their ideas have opened the way for sensorial and practical activities forming the curricular content. Their insights into the importance of exploration and play, art, rhythm, rhyme, movement, and active participation of the child led to the inclusion of these elements in classroom pedagogy.

In more recent times, scholars in Developmental and Cognitive Psychology like *Piaget*, *Bruner*, *Vygotsky*, *Urie Bronfenbrenner* and *Gardner* have further emphasised, based on their research, play and activity as the child's natural modes of learning and highlighted that multiple social and cultural contexts children live in, tend to influence their learning and development. *Jean Piaget* emphasised the hierarchical stages of learning in children with the children below 8 years being in a pre-operational stage when they learn only through concrete experiences. He emphasized that children construct their own knowledge by assimilating new experiences and then accommodating the previous knowledge in order to advance their knowledge.

Vygotsky's emphasis on social learning has influenced, contemporary education in a major way. He viewed children as being actively engaged in social and cultural experiences and considered the active interaction between children and more experienced others as vital in the process of co-creation and advancing of learning and development, thus emphasizing the role of the teacher. *Jerome Bruner's* proposition that children represent information and knowledge in their memory in three different but interrelated modes i.e. action-based, image based and language/symbol based, has clear implications for designing the pedagogical process for young children. He also gave the concept of a *spiral curriculum* which involved information being structured in ways that enable complex ideas to be taught at a simplified level first where children learn more through

concrete experiences, and then re-visit at more complex levels later on to arrive at a deeper conceptual understanding.

Essentially the main message that can be decoded from all these thinkers is that children's learning is an active and interactive process in which children learn through play and through interaction between themselves and more experienced others, including parents and teachers. Children move from concrete to abstract experiences through a spiral process of learning involving repetition and revision of experiences. Most importantly that play that children engage in has developmental significance and if pedagogically integrated leads to furthering their growth and learning.

1.4 Important Initiatives in the Area of ECCE in India

The Constitution of India which came into force on 26th January 1950, was the first major document of the new country which protects the rights of Indian children. Article 21A states: *'The State shall provide free and compulsory education to all children of the age of six to fourteen years in such a manner as the State may, by law, determine'* and the amended Article 45 that states *'The State shall endeavor to provide early childhood care and education for all children until they complete the age of six years.'*

Integrated Child Development services (ICDS): ICDS was launched on October 2, 1975 in accordance with the National Policy for Children in India. Over the years it has grown into one of the largest integrated family and community welfare schemes in the world for children below six years. The objectives of the ICDS are to 1) Improve the nutritional and health status of children in the age-group of prenatal to 6 years. 2) To lay the foundation for proper psychological, physical and social development of the child. 3) To reduce the incidence of mortality, morbidity, malnutrition and school dropouts. It provides 6 services that include a set of health and nutrition services and community education, supplementary nutrition and pre-school non-formal education for children between 3 to 6 years.

The National Policy on Education (NPE), 1986: the Government of India's National policy of Education in 1986, emphasized the removal of disparities and to equalise educational opportunity especially for Indian women, Scheduled Tribes (ST) and the Scheduled Caste (SC) communities. The policy viewed ECCE as a crucial input in the strategy of human resource development, as a feeder and support programme for primary education and also as a support service for working women. The Policy especially emphasized investment in the development of young children, particularly children from sections of the population in which first-generation learners

predominate. ECCE was to receive high priority and be suitably integrated with the Integrated Child Development Services (ICDS). ECCE programmes were to be expanded and were to be child oriented, with a focus around play and the individuality of the child. This policy led to the launch of the National Elementary Education Mission 'Education for All' in 1993 and the District Primary Education Programme in 1994.

The National Curricular Framework of 2005: the framework called for a significant expansion of Early Childhood Care and Education (ECCE) and stated that the revision of primary school syllabi and textbooks needed to be undertaken in the light of the well-known principles of ECCE. It was forward thinking in that, it saw and emphasized the need for activity-based teaching learning - emphasizing that activity should be at the heart of the child's attempt to make sense of the world around him/her. It recommended that every resource be deployed to enable children to express themselves, handle objects, explore their natural and social milieu and allow children's classroom experiences to be organised in a manner that permits them to construct knowledge.

The Nali Kali Initiative H.D. Kote Mysore (1995): Though the benefits of activity-based learning was well understood, the strategy to implement it, especially in a multigrade classroom with 5 classrooms and two teachers was a problem that eluded teachers and academics for a long while. The Nali Kali programme developed in Karnataka remains one of the most discussed activity-based learning method in the country.

The genesis of the programme was a micro planning exercise conducted in the villages of HD Kote block of Mysore district during 1992-93 in collaboration with UNICEF which revealed that the unattractive school atmosphere, dull and uninterested classroom, multilevel teaching and a high dependence on textbooks was leading to low learning levels so that many children especially girls dropped out of the school or were never enrolled. In searching for solutions for the challenges, a small team of teachers of HD Kote block made a visit to satellite schools which were operational under Rishi Valley Institute for Educational Resources in Madanapalli Block of Chittoor district of Andhra Pradesh. After understanding the processes involved in the method thoroughly, the group of teachers with subject experts developed activities, learning resources and classroom management techniques, which suited the local environment and culture.

Thus, the novel method 'Nali Kali' Programme originated as a pilot project in 1995 in HD Kote block of Mysore district. Over the next 10 years the curriculum was revised, built upon as more teachers got involved in the effort and slowly spread to cover the entire state in 2008. It remains till date the largest teacher led curriculum development exercise in the state and an indigenous

method that has served to address the problem of multi-grade teaching, of addressing many of the defects of the traditional teaching and curriculum.

Other initiatives of the Government of Karnataka: The Department of Women and Child Development implements various schemes for achieving the objectives of the restructured ICDS scheme. Acknowledging the critical link between maternal health, and health of the newborn, and overall health and well-being of the child especially in the first 1000 days for the child's optimal development, several maternal health programmes launched by the central and state governments are operational in the state. This includes the Bhagya Lakshmi scheme that was launched in 2006-07 as a conditional cash transfer programme which provides financial assistance to the first two girl children of BPL families, the Mathru Poorna programme (2017) for supplementary nutrition for pregnant and lactating mothers and planned parenting education programme in rural areas.

The Karnataka Child Protection Policy 2016 articulates several measures for ensuring rights of young children for survival and development, best interest of the child, equality, universality and non-discrimination, right to participation, dignity and self-worth and confidentiality for all children from birth to eight years of age.

The Right to Education Act (RTE 2010) which came into effect from 1st April 2010 provides free and compulsory education to all children of India in the 6 to 14 age group. The act promises to provide free education to all the children in government schools and includes a provision for private schools to admit at least 25% of the children from economically weaker sections in their schools without any fee. It proposed the constitution of the National Commission for Elementary Education to monitor all aspects of elementary education including quality. There have been repeated requests to expand the provisions of the RTE to include ECE for education of children aged 3-6 years.

National Early Childhood Care and Education Policy (2013) was approved by the Government of India in 2013. The Policy framework includes the National ECCE Curriculum Framework and Quality Standards for ECCE. The vision of the policy is to, "*achieve holistic development and active learning capacity of all children below six years of age by promoting free, universal, inclusive, equitable, joyful and contextualized opportunities for laying foundation and attaining full potential.*" The Policy commits to universal access to quality early childhood education to all children under the age of six years.

NCERT Preschool Curriculum (2019) The National Council of Educational Research and Training (NCERT) released two documents. A) *Guidelines for Preschool Education* that provided the

parameters for infrastructure, qualifications and salary of preschool staff, admission process, records and registers to be maintained, monitoring and supervision, and importance of coordination and convergence with community and parents and B) *The Preschool Curriculum* to enable teachers, administrators, policy planners and other stakeholders in providing quality preschool education. The curriculum highlights the goals, key concepts or skills, pedagogical processes and early learning outcomes for Preschool I, II and III. It also suggests ways of planning a preschool programme, classroom organisation and management, assessment, and building partnership with parents and community.

1.5 National Education Policy (NEP-2020)

The Policy has instituted a major reform in recommending the altering of the conventional structure of school education which began from Grade 1 to now include a new stage i.e., the *Foundational Stage* of education of children from 3 to 8 years of age. This substage, which combines the preschool substage with the early primary grades i.e., grades 1 and 2, is to be considered the first sub-stage of school education with ECCE and grades 1 and 2 brought in together for a curricular integration. Thus, ECCE has, for the first, time assumed a great deal of significance in the school system.

Acknowledging the critical importance of ECCE for not only school education but also for lifelong learning and development and the need and importance of maintaining curricular integration and continuity across the early learning continuum, the NEP emphasizes that “ *Every child in this critical age group of 3 to 8 years, irrespective of which category of programme s/he is attending, should get early childhood education of equitable quality, as per the recommended curricular structure in terms of content and pedagogy*” .

The NEP (2020) has recommended the following:

- *Under 3year's old*: A programme to support the development of children below 3 years, who are in most cases at home or in creches/day care programs, that will guide parents and caregivers about the importance of ECCE or early stimulation for children. It could orient them on how a play based and interactive environment with emphasis on sensorimotor and language skills (which are developing fast at this stage) along with health and nutrition and warm responsive care can provide them a wholesome foundation for all round development, learning and brain development.
- *Preschool Education for children aged 3-6years*: Acknowledging the social and geographical diversity within the country and given the already existing categories of

provisions for ECCE in the country, the Policy has recommended four possible models in the system for this age group for Preschool Education. These include (i) Standalone *Anganwadis* under ICDS; (ii) *Anganwadis* co-located in primary schools; (iii) Standalone preschools (largely in private sector) and (iv) *Preschools* attached to primary/composite schools.

The underlying principle to be followed is that no matter which of the four models a child is attending, *every child, no matter where*, must get the experience of an ECE curriculum in totality in terms of learning objectives, content and pedagogy though adapted for the child's own social and linguistic context.

- *Balvatika*: (5 to 6 years) Across majority of states, children at 5 + years are currently admitted in grade 1, although the entry age as per RTE (2009) should be 6 years. Given the diversity of contexts, it is expected that children may come into grade 1 at 5 years, with uneven levels of learning and cognitive/school readiness. To address this diversity and possible gaps and ensure some level of parity in terms of early childhood experience, the Policy recommends a *Balvatika* curriculum as a curriculum focused on early childhood education and school readiness which is spread over the full year as a preparatory class before grade 1. **The Policy emphasizes curricular integration but does not insist on physical co-location or integration.**
- *Vidya Pravesh*: *Vidya Pravesh*, a Hindi phrase, may be translated to mean School Entry. Given variations in quality of preschools children may attend, and that many children may enter grade 1 without any preschool experience, the NEP 2020 recommends a preparatory programme of a 3 months' play and activity- based school readiness module to be transacted with the children to ensure parity in children's school readiness levels prior to introducing the Grade 1 curriculum. The module has been developed by NCERT in 2021/22 and made available to states. The module encapsulates the main thrusts of the cognitive, language and socio emotional competencies that constitute the content of school readiness programmes and are considered foundational for effective learning of literacy and numeracy.
- *Grades 1 and 2*: The policy recommends that the curriculum for Grades 1 and 2 should *maintain an upward continuity* with the content and pedagogy for children aged 3 to 6 years and should thus be supported by a play and activity- based pedagogy for which teachers need to be trained. The focus should be on learning of literacy and numeracy but within an approach that addresses holistic development of all areas of development.

1.6 Nipun Bharat (National Initiative for Efficiency in Reading with Understanding and Numeracy)

This scheme was launched by the Ministry of Education on 5th July 2021 to be implemented country wide by the Department of School Education and Literacy. The initiative covers education of children of ages 3 to 9 years and aims to ensure that every child attains foundational literacy and numeracy by the end of Grade 3 by the year 2026-27, reduction in dropouts and improved transition rates from primary to upper primary and secondary stages.

The key components under the scheme include

- a) Equitable and inclusive classroom environments that incorporate play, discovery, and activity-based pedagogies, linking it to the daily life situations of the children and formal inclusion of children's home languages.
- b) Innovative pedagogies such as toy-based and activity based and experiential learning to be used in classroom transactions thereby making learning joyful and engaging.
- c) Availability and effective usage of high-quality and culturally responsive teaching learning material in children's familiar/home/mother language(s).
- d) A special focus on continuous capacity building of teachers, head teachers, academic resource persons and education administrators.
- e) Active engagement with all stakeholders — teachers, parents, students, community and policy makers for building a strong foundation of lifelong learning.
- f) Assessment 'as, of and for' learning through portfolios, group and collaborative work, project work, quizzes, role plays, games, oral presentations, short tests, etc. and tracking of learning levels of all students.

1.7 Envisioning the State Curriculum Framework (SCF): Some guiding principles

Following the recommendations of the NEP (2020), the vision for the early years' education for each substage from birth to eight years i.e., for (a) under 3's, b) 3 to 6 years and c) 6 to 8 years is required to be based on certain basic guiding principles discussed below. These have been derived from conceptual, theoretical and empirical understanding of the process of children's learning and development in these early years discussed earlier in this chapter and have also informed the NEP (2020) vision. The *eight* principles listed below will be kept in mind when designing the new curriculum:

- a) *Learning begins at birth (or as new research confirms even prior to birth i.e., in the womb) and is a continuous and cumulative process as the child progresses in years.* Upward continuity and consistency in curriculum in terms of both content and pedagogy from the early childhood to the early primary years is therefore a non- negotiable requirement of the Foundational stage curriculum.
- b) *Each child learns at his or her own pace and as per one's own interests and aptitude.* Therefore, the designing of the curriculum for the entire early learning continuum from three to eight years will be in a seamless progression with learning objectives progressively calibrated age-wise along the continuum, but with adequate flexibility to allow for individual pace in learning.
- c) *Children below eight years tend to learn in a holistic and integrated manner and not in a fragmented and compartmentalized way.* This is because children's developmental domains i.e. physical and motor development, cognitive development, socio-emotional development, language development and creative development are all interdependent, with each experience of the child inherently impacting and involving multiple domains.
- d) *Children in these early years learn best through play* as it enables them to learn not only literacy and numeracy but also the 5 C's holistically, experientially and in an active, joyful and participatory manner. It is also an inherent mode of socialization for the children, which is an important objective of this stage of education.
- e) *Children engage with any new learning by relating it to their past learning and existing repertoire of experiences and building on these. This process of 'building on' enables 'meaning making' for the child, by helping the child connect to the prior experience/s and through this process the child assimilates the new experience meaningfully.* It is therefore necessary that all new learning be planned in ways that can enable children to not only build on the foundational competencies but also connect and see the relevance of the new experience to their existing lives. This principle is thus of critical importance for advancing their learning, particularly for learning of literacy and numeracy.
- f) *Assessment for children at this stage should be formative and low stake and not summative and high stake in nature:* There will be no tests and examinations or holding back children within the Foundations stage. This is particularly relevant, given that in an inclusive environment, children with special needs will also be participating and would need to be catered to.
- g) *Parenting is an important component of any early year's curriculum.* The new curriculum will have a significant component of parent-preschool/school partnership and engagement, with clear roles for both partners in the education of the child, guidance

given to parents through parenting programs and through direct /remote communication.

- h) *Quality with Equity is a non -negotiable principle for curricular reform.* With a view to promote quality with equity, the curriculum structure and pedagogical principles of the Foundation stage, will have to be specified and made applicable *for the state as a whole and for all provisions, including public and private, as the NEP (2020) has emphasized.*



Chapter 2: Analysis of ECCE and Foundational Stage Education in Karnataka

2.1 Current State of Foundational Education in Karnataka

Describing the state of foundational education in India the NCF (2022) describes it as a situation of “great potential, yet unfulfilled.” Karnataka is one of the wealthiest states with the third largest economy in the country and is home to a thriving IT and service industry. There are areas in foundational education, where Karnataka has reason to be proud. As per the ASER report of 2019, 97% of children aged 4 years in Karnataka are already in some form of schooling with the vast majority (94.2%) in ECCE and the remaining in primary school. The state has consistently maintained a primary school entry age of 6 years, which has allowed children to stay long enough in preschool before they enter primary school.

The state has to a large measure overcome issues of enrolment and retention and is now in the happy position of being able to focus on improving the quality of education¹.

- The NER in primary school stands at 99.04 (99.37% boys & 98.69 girls) compared to a GER of 101.58. The low gap between GER and NER shows that most children in school are of the right age.
- The gender parity Index stands at .92 at the primary level and dropout rates are less than 1%. Teacher-pupil ratios at primary school stand at around 1: 15.

There are other important statistics which are important from the perspective of the Karnataka State Curricular Framework (KSCF), and which need to be kept in mind when implementing the NCF recommendations.

There are only 15,781 private schools against 43,498 government-supported primary schools. In spite of this, private schools account for 50% of the enrollment in primary schools. A further analysis of the enrolled students in the two kinds of schools show that 83% of children from the general category attend private schools. This statistic has important implications. Government schools do equitably cater to socially disadvantaged groups. Children from the disadvantaged sections of society will be the first and most direct beneficiaries of a strengthened government

¹ Data from report “School Education in Karnataka 2020-21” of Department of Education GOK

school system. At the same time 50% of children do study in private schools- a number too big to ignore. It is important that the reforms in curriculum and pedagogy should be implemented universally.

The state is also home to a large number of educational innovations introduced both by the government as well as by NGOs around ECE and early education which provide rich lessons to take forward as it implements the NCF recommendations. There is a rich legacy of *play-based pedagogy Chilli Pili* that is being implemented in the ICDS since the early 2000s, and in the *activity-based Nali Kali* curriculum in the early grades – a programme conceived and developed by teachers and being implemented across the state in all government schools since 2008. Both Chilli Pili and Nali Kali have gone through numerous revisions with a number of NGOs building on and strengthening the basic Chilli Pili module. For all this, the state has a considerable distance to go when it comes to school readiness and learning outcomes in literacy and numeracy. Learning levels in literacy and numeracy show extremely contradictory results with different studies showing performance at two ends of the proficiency spectrum.

As per ASER 2019 (2020-21 is not taken as results are skewed due to the pandemic) only 27% of students in class II can read a simple passage (NCF level required for Foundational literacy) with the figure increasing to 50% by class III. Early numeracy tasks required students to add /subtract 2 numbers up to 99 using place value (competency level required by NCF). Only 41% students could do the addition tasks and 30% could do the numeric subtraction task.

A more optimistic picture emerges in the NAS of 2017 as well as the Census - based State Achievement Survey (C-SAS) conducted by the state. As per the NAS, children in grade 3 provided the correct responses to 75% of the mathematics questions with most children being able to do problems in mathematics that required them to a) Read the time correctly to the hour b) Identify and make 2D-shapes c) Record data using tally marks, represent data pictorially and draw conclusions d) Compare numbers up to 999 based on their place values. Children had problems with generalizing properties of addition, subtraction, multiplication and division of rational numbers.

A more detailed study² on Literacy Acquisition of Kannada in Nali Kali schools conducted over a period of three years showed 75-90% of students are decoding passages below grade level by the

² Menon, S., Krishnamurthy, R. Sajitha, S. Apte, N., Basargekar, A., Subramaniam, S., Nalkamani, M., & Modugala, M. (2017). Literacy Research in Indian Languages (LiRiL): Report of a Three-Year Longitudinal Study on Early Reading and Writing in Marathi and Kannada. Bangalore: Azim Premji University and New Delhi: Tata Trusts

end of Grade III and even those students who could read adequately still performed poorly on comprehension and writing composition (both important NCF competencies). The study concluded that comprehension and composition are not automatic outcomes of learning to read the script. Major insights into why these outcomes are poor include (a) the Kannada script takes several years to master and (b) teachers are not prepared specifically to teach language and literacy.

2.2 Issues in education: viewing Foundational stage education from the NEP/ NCF framework.

The NEP (2020) identifies *four different education models* of Foundational stage for 3 to 6- year-olds. The situation in Karnataka vis-à-vis these models are as follows:

1. Model 1: 61,884 working standalone Anganwadis for 3–6-year-old children. Model 2: 4,400 AWCs that are co-located in primary schools.
2. Model 3: 10,109 registered private stand-alone pre-schools of which 404 are aided and 9705 are private fee-paying schools. There are a large number of unregistered institutions for 3-6-year-old whose numbers remain unknown. Model 4: 276 pre-primary sections as part of primary schools started by SSA and 908 SDMC run pre-primary classes in Government schools.

Education in grade I and II in government schools is provided through multigrade units called Nali Kali units. As per current estimates there are 53,450 Nali Kali units in the state. In addition, there are 7,110 aided schools under private managements and 19, 650 fee paying schools.

The NEP has reconfigured the 10+2 structure to 5+3+3+4 design, consisting of the Foundational Stage (in two parts, i.e., 3 years of Anganwadi/pre-school + 2 years in primary school in Grades 1-2; both together covering ages 3-8). It has suggested the development of an upward continuum of pedagogy and learning outcomes as a composite programme for 3–8-year-old rather than units of 3-6 years and 6-8 years³. The NEP has further established the need for a synergy between the teaching approaches/pedagogy in ECCE and primary schools⁴.

³ A National Curricular and Pedagogical Framework for Early Childhood Care and Education (NCPFECCE) for children up to the age of 8 will be developed by NCERT with a sub-framework for 3-8year-olds.

⁴ “The Foundational Stage will consist of five years of flexible, multilevel, play/activity-based learning and the curriculum and pedagogy of ECCE” the policy calls an ECCE pedagogy that “consists of flexible, multi-faceted, multi-level, play-based, activity-based, and inquiry-based learning, comprising of alphabets, languages, numbers, counting,

Currently the ECCE and primary schools are two separate units in the public education system and managed by different departments and there has been no focused attempt to co-ordinate the curriculum between ECCE and primary grades.

In its goal to improve the quality of Foundational education, the NEP has highlighted the need to improve the working conditions and environments in schools as well as enhancing professional development of the workforce engaged in Foundational education.

As a preparatory exercise to developing the state position paper on ECCE /FLN, extensive discussions were held with parents and teachers of ICDS as well as teachers and managements of private schools primarily to understand their concerns and issues on working conditions, career development opportunities and teaching learning quality. Institution specific problems prevalent in ICDS and private schools and are dealt with separately.

Challenges that affect the field of ECE regardless of the institutions

There is a serious quality gap in the quality of ECCEs, mainly due to the prevalent attitude that pre-schooling is not a specialized programme and can be run by anyone without any qualification. Consequently, there are no standards for infrastructure, no formal procedures for teacher recruitment and no mechanisms to assess the quality of academic and developmental activities in ECE centres.

The expected learning and developmental outcomes are not clearly defined or conveyed to the stake holders. As a result, there is a lack of pedagogical framework and no uniformity of standards and quality of education in the sector.

The profession is poorly paid and fails to attract well qualified people. Since better qualified professionals would demand higher salaries, there is no effort on the part of ECE managements to recruit well qualified personnel. Without attractive employment opportunities and career advancement avenues, there is no motivation on the part of teachers to seek professional training or continuous development. Institution specific problems differ between the ICDS and private schools and are dealt with separately.

colours, shapes, indoor and outdoor play, puzzles and logical thinking, problem-solving, drawing, painting and other visual art, craft, drama and puppetry, music and movement".

The ICDS - issues and Challenges:

Many of the challenges faced by the ICDS are well known. Though the ICDS is trying to shake off the historical baggage of being perceived as feeding centres, they have not been entirely successful in doing so.

The poor working conditions for the AWWs once again came out clearly during focus group discussions, held with parents and ICDS staff. Parents, ICDS staff as well as NGO staff who work with the ICDS consistently pointed out the distractions faced by the AWW who is called upon to do work for other services within ICDS as well as by many other sectors, thus eating into the time devoted to ECE. ICDS workers reported that on an average they could allocate 2 to 2.5 hours for ECE activities.

Other impeding factors include the lack of suitable infrastructure with no toilets and basic amenities like electricity and drinking water affecting the cleanliness, orderliness, and ambience of the AWCs. Added to this, uniforms, books, and other materials are not provided by the Government on time.

Teacher quality needs a serious focus in the ICDS. Though the government now requires a minimum qualification of 12th pass to qualify for the job of an Anganwadi worker⁵, a large number of the older workforce are still only 10th pass. Of the 61,884 AW teachers, 40,782 are SSLC passed or less, and the remaining 14,303 have +2 qualifications. 6017 are graduates and 782 are postgraduates. The prevailing attitude that ECE is a low skilled /no skilled work results in staff being appointed based on need considerations or patronage rather than any specific skill sets.

AWWs undergo only a one -month job orientation course on their entry into the ICDS, with a refresher training once every 2 years that is available only to a selected group of teachers. Very limited time is allocated for ECE in these trainings leaving them ill equipped to understand their role or implement a basic quality programme. So, though the Chili Pili curriculum focuses on play as the chief mode of learning, workers rarely have the skill, training, or time to carry the activities out effectively.

However, there is a silver lining to this picture. It is possible for the AWCs to provide good quality ECE programmes, if they receive consistent support, as has been repeatedly evidenced by the results of serious NGO efforts. Good quality and recurrent training backed up by serious and

⁵ Government order No WCD 154 ICD 2020 dated 3/12/2022

consistent mentoring produces good quality programmes. The later chapters of the framework will attempt to tackle how this can be achieved.

Affordable Private Preschools -Issues and Challenges:

One of the significant problems in this sector is the lack of reliable data on the number of private preschools or the teachers who man them. Most schools remain unregistered and work to their own regulations with scant regard for age- appropriate education. Some of the major issues identified include under-qualified, underpaid, and over worked teachers with no job security.

The private school establishments view ECCE as a downward extension of the primary school and follow the content focusing on rote learning of alphabets and numbers with no focus on the required Foundational inputs for personality development, communication, conceptual skills or 21st century skills (especially those of critical thinking and problem solving, impulse control, communication, compassion, and creativity etc. which have been shown as extremely important for future success). Teachers are often left to decide the pedagogy and depend on private textbooks with a high load of content, homework, and frequent written and oral tests.

Parents who lack an understanding of *good education*, often set the agenda of the school such as timings and curriculum. This results in long hours, an excessive focus on writing, cramming information and rote learning. Often ECCEs get converted to training grounds to get admission for grade 1 in prestigious institutions in cities.

Though both parents and teachers cited the absence of English as one of the reasons for non-preference of the ICDS for their wards, private school teachers pointed out that using English as the medium for instruction results in students being unable to speak either good English or be proficient in their mother tongue. (a fact that has been borne out by recent reports⁶)

Training facilities are not available to teachers in private establishments and there are not many alternate routes for them to access training unless they opt for training with the various teacher training programmes. A study⁷ on training options for private teachers found that options for them are limited and choices made are based on cost, convenience and ease of getting a certificate.

⁶ Kurrien, J. (2021). Delusions and Traps for the Unwary: English Medium Schooling for the Poor in India. *Academia Letters*, Article 2893. <https://doi.org/10.20935/AL2893>

⁷ A Research Report on Status of Teacher Professional Development for Early Educators in Affordable Private Schools by Keys Educational Foundation and Ek step foundation.

This leads to a pool of pre-primary educators with incomparable and sometimes inadequate skill sets.

Primary Schools -Issues and Challenges

Education in grade I and II in government schools is provided through multigrade units called Nali Kali units. As per current estimates there are 53, 450 Nali Kali units in the state. In addition, there are 7,110 aided schools under private managements and 19, 650 registered fee-paying schools. Reliable data on the qualifications of teachers in the private aided and unaided schools is unavailable at present. The teachers in government schools all have D.Ed./ teacher certificates. Working conditions and facilities for teachers in the early grades of primary school are much better when compared to their counterparts in the ECE sector (ICDS or private schools). In state schools, the teacher requirements are well laid out, teachers are appointed based on well set criteria and a rigorous testing process. Strong unions have ensured reasonable salaries and avenues for professional advancement. Over the years the government has succeeded in ensuring sanitation and water facilities in many schools.

Government schools follow an activity-based curriculum called Nali Kali (details in the Annexure 1) which consists of integrated classes 1-3 supported by a single teacher. A study of classroom quality in the 53,459 Nali Kali units of the state in 2019⁸, indicated that 74.5 % all reporting units met the requirement of a teacher pupil ratio of 1: 30. 98.6% of classes are taught by trained teachers and 95% possess a full complement of TLM in the classroom. Attendance is satisfactory with 90% of the units registering a headcount of 75% attendance.

The Nali Kali curriculum is designed to suit the needs of a multigrade class and has undergone periodic revisions based on changing national curriculum guidelines, and feedback obtained from the research, teachers and other stakeholders. Nali Kali is based on joyful learning principles containing activities like songs, games, surveys, storytelling and use of wide range of learning resources such as wall slates, learning plates, learning roof, weather chart, teaching cards, student cards, readers, workbooks, puppets, masks, play boards, rubber letters and numbers, etc. Children are supported to take charge of their own learning by finding their place and marking their movement along the progress chart. However, with all this, there are issues of learning that need serious attention. Though Nali Kali does follow an activity- based curriculum, its chief focus is still on reading and writing. Though preparatory, practice and fun activities are factored into the

⁸ Study conducted on over 53,000 Nali Kali units on availability, access and use of trained teachers, TLM, and TPR by SSK GOK)

learning continuum, the primary focus remains on decoding with little focus on oral language and communication- leading to problems in reading with comprehension and inferencing.

Though working conditions are better, government schools have other issues that need attention to create an enabling environment for learning. The preference for private schooling has been growing in Karnataka. The ASER study of 2019 shows an enrolment ratio of 60: 40 (government: private) at age 7. The lowering of birth rates and increasing popularity of private schools has resulted in a continuous decline in government school enrolment since 2010- 11 (though the trend has slowed in the last two years due to the pandemic). Various studies have pointed to the large number of government schools with an enrolment of less than 25 children in primary schools.⁹ Tiny schools with class sizes below 10 make interactive teaching, peer discussions and group learning, which is very important in the pedagogy suggested by the NCF, difficult and often result in poor teacher motivation.

Informal discussions and studies with parents show that the shift towards private schooling is due to parental wish for a) better infrastructure and furniture b) more time on task during school hours due to monograde classes c) an increased focus on reading and writing especially homework and d) children's need to learn English.

Affordable private schools are run in monograde classes, follow the state syllabus and usually offer English as the medium of instruction. The problems of a highly academic text book -based syllabus focused on rote learning and examination-based syllabus is reported by both parents and teachers. The primary schools too are plagued with many of the problems seen in preschools. No information is available on the qualifications of the teachers who often complained of poor working conditions and lack of training opportunities.

Parents complain of high fees, overcrowding and the expectation that parents will help with homework or arrange for private tuitions. There is no evidence to show that affordable private schools are faring better in terms of learning outcomes. ASER 2020 reports on literacy achievements show that the percentage of children in Std V who can read Std II level text was 35.5.% compared to 32.8% for children from government schools. (Clearly the combined effect of high levels of drill and extra support from tuitions is not helping children to fare better)

⁹ Akshara Foundation, Restructuring of Govt Schools in Karnataka,2018, <https://akshara.org.in/wp-content/uploads/Restructuring-Government-Schools-report.pdf> x52312

2.3 Demographic Challenges Needing Action

Karnataka has a population that is characterized by regional and linguistic diversity. As per the 2011 census figures, Karnataka has a total population of 61,095,297. The literacy level of the state is 75.3% (82.47% male and 68.08% female). According to the National Family Health Survey (NFHS) the fertility rate for Karnataka is declining and now stands at 1.7 live births per woman in 2018 compared to 3.6 in 1981 (half of 1975 when ICDS was set up). This has some implications for the number of children expected to enter school each year. The fifth NFHS (National Family Health Survey) of 2019-20 has also brought out some health and nutrition issues with an under 5 stunting rates of 35.4 %. Apart from the serious implications this will have on children's ability to absorb and learn, the situation will call for concerted action by the department of WCD (and the ICDS) to push for nutrition interventions, further eating into the time for ECE. The urban population is almost 40% (38.67 %), however only 11 of the 204 ICDS projects are urban projects. This has led to an influx of private players into the ECE space of the population residing in urban areas and most urban parents (especially poor parents) have no option but to send their wards to private affordable preschools.

Though Kannada is the major language of the state, Urdu, Konkani, Kodava and Tulu are also widely spoken. Urdu is spoken by around 10% of the population. In addition, the state shares its borders with Maharashtra, Tamil Nadu, Telangana and Kerala. The border districts exhibit considerable linguistic diversity with speakers of Telugu (5.8%) Tamil (3.5%) Marathi (3.4%) and Malayalam (1.3%).

In addition to this, the state has a scheduled tribe population that comprises 6.95 per cent with their own languages, many of which are facing extinction. At the other extreme is Bengaluru city, with a population of 13,193,000, that accounts for almost 20% of the state's population. It has the second-largest migrant population in India (42.12%) and is one of the most multi-ethnic and multi-lingual cities in the country.

Karnataka's position paper on inclusive education estimates that about 2-4% of Karnataka's 6,855,801 children in 0-6 age group may experience some form of disability/impairment and would benefit from early identification and early education services. As per the SATS data 92,905 students with special needs were enrolled in schools in 2021. The position paper has called for some serious and innovative efforts to enumerate this population and provide for their education.

Conclusion

The major implications that arise from the demographic, linguistic and educational statistics of the state are listed below. These call for policy administrative and curricular interventions to address issues that will be dealt with separately in each of the relevant chapters. Implications of the population statistics for policy and administrative action

- The state curriculum framework acknowledges the wide diversity in residence and language and the special needs of children in border districts, linguistic minorities and tribal populations. Bangalore forms a unique geographic entity that will need a special plan. A one size fits all syllabus will be discarded in favour of a more nuanced curriculum that introduces children to their rich culture and traditions, allows them to learn in their mother tongue or home language while at the same time be exposed to and obtain communication mastery over other aspirational languages.
- Implementing the language strategy recommended by the NCF will require a policy interpretation of L1 (the home language or language that the child is familiar with which may or may not be the state language) and L2 (a second language) with options provided to parents on choice of first, and second language.
- The falling fertility rates, uneven distribution of ICDS projects and growing popularity of private schools is resulting in falling enrolments and small sized schools with a high per pupil cost. Gradual efforts to correct this situation through administrative action, decentralized microplanning and rationalization exercises is recommended.
- Co-ordinated efforts have to be made between Education and WCD to ensure access to 3–6-year-olds to government preschools in urban areas. This may include opening an extra multigrade Bal Vatika class with SDMC support in the primary schools (which do not have many pupils).
- An urgent need is there to close the data gap through a serious process of identifying, enumerating, mapping, and registering of private institutions to be able to support an inclusive process of quality upgrading.
- Enumeration of children with special needs and a special plan for their integration into educational facilities is a priority.

Implications of educational data for curriculum interventions

- Given that such a large percentage of children are in private schools (with uncertain education quality), an inclusive process is required whereby private schools adopt

curricular goals, play based pedagogies and bilingual strategies for developing required proficiencies in both L1 and L2, as envisaged in the NCF.

- Curricular revisions must ensure a continuity along the foundational stage to ensure a smooth and upward transition from preschool to primary. The bottom-up approach to curriculum and pedagogy planning rather than a downward extension of the primary school needs to be kept in mind.
- The preschool curriculum is required to be strengthened with a play-based pedagogy, making it more age /individual centric and balanced.
- Emergent Literacy & numeracy is to be strengthened at the preschool stage and moved away from mindless alphabet teaching and rote memorization.
- The Nali Kali language and literacy curriculum also needs to be strengthened in accordance to the pedagogical approaches suggested in the SCF (2022).
- A greater focus on all-round development, 21st century skills, process rather than outcome- based methods and formative assessments must be built into the programme.
- Integration of children with special needs to be an integral part of curriculum planning and teacher training.



Chapter 3: Curricular Goals and Learning Competencies for the Foundational Stage

3.1 About this Chapter

This chapter describes and discusses the aims, domains of development, curriculum development goals and competencies of the Foundational stage. The two aims of the Foundational stage as described in the NEP/NCF, all round development and Foundational literacy and numeracy are dealt with in some detail, explaining its importance and how they are integrated into the curriculum.

The last section details out the structure of the curriculum framework and explains how the parts are integrated into the framework.

Aims of Education as envisioned by NEP 2020 for The Foundational Stage covers children in the age group of 3 to 8 years, which is now globally considered to be the early childhood stage in child development. As discussed in Chapter 1, this stage is of critical importance since brain growth is most rapid in these earliest 8 years of life and the foundation for all areas of development of a child's personality are laid during these years. These include:

Home based nurturing care for 0-3 age group:

Children below 3 years are in most cases expected to be at home where they should ideally be provided with nurturing care. The term Nurturing Care comprises all essential elements for a child to grow physically, mentally and psycho-socially. These include Good Health, Adequate Nutrition, Responsive Caregiving, Security and Safety, and Stimulation for Early Childhood Learning. Care givers in the child's home as well as care institutions have to be supported to understand the essentials of nurturing care that includes responding adequately to the child needs as well as cognitive care and stimulation through talking, playing, moving, listening to music etc. Provision of parent education, providing necessary support for capacity building of care givers and community outreach interventions to greater public awareness on care practices is an essential component of Early Child Development.

The guidelines and/or suggested practices to enable high-quality ECCE at home for the age-group of 0-3 years and strategies for community outreach will be developed by the technical groups in charge of care and development of the 0-3 age group and community participation set up by the DWCD GOK.

Care and education of children aged 3-8 years in the Foundational stage:

Children in the age group of 3 to 6 years are expected to attend a preschool /Anganwadi or pre-primary education programme while the 6 to 8 -year-olds are expected to be in the early primary grades i.e., grades 1 and 2 of a primary school. However, since 6–8-year-olds have developmental characteristics that are more in common with the younger children than with the older ones, the Policy has recommended that the curriculum for the two sub stages to be clubbed together to form the *Foundation stage*. This Foundation stage thus represents the *early learning continuum* that is the foundation for all later learning and is therefore of critical importance for lifelong learning.

The NEP (2020) identifies *four different educational models* of Foundational stage in India for 3 to 8- year- olds. Details of how these are provided in Karnataka are elaborated in chapter 2. **The curricular recommendations in this Framework apply to all four models as relevant.**

3.2 Aims, Goals and Objectives of the Foundation stage

Aim of Education: The NEP (2020) clearly states that “*the purpose of the education is to develop good human beings capable of rational thought and action, possessing compassion and empathy, courage and resilience, scientific temper and creative imagination, with sound ethical moorings and values. It aims at producing engaged, productive and contributing citizens for building an equitable, inclusive and plural society as envisaged by our constitution.*”

Curriculum developers must keep these priorities as their main focus when developing the curriculum from the Foundation stage upwards. This is important since the learning process for a child is both *continuous* and *cumulative* in nature and many of these values are entrenched in children right from early childhood.

The **Goals and Objectives of ECCE and the Foundation stage** is to achieve the *goal of universal provisioning of quality early childhood development, care, and education as soon as possible.* (NEP 2020, para 1.1). The *National curriculum* framework has defined that the goal of the Foundational stage (from 3 to 8 years) is to provide children opportunities and experiences that will enable:

- Children to acquire a sound foundation for the **all- round development** of their personality and for lifelong learning.

- Children to be “**learning ready.**” Since Foundational literacy and numeracy are the prime requirements on which all further learning is based, the acquisition of these skills before transitioning to the next stage of schooling is of utmost importance.

The Foundational curriculum should be *age appropriate* i.e., it must keep in mind the developmental levels of children at each age.

It must promote children’s *all-round development* across the different developmental domains and it must address *competencies* in children that prepares them for literacy and numeracy. Both these areas are equally important and one should not be developed at the expense of the other. (e.g., a curricular focus on reading and writing without any attention to other areas of development is discouraged).

What constitutes All Round Development?

India has had a long tradition of enquiry on the various domains of development that are a part of their natural development and are desirable not only for school education but also for lifelong learning and development. In the Indian tradition, the *Panchakosha* description in the *Taittiriya Upanishad* is one of the earliest articulations of the different domains of development of the human being¹⁰. These descriptions remain relevant and are consistent with the modern knowledge that has emerged from Development Biology/Psychology and Cognitive Neurosciences research which has informed Early Childhood Education’s curricular objectives and practices. These domains that are required to be promoted include:

- *Physical Development* which according to the *Panchkosha* includes body awareness and learning through active engagement of all the five senses i.e., sense of hearing, sight, smell, taste and touch.
- *Emotional and spiritual development* or the *manomaya kosha* that involves becoming aware of and skillfully regulating our emotions. The domain of Socio-emotional and Ethical Development, thus emerges as an important domain of development both from the Indian traditions and current research.
- *Cognitive development* or what is referred to as the development of the intellect, viz *vijnanamaya kosha*, is emphasized to engage meaningfully with the cognitive and conscious aspects of human experience.

¹⁰ National Curriculum Framework 2022 box 1.2A page 19.

- *Aandamaya kosha*, or experience of transcendence, is best addressed for this age group through arts and culture. Thus, including the domain *Aesthetic and Cultural Development*, makes the educational experience holistic and complete.

The modern curriculum in ECCE also emphasizes the development of the five domains as suggested in the traditional knowledge and describes them as *objectives of ECCE*.

A recent finding of neuroscience research is the importance of the development of what is called *executive functions or executive skills*. This is a set of skills that allows children to retain and work with information, focus their attention, filter distractions, persevere, regulate emotions, and switch mental gears. The NCF (2022) has included these skills in an additional category called *Positive Learning Habits* and added this as a curricular objective for the Foundational stage.

What constitutes Emergent and Early literacy and Numeracy?

In addition to the five developmental domains, the NCF has taken cognizance of the emphasis placed by the NEP2020 on Foundational literacy and numeracy. As a result, the two domains of Language and Cognitive development have been expanded to include Early Literacy and Numeracy respectively. Thus, the competency areas have been rephrased in the NCF as Language Development and Early Literacy and Cognitive Development and Early Numeracy.

Emergent Literacy may be defined as the skills, knowledge and attitudes about reading and writing *before* they become fluent readers and writers. These are developed by children in their early childhood years and includes skills, knowledge and attitudes developed in young children through literacy related experiences that they are exposed to from birth. The experiences enable them to 'make meaning' of what they read and write. In the early years, the teaching of language and literacy should provide children ample opportunities to explore themselves as readers and writers.

Reading and Writing is a combination of skills that requires a balance of learning 'lower-order' skills (e.g., phonological awareness, decoding, writing letters and words correctly) and 'higher-order' skills (e.g., oral language development, engaging with books, drawing and original writing) which are meaning-focused.

Learning to read (Emergent reading) requires a number of skills that follow a developmental sequence and have to be carefully and consciously included in the curriculum. The ability to *read with meaning* (making sense of what they read) includes a variety of skills including oral language skills and vocabulary development; Phonological awareness or knowing the sounds of the

language; Print awareness and understanding that print or text is the written form of spoken language and how it is read (left to right and top to bottom); book knowledge or understanding that books have different features, forms and conventions; visual discrimination, sound visual association and alphabet knowledge.

Emergent writing skills include children understanding that writing is a mode of expression and include drawing and scribbling to represent something and talking about what they have written. Children can be helped to see how a writing activity can be used to express or communicate ideas. This happens when they are exposed to people writing- such as making shopping lists or writing letters etc. - experiences that help children to see that writing is **not** a meaningless activity. Young children's writing is related to their talk, experiences, drawing, reading, and pretend- play. Children draw and scribble from a very early age and is an essential part of their early years. At later stages, children use letter-like shapes and invent their own spellings as they learn to label their drawings or 'write' their names (e.g., kat for cat,) before gradually understanding the relationship between sound and symbols and moving towards conventional spellings and writing.

Emergent and Early Numeracy occurs in a similar manner as emergent literacy. Helping children acquire the concepts and skills or competencies related to *early numeracy* is also an equally significant objective of the NCF/SCF. In order to help children, learn numeracy at this early stage of education, the main approach should be to **strengthen children's basic cognitive processes**, that are generic to all learning. These include cognitive skills of classification; seriation; pattern making and sequential thinking, logical relations, reasoning and problem solving. Children should be given multiple and varied opportunities in using these skills through guided activities, moving from simple to complex stimuli and from concrete to abstract.

Children are helped and given opportunities to use the above skills and processes with the objective of helping them learn/form basic Foundational *concepts* related to numeracy. These include concepts related to *quantitative dimensions* often known as prenumber concepts i.e., concepts of size, quantity, length, width, weight, height, temperature and distance; concepts related to *relative locations/positions/space*; concepts of *group/set*; concept of *one to one correspondence*; concept of *equivalence* and then concept of *number, number properties and number operations*.

The focus in the Foundational stage should therefore be for children to learn the above concepts gradually through an active learning process involving activities and materials that require the use of cognitive skills identified above, of course with gentle mentoring by teachers.

3.3 Developing the Foundational Curriculum Curricular Goals, Competencies and Learning Outcomes

This section adapts a section of chapter 2 of the NCF that deals with curricular goals (based on the aim of all round development and school readiness) and details out essential principles articulated in the NCF as well as the process of moving from domains of development to curricular goals, indicators for assessing development and the process of developing learning outcomes.

Principles for developing the *Early Learning Continuum*:

The bottom-up learning continuum:

The NEP (2020) has recommended curricular integration for children between 3 to 8 years, so as to ensure an age and developmentally appropriate curriculum and a smooth and seamless transition for children from pre-primary to the primary grades. From the point of view of designing the curriculum, it is important to consider this period of 3 to 8 years as an *upward learning continuum* and not a downward extension of the primary education, as is observed to be the practice currently in the system and which is detrimental for the child's Foundational learning.

This *upward direction* is an important principle in curriculum development, since a child's process of learning is continuous and cumulative. This implies that what children are able to learn at any given point on the learning continuum is determined to a large extent by their learning that has preceded it and builds on it; in a similar vein, the learning that is expected to follow at a later stage is influenced significantly by the quality of learning the child has been able to acquire at the present time. The curriculum therefore needs to maintain upward continuity and move progressively from 3 to 8 years, so that all learning in these years is continuous and seamless, leading to a gradual consolidation of foundational learning, resulting in a sound head start for life..

The NEP (2020) and National Curriculum Framework for the Foundational Stage (2022) thus recommends that the curriculum be developed in an upward progression from 3 to 8 years. This would mean that the curriculum development should be designed in an incremental mode beginning with that for 3-4 years 4-5 years and 5-6 years (the Balvatika stage) and then continued into the curriculum for grades 1 and 2.

The curriculum to be developed as per the NEP (2020) should also *be flexible* and *spiral* in structure and not rigid or year/age bound, given the multi -level or multi age composition of every class. This would allow children to learn at their own individual pace, revisit concepts and have more opportunity to practice their skills as per their need. They would not be forced to '*move with*

the class’, as is the practice currently in many schools, so that children who are not able to keep pace with the curriculum, end up with a cumulative learning deficit. This is reflected in the low learning levels seen across primary schools in the country.

For the initial three months of grade 1, the NEP 2020 recommends a *School- Readiness package* of 3 months’ duration for the children, which is aimed to bring all children entering the formal school from diverse preschools or directly from home to be at par in terms of the Foundational competencies. This is referred to as the *Vidya Pravesh* curriculum.

Importance of play:

Research indicates that while play based pedagogy promotes school readiness in children, formal academic teaching has a reverse impact. Many preschools and schools however tend to adopt this academic approach even at the early childhood stage, which is not only developmentally inappropriate but also harmful for young children, as they are not yet ready for it in terms of their developmental status. Since play is the natural medium for children’s learning in the early childhood years, the NEP and NCF have recommended a *play-based pedagogy* as most appropriate for this stage of education. The recommendations apply to all categories of Foundational stage provisions for children in the state, across public, private and voluntary sectors.

Domains of development

Domains represent the broad areas of early learning and development. The SCF describes all-round development as attainment, of optimal outcomes in 6 domains. The six domains of development are listed and illustrated in the boxes below.



1. Physical and Motor Development
2. Cognitive Development and Early Numeracy
3. Socio-emotional and Ethical Development
4. Aesthetic, Cultural and Artistic Development
5. Development of Communication and Early Language, Literacy
6. Positive Learning Habits

Subdomains

Subdomains constitute the set of broad skill areas that help to further define the domain. In this SCF, the **developmental domains are further divided into around 39 subdomains** which together form the broad and specific structures of a Foundational Education curriculum for children from 3 to 8 years. To make these easier, the table below further breaks the 6 domains into 9 domains so that each developmental domain is treated independently.

DOMAIN	SUB DOMAIN	SUB DOMAIN	SUB DOMAIN	SUB DOMAIN	SUB DOMAIN
<i>PHYSICAL DEVELOPMENT</i>	FITNESS STRENGTH STAMINA	GOOD HEALTH AND HYGIENE	SAFETY AND SECURITY		
<i>MOTOR DEVELOPMENT</i>	GROSS MOTOR SKILLS	FINE MOTOR SKILLS	SENSORY MOTOR COORDINATION		
SOCIAL EMOTIONAL DEVELOPMENT	SELF AWARENESS AND SELF REGULATION	SOCIAL AWARENESS & PRO SOCIAL BEHAVIOUR	RELATIONSHIP MANAGEMENT	PARTICIPATIO N IN INDIVIDUAL AND GROUP ACTIVITES	ENVIRONMENTAL AWARENESS AND CARE
<i>LANGUAGE DEVELOPMENT</i>	LISTENING AND RESPONDING with COMPREHENSION	VOCABULARY	CONVERSATION & LANGUAGE ETIQUETTE	NARRATIVE SKILLS	LANGUAGE CREATION
<i>LITERACY</i>	PHONOLOGICAL AWARENESS - SOUNDS AND SYLLABLES	PRINT AWARENESS & BOOK HANDLING	ALPHABET KNOWLEDGE & DECODING	MEANINGFUL READING	MEANINGFUL & CREATIVE WRITING
<i>COGNITIVE DEVELOPMENT & EMERGING NUMERACY</i>	SENSORY PERCEPTION & DISCRIMINATION	COMPARISON, MEASUREMENT & SERIATING	PATTERN MAKING	LOGICAL THINKING & PROBLEM SOLVING	DATA HANDLING AND USE OF MATHEMATICAL VOCABULARY

<i>EARLY NUMERACY</i>	MEANINGFUL COUNTING WITH ONE- TO ONE CORRESPONDENC E	EQUIVALANCE	NUMERAL RECOGNITION AND ASSOCIATION	ADDITION AND SUBTRACTION	MULTIPLICATION AND DIVISION
<i>AESTHETIC DEVELOPMENT</i>	ART (DRAWING AND PAINTING)	SINGING AND MUSIC	CREATIVE MOVEMENT	ART AND CRAFTS	
<i>POSITIVE LEARNING HABITS</i>	ATTENTION AND FOCUS	WORKING MEMORY	PERSEVERENCE	CURIOSITY	MENTAL FLEXIBILITY

Curricular Goals

Curricular Goals: Curricular Goals are statements that give directions to curriculum development and implementation. They are derived from Aims and are specific to the Foundational Stage. To quote for example, in the NCF “Children develop effective communication skills for day-to-day interactions in two languages” is a Curricular Goal for the Foundational Stage.

The NCF defines a total of 13 curricular goals that deal with Physical development (3 curricular goals) Socio Emotional and Ethical development (3 curricular goals) Cognitive development (2 curricular goals) Language and Literacy development (3 goals), Aesthetic and Cultural Development (1 curricular goal) and Positive Learning Habits (1 goal)

The SCF has further divided the NCF Curricular goal structure to create 18 curricular goals. This has been done mainly to give greater clarity to the curriculum development group. The SCF configuration includes Physical and Motor Development (2 curricular goals), Social, Emotional and Ethical Development (5 curricular goals), Cognitive Development (4 curricular goals that deal with Cognitive thought, Emergent numeracy and Early numeracy), Language and Literacy Development that deals separately with Language 1 and Language 2 (5 curricular goals), Aesthetic and Cultural Development (1 curricular goal) and Positive Learning Habits (1 goal). In order to maintain a one-to-one correspondence with the NCF goals each additional curricular competency is given a sub number (such as 8 and 8a) with foot notes provided to identify where the CG appears in the NCF table and the rationale for the change.

Learning competencies:

Both Nipun Bharat and NCF have a set of competencies which mark the expected observable behavior at the end of a stage (in this case the Foundational stage). Competencies are used in two ways:

1. They provide an “end point” or behavior at the end of a learning stage that need to be achieved by children.
2. They act as observable indicators that can be used to measure the attainment of the development domain.

The SCF has combined /clubbed the subdomains of each domain and matched them with the curriculum goals listed by the NCF. The SCF table lists 4 columns - domains subdomains, curricular goals and corresponding learning competencies.

A careful reading will show the relationship of sub domains with the learning competency.

Note of caution:

It is important to note that the competencies and related learning outcomes are clearly meant to give a direction to the classroom teaching -learning process. The learning outcomes as specified should be used ONLY as markers to assess the child’s progress towards the objective of achieving the large curricular goal/ objective. These are thus valuable from the point of view of assessment.

Each competency/ learning outcome does not require a corresponding curricular activity to be planned to support it. There is no requirement of any one -to one correspondence between each learning competency and curricular activity.

For example, a competency *Converses fluently and can hold a meaningful conversation* can be nurtured through all group activities which require verbal interaction and/or collaborative problem solving in the class. The competency does not require any specific activity to be planned for it and should be the outcome of all the language activities undertaken. It can also be assessed through observations during other classroom discussions

The table of domains, subdomains and learning competencies are attached in the following pages.

Learning Outcomes

Learning competencies mark the end point of a stage. Curriculum developers are tasked with the job of further dividing the learning competencies into a year wise units spread over a continuum of 5 years. This is a separate exercise that should follow the launch of the SCF and should be done

jointly by a team consisting of ICDS (CDPOs, supervisors and AWWs), the Nali Kali Resource persons and representatives of private schools (teachers of different kinds of schools).

By allowing the development of the learning outcomes to be a participatory process, the different institutions (ICDS/ Schools/ private schools) operating in the Foundational stage, get a chance to provide inputs and reach a broad agreement on what children are expected to achieve at the end of each stage (preschool and Foundational stage. This will therefore make for more ownership and accountability.

The learning outcome statements are usually more detailed and must describe the competencies both in terms of essential awareness or the knowledge that children must have to achieve the outcome as well as the behaviour that is manifest. Given below are a few examples E.g. a) The learning outcome- *KC-3.3 Recognize different emotions and makes deliberate efforts to regulate them appropriately as per their maturational level* describes a knowledge component (Identifies/describes her feelings and wants) as well as a behavioral component (Expresses her/his emotions in socially approved ways e.g., "stops crying and explains why s/he is crying) or b) The learning outcome -*KC7.1 Understand and respond positively to symbols of everyday life (ambulance hooter, traffic signals, danger signs, national flag)* has a knowledge component (knows that red light means stop) and behavior (waits at traffic light before crossing).

This aspect of breaking down the knowledge and skill required to exhibit the learning is usually done at the point of creating the syllabus and is left to the curriculum and syllabus developers.



DOMAIN WISE CURRICULUM GOALS AND LEARNING COMPETENCIES

(TO BE USED AS ASSESSMENT INDICATORS TO MEASURE ATTAINMENT OF CURRICULAR GOALS)

DOMAIN: PHYSICAL AND MOTOR DEVELOPMENT

DOMAIN	SUB DOMAIN	CURRICULAR GOAL (KCG ¹¹)	LEARNING COMPETENCIES (KC ¹² (INDICATORS FOR ASSESSMENT))
PHYSICAL DEVELOPMENT AND WELL BEING	<ul style="list-style-type: none"> • GOOD HEALTH AND HYGIENE • SAFETY AND SECURITY 	KCG1: Children develop habits that keep them healthy and safe.	<ul style="list-style-type: none"> • KC-1.1 Have awareness of health and good nutrition, & demonstrate healthy eating habits (do not waste food) • KC1.2 Have awareness of basic practices of self-care and hygiene, and demonstrate these in daily life • KC1.3 Have awareness of environmental hygiene and keep the school/classroom clean hygienic and organized • KC1.4 Have awareness of unsafe materials, behavior and environments and demonstrate ability to avoid harmful objects, actions and places
PHYSICAL AND MOTOR DEVELOPMENT	<ul style="list-style-type: none"> • FITNESS, STRENGTH & STAMINA • LARGE MOTOR SKILLS • FINE MOTOR SKILLS • SENSORY MOTOR COORDINATION 	KCG-2 ¹³ Children develop a fit and flexible body with appropriate strength, balance and coordination	<ul style="list-style-type: none"> • KC-2.1 Show strength and endurance in carrying, walking, and running and participate actively in physical indoor/outdoor activities • KC-2.2 Show balance, coordination, and flexibility in various physical activities • KC-2.3 Show precision and control in working with their hands and fingers • KC-2.4 Show coordination between sensorial perceptions and body movements in various activities

¹¹ Karnataka Curriculum goals

¹² Karnataka learning competencies

¹³ This CG is CG 3 in the NCF document. Sensorial perception is also a cognitive CG and so has been taken under cognitive development as CG8a

DOMAIN: SOCIO-EMOTIONAL AND ETHICAL DEVELOPMENT

DOMAIN	SUB DOMAIN	CURRICULAR GOAL	LEARNING COMPETENCIES INDICATORS FOR ASSESSMENT
SOCIAL EMOTIONAL DEVELOPMENT	<ul style="list-style-type: none"> • AWARENESS OF SELF • SELF MANAGEMENT AND SELF REGULATION 	CG-3 ¹⁴ Children develop a positive self- image and the ability to understand and manage their own emotions, in socially acceptable ways	<ul style="list-style-type: none"> • KC3.1 Recognize ‘self’ as an individual belonging to a family and community • KC3.2 Develop confidence in their own abilities and a sense of self esteem • KC-3.3 Recognize different emotions and makes deliberate efforts to regulate them appropriately as per their maturational level.
SOCIAL EMOTIONAL DEVELOPMENT	<ul style="list-style-type: none"> • SOCIAL AWARENESS AND PRO SOCIAL BEHAVIOUR • RELATIONSHIP MANAGEMENT • 	CG-4 ¹⁵ Children develop positive relationships with peers and adults in their environment and an appreciation of diversity	<ul style="list-style-type: none"> • KC-4.1 Interact comfortably with other children and adults and demonstrate cooperative behavior • KC-4.2 Understand emotional needs of others and respond appropriately (empathy) • KC-4.3 Understand and respond positively to rules and social norms in the environment, classroom and school • KC-4.4 Understand and respond positively to different thoughts, preferences, and behavior of other children

¹⁴ This CG is number 4 in the NCF and has been rewritten in simpler language

¹⁵ Prosocial behaviour is an important CG that has not been specifically mentioned in the NCF but is added here.

DOMAIN	SUB DOMAIN	CURRICULAR GOAL	LEARNING COMPETENCIES INDICATORS FOR ASSESSMENT
SOCIAL EMOTIONAL DEVELOPMENT	ADJUSTMENT TO SCHOOL AND INTEREST IN LEARNING	CG 4a 16 Children attend regularly, participate and enjoy preschool / school.	<ul style="list-style-type: none"> • KC-4a.1 Regularly attend preschool /school • KC-4a.2 Enjoy coming to preschool/school • KC-4a.3 Make friends and actively participate in large & small group activities • KC-4a.4 Begin to take initiative in class and show independence in thought and action
SOCIAL EMOTIONAL DEVELOPMENT	PARTICIPATION IN INDIVIDUAL AND GROUP ACTIVITIES	CG-5 Children develop a positive attitude towards productive work and service or 'Seva'	<ul style="list-style-type: none"> • KCG5.1 Participate in or engage in age- appropriate physical work to help others.
SOCIAL EMOTIONAL DEVELOPMENT	ENVIRONMENTAL AWARENESS AND CARE	CG-6 Children develop a positive regard for the natural environment around them	<ul style="list-style-type: none"> • KC-6.1 Become aware of the environment around them and learn to care for & protect them • KC-6.2 Show kindness and helpfulness to other people & animals when they are in need • KC-6.3 Care for and enjoy engaging with all life forms

¹⁶ Extra CG as school adjustment is an important social emotional competency at this age

DOMAIN: COGNITIVE DEVELOPMENT- (COGNITIVE THOUGHT, EMERGENT NUMERACY AND EARLY NUMERACY)

DOMAIN	SUB DOMAIN	CURRICULAR GOAL	LEARNING COMPETENCIES 17 (INDICATORS FOR ASSESSMENT)
COGNITIVE DEVELOPMENT	<ul style="list-style-type: none"> • SYMBOLIC THINKING • OBSERVATION, • CONCEPT FORMATION • LOGICAL THINKING AND PROBLEM SOLVING 	CG 7- Children make sense of world around them through observation, logical thinking and conceptual understanding	<ul style="list-style-type: none"> • KC-7.1 Understand and respond positively to symbols of everyday life (ambulance hooter, traffic signals, danger signs, national flag) • KC-7.2 Begin to move from perceptual (understanding based on senses) toward conceptual thinking (understanding based on thinking) • KC-7.3 Observe and understand different categories of objects and the relationships between them, including part whole relationships and associative relationships e.g., needle-thread. • KC-7.4 -Observe and understand cause and effect relationships in nature by forming simple hypothesis and use observations to explain and test their hypothesis • KC-7.5 -Use appropriate tools and technology in daily life situations and for learning
<i>COGNITIVE DEVELOPMENT AND EMERGENT NUMERACY</i>	<ul style="list-style-type: none"> • SENSORY PERCEPTION & DISCRIMINATION • CONCEPT FORMATION 	CG 8a ¹⁸ -Children develop sharpness in sensorial perception and skills related to pre number concepts	<ul style="list-style-type: none"> • KC-8a.1 Recognizes and labels /describe objects by their observable and sensorial properties such as size shape color texture sound smell and taste • KC-8a.2 Distinguish between alike & different objects and classify and organize objects into groups and subgroups according to their properties (size, color, shape, texture, etc.)

¹⁷ LG 7.1 7& 7.2 are added as symbolic thought and conceptual thinking are very important development during this period

¹⁸ The CG8a is given as CG2 in the NCF document but has been brought down to CG8a because sensorial perception and discrimination is a cognitive and emergent numeracy competency with important pre/ emergent numeracy skill. CG 8a has been put first because it comes first and has to be mainly dealt with in 3-6 age group while early numeracy CG comes in 6-8 years

	<ul style="list-style-type: none"> • COMPARISON MEASUREMENT & SERIATING • PATTERNS 	(Classification, seriation, sequential thinking, pattern making and problem solving)	<ul style="list-style-type: none"> • KC-8a.3 Compare attributes of object based on their physical properties of length, size, color shades, sound volume, time, weight and quantity and orders (seriate) them accordingly • KC-8a.4 Describe & compare measurable attributes, such as length, size, weight, quantity and time using estimation, as well as non-standard measurements (such as hands, feet, stones etc.) • KC-8a.5 Begin integrating sensorial perceptions to get a holistic awareness of the experience • KC-8a.6 Identify and extend simple patterns in the surroundings, shapes, and numbers • KC-8a.7 Retain visual memory for Mathematical symbols and representations
EMERGENT & EARLY NUMERACY	<ul style="list-style-type: none"> • MEASUREMENT • DATA HANDLING & MATHEMATICAL VOCABULARY 	CG-8 Children develop mathematical understanding and abilities to recognize the world through quantities, shapes, and measures	<ul style="list-style-type: none"> • KC-8.1 Understand and Perform simple measurements of length, weight and volume of objects in their immediate environment • KC-8.2 Understand and Perform simple measurements of time in minutes, hours, day, weeks, and months and can convert from one unit to another. Reads time on a clock with hours and minutes • KC-8.3 Collect and analyze data and present it in different forms (pictorial and graphic), reflect on data collected and draw mathematical conclusions from visual representations of data. • KC-8.4 Develop adequate and appropriate vocabulary for comprehending and expressing concepts and procedures related to quantities, shapes, space, and measurements • KC-8.5 Formulate and solve simple mathematical problems related to quantities, shapes, space, and measurement • KC-8.6 Develop vocabulary related to space, quantity, length and volume, one to one correspondence: & counting • KC-8.7 Use appropriate mathematics language in oral and written statements

EARLY NUMERACY	<ul style="list-style-type: none"> • MEANINGFUL COUNTING WITH 1-1 CORRESPONDENCE • EQUIVALANCE • NUMERAL RECOGNITION & ASSOCIATION • ADDITION AND SUBTRACTION • MULTIPLICATION AND DIVISION 	<p>CG -8b¹⁹ Children enjoy learning mathematics and develop basic understanding of mathematical operations</p>	<ul style="list-style-type: none"> • KC-8b.1 Count up to 99 both forwards and backwards and in groups of 10s and 20s • KC-8b.2 Recognize and uses numerals to represent quantities up to 99 and arrange in ascending and descending order and identifies odd and even numbers • KC- 8b.3 Understand concept of addition and subtraction with place value. • C-8b.4 Perform addition and subtraction of 2-digit numbers using flexible strategies of composition and decomposition • KC-8b.5 Recognizes if the process of addition or subtraction is required to solve a problem • KC-.8b.6 Perform simple transactions using money up to INR 100 (notes and coins) • KC-8b.7 Recognize multiplication as repeated addition and division as equal sharing • KC-8b.8 enjoy playing /devising number related games and solving problems.
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¹⁹ This is the 3rd CG connected to mathematics -understanding number and number operations. ALL the LCs were grouped under CG 8 in the NCF. Here it has been distributed among the 3 CGs 8a 8 and 8b

DOMAIN: LANGUAGE AND LITERACY DEVELOPMENT (LANGUAGE 1 AND LANGUAGE 2)

DOMAIN	SUB DOMAIN	CURRICULAR GOAL	LEARNING COMPETENCIES (INDICATORS FOR ASSESSMENT)
LANGUAGE DEVELOPMENT L1	<ul style="list-style-type: none"> LISTENING SPAN & COMPREHENSION VOCABULARY & RESPONDING CONVERSATION NARRATIVE SKILLS LANGUAGE CREATION 	CG-920 Children develop effective oral communication skills for day-to-day interactions	<ul style="list-style-type: none"> KC-9.1 Listen to, enjoy and recite simple songs, rhymes, stories and poems KC-9.2 Understand and follow oral instructions for a complex task and give clear oral instructions for the same to others KC-9.3 Widen the listening span and listen to stories or conversations of increasing length. KC-9.4 Comprehend narrated/read-out stories and identify characters, storyline and what the author wants to say KC-9.5 Know and use enough words to carry out day-to-day interactions, hold a meaningful conversation and can guess meaning of new words KC-9.6 Narrate short stories with clear plot and characters and create or explain new endings KC-9.7 Create simple songs and poems on their own.
LANGUAGE DEVELOPMENT L2	<ul style="list-style-type: none"> LISTENING AND RESPONSIVE SKILLS VOCABULARY CONVERSATION NARRATIVE SKILLS LANGUAGE CREATION 	CG-9a Children develop effective communication skills for day-to-day interactions in two languages	<ul style="list-style-type: none"> KC-9a.1 Listen to, appreciates and recite /sing simple songs, rhymes with understanding KC-9a.2 Understand and follow simple oral instructions and give simple oral instructions to others KC-9a.3 Converse/Respond with 'what why how when' questions to convey simple needs KC-9a.4 Comprehend narrated/read-out stories and identify and answer questions using a mix of two languages (bilingual)
	<ul style="list-style-type: none"> PHONOLOGICAL AWARENESS OF 		<ul style="list-style-type: none"> KC-10a.1 Understand reading and writing as a skill related to everyday life

²⁰ In the NCF CG 9 is a single CG for both L1 and L2. Since the LGs have to be developed to a different degree in L1 and L2, it is divided here into 2 CGs- CG 9 for L1 and CG 9a for L2

EMERGENT LITERACY L1 & L2	<ul style="list-style-type: none"> • SOUNDS AND SYLLABLES • VISUAL DISCRIMINATION • PRINT AWARENESS • BOOK HANDLING 	CG10a ²¹ Children Acquire basic skills that lead to reading and writing	<ul style="list-style-type: none"> • KC-10a.2 Understand that print is the written form of spoken language • KC-10a.3 Develop phonological awareness and blends phonemes/ syllables into words and segments and words into phonemes/ syllables • KC-10a.4 differentiate visual stimuli in terms of shape and direction and identifies “<i>odd one out</i>” • KC-10a .5 Understand basic structure/format of a book, idea of words in print and direction in which they are printed, and recognize basic punctuation marks • KC-10.a..6 Develop interest in browsing through and ‘reading’ books
<ul style="list-style-type: none"> • EARLY LITERACY L1 	<ul style="list-style-type: none"> • ALPHABET KNOWLEDGE & DECODING • MEANINGFUL READING • MEANINGFUL WRITING • CREATIVE WRITING 	CG 10 Children develop fluency and accuracy in reading and meaningful writing in Language 1 (L1)	<ul style="list-style-type: none"> • KC-10.1 Recognize that the letters of the alphabet (forms of Akshara) as part of words and use this knowledge to read and write words • KC-10.2 Recognize all the letters of the alphabet (forms of Akshara) • KC-10.3 Make and Decode words using Aksharas and Swara Chinhas • KC-10.4 Enjoy read aloud stories from books • KC-10.5 Participate in shared and guided reading and writing activities with teacher, parents or older children • KC-10.6 Read stories and passages with accuracy and fluency with appropriate pauses and voice modulation²² • KC-10.7 Read short stories independently and comprehend its meaning • KC-10.8 Read and comprehend meaning of short news items, instructions and recipes, and publicity material • KC-10.9 Show interest in picking up and reading a variety of children’s books • KC-10.10 Graduates from scribbling and invented spelling to write a paragraph to express their understanding and experiences

²¹ The NCF gives this as one single CG -CG10. Here it is broken down into 2 CGs – CG 10a as emergent literacy to be acquired before learning to read and write and is the same set of skills for both L1 &L2. CG 10 for literacy skills for L1

²² The National foundational learning study (NCERT 2022) arrives at a benchmark for global minimum proficiency level for oral reading fluency in Kannada at 30-48 correctly read words with comprehension

EARLY LITERACY L2	<ul style="list-style-type: none"> • PHONOLOGICAL AWARENESS -SOUNDS AND SYLLABLES • ALPHABET KNOWLEDGE & DECODING • MEANINGFUL READING 	<ul style="list-style-type: none"> • CG-11 Children begin to read and write in Language 2 (L2) 	<ul style="list-style-type: none"> • KC-11.1 Develop phonological awareness and are able to blend phonemes/syllables into words and segment words into phonemes/syllables • KC-11.2 Able to 'read' or decode <u>sight-words</u> in the classroom and in the environment • KC-11.3 Recognize most frequently occurring letters of the alphabet (forms of Akshara) of the script and use this knowledge to read and write simple words and sentence
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DOMAIN: AESTHETIC AND CULTURAL DEVELOPMENT

DOMAIN	SUB DOMAIN	<ul style="list-style-type: none"> • CURRICULAR GOAL 	<ul style="list-style-type: none"> • LEARNING COMPETENCIES (INDICATORS FOR ASSESSMENT)
AESTHETIC AND CULTURAL DEVELOPMENT	<ul style="list-style-type: none"> • ART /DRAWING/ PAINTING / • MUSIC AND SONG • CREATIVE MOVEMENT • ART AND CRAFTS 	<ul style="list-style-type: none"> • CG-12 Children develop abilities and sensibilities in visual and performing arts and express their emotions through art in meaningful and joyful ways 	<ul style="list-style-type: none"> • KC-12.1 Explore and play with a variety of materials and tools to create two-dimensional and three-dimensional artworks in varying sizes • KC-12.2 Explore and play with own voice, body, spaces, and a variety of objects to create music, role-play, dance and movement. • KC-12.3 Innovate and work imaginatively to express a range of ideas and emotions through the arts • KC-12.4 Work collaboratively in the arts • KC-12.5 Communicate and appreciate a variety of responses while creating and experiencing different forms of art, local culture, and heritage

POSITIVE LEARNING HABITS

DOMAIN	SUB DOMAIN	CURRICULAR GOAL	LEARNING COMPETENCIES (INDICATORS FOR ASSESSMENT) ²³
POSITIVE LEARNING HABITS	<ul style="list-style-type: none"> ATTENTION AND FOCUS WORKING MEMORY PERSEVERENCE CURIOSITY MENTAL FLEXIBILITY 	<ul style="list-style-type: none"> CG-13 Children develop habits of learning that allow them to engage actively in classroom activities 	<ul style="list-style-type: none"> KC-13.1 Attention and intentional action: Acquire skills to plan, focus attention, and direct activities to achieve specific goals KC-13.2 ²⁴: Demonstrate adequate working memory KC-13.3 Focus & exhibit perseverance (to resist distractions and sustain attention to task) KC13.4 Mental flexibility (shift attention or approach to solve problems), KC-13.5 Observation, wonder, curiosity, and exploration: Observe minute details of objects, wonder, and explore using various senses, tinker with objects, ask questions KC-13.6 Classroom norms: Adopt and follow norms with agency and understanding

²³ Note: These positive working habits are expected to develop **not through specific planned activities** but through use of play- based pedagogy i.e. guided play activities of interest to children and free play activities in activity corners.

²⁴ Since memory and mental flexibility are two separate skills the LC -C13.2 of NCF has been split into C13.2 and C13.3

Chapter 4: How Children Learn at the Foundational Stage

In the previous chapter we identified the competencies which children need in the Foundational years for all round development and school preparation. It must be understood that both outcomes and inputs are important parts of the curriculum and pedagogical framework. There is a danger, when discussing outcomes, to downplay the inputs that are necessary in order to achieve the outcomes.

Inputs include a number of factors -chief among them being teachers, parents and communities. So, the next logical question arises--how can children be helped to achieve the outcomes? To understand that, we need to move to the important question of "how do children learn?" This is the focus of the present chapter.

Research evidence tells us that children learn if a) the content to be learned is interesting b) is offered to them in a way that they can understand (is age appropriate) and c) is aligned with their social and cultural context. Additionally, the learning tasks must d) give them an opportunity to choose / be self- directed e) help them learn through experience and f) be presented in a non-threatening and stimulating environment where there is an understanding and relationship with the child.

Research tells us that there are four key ingredients for any educational initiative to be successful in helping children master the competencies required in the early childhood years. These are discussed in the present chapter and include:

1. Section I: *Mother tongue or home language* as the medium of interaction/instruction.
2. Section II: *Play based pedagogy* as opposed to the conventional "*chalk and talk*" teaching method.
3. Section III: A *warm and child friendly teacher* at the Foundational stage who is professionally qualified to help children learn and provide a warm supportive, consistent learning environment in the preschool/school.
4. Section IV: An environment in the child's *home and in community that supports learning*.

In this chapter we discuss **why** these four ingredients are so important. The next chapters will discuss **how** we can ensure that these are implemented in Foundational education in Karnataka state in greater detail for the guidance of teachers and all stakeholders.

4.1 Mother tongue or home language of the child as medium of instruction/interaction

The Mother Tongue may or may not be the mother's language! We define 'Mother tongue' or 'home language' as the language or languages that children are exposed to since birth and which they use in the first few years of their life in the family or home. As a result, that is the language that they are most proficient in when they enter preschool or school. It is sometimes possible that children are proficient in more than one language. This can happen if parents or other family members speak different languages to the child, so that he/she is equally good in both languages. In such situations, either language can be used successfully as a medium of instruction or interaction. The key consideration when deciding on the language of instruction is the child's familiarity with the language in the first few years of her life.

- a) **Mother tongue/home language serves as the building block for children's cognitive development:**

Research evidence confirms the importance of teaching children in their mother tongue during the Foundational years and beyond. Young children learn concepts most quickly and deeply in their home language/mother tongue/familiar language.

Over the first three years children develop essential skills for communication, information processing and social interaction. By the time children come into a preschool or *anganwadi* at the age of three years, they have already learnt to communicate their needs and desires in their home language /s and are also able to listen to and comprehend what others are saying. Most importantly, they have begun to think, reason, solve problems and process all information that they see, hear, touch, etc through their senses in the home language. Children bring these basic skills with them into the preschool and formal school. These serve as the building blocks for further development of their cognitive and socio-emotional competence required in school and later in life. The home language when used as the medium of instruction, enables the child to build on the three years of experience that they have acquired before coming to preschool, and this contributes to her success in the preschool and school.

When children are taught with a new or unfamiliar language as the medium of instruction, the 3-4 years of experience that they come with, is completely disregarded. A new language is taught from the beginning, and this results in a wastage of all the experiences, skills, and learning that the child has already accumulated. There is overwhelming evidence from across the world, including from India, to show that children who study through their mother tongue/ a home or

familiar language, perform better in other subjects such as Mathematics and Science compared with their peers who are taught through an unfamiliar language. Surveys have shown that children in English medium schools often demonstrate good fluency in reading but lack comprehension due to lack of familiarity with the English vocabulary and expression.

- b) **Mother tongue/home language serves as the building block for children's social emotional competence.**

Mother tongue or home language is more than just a mode of communication and thinking, it also relates closely with the child's personal, social and cultural identity that helps them nurture old relationships and build new ones with those around them, their family, peers and more experienced others. It is the medium for children to listen, comprehend and empathize with others, speak and express their feelings and thoughts and successfully interact with others meaningfully. In addition, for young children, a positive and supportive relationship and an emotionally secure environment is crucial for learning. This is fostered through the use of a familiar language as medium of instruction and interaction. Imposition of a new language as the medium of instruction, is neither fair to children nor desirable at the early stage of their education, when development of positive self-esteem and a sense of autonomy and capability is a vital objective for children.

- c) **Language forms a critical aspect of cultural awareness and expression, which is a major competency to develop in children.**

The competencies of cultural awareness and expression provide children with a sense of identity, belonging, as well as an appreciation of other cultures and identities. International studies have demonstrated that cultural awareness/expression and a positive cultural identity in children leads to increased levels of prosocial behavior, self-esteem, self-development, positive cultural identity as well as tolerance and appreciation of other cultures.

Thus, cultural awareness and expression are important contributors to both individual as well as societal well-being. This is a further reason that home languages, local languages, and other Indian languages, with their oral and written literatures and traditions, form an important aspect of children's educational experiences for their overall holistic development and well-being.

What does research tell us about exposure to multiple languages and multilingual education?

Enough research evidence is available to prove that exposure to multiple languages in oral form has both cognitive and societal/cultural benefits.

Children in the first 6 to 8 years of life have the ability to readily pick up new languages, if exposed to them as oral communication in meaningful contexts. Furthermore, children are able to pick up multiple oral languages in the early years, and easily keep track of which language is spoken and which language should be spoken to whom. Research also clearly indicates that any skills and concepts gained in the learner's home language do not have to be retaught when they learn a new language alongside or subsequently, as there is transfer of learning.

Adopting bilingual or multilingual approaches in the early grades with the home language as the main medium of instruction or interaction, enables children to do efficient code switching across languages.

How can multilingual skills be taught?

Important points to remember when designing appropriate early language learning experiences for young children in the Foundational Stage.

- Children do not learn language through formal teaching of the alphabet. To attain multilingual skills, it is necessary to provide a rich environment of meaningful use of languages.
- Unlike spoken language, written language comes less naturally and has to be taught. The concept of reading and writing including the concepts of phonemes (small units of sound) and graphemes (the smallest units in a writing system) must be learned. Reading and writing is optimally taught first through a single language, which ideally is the home language, whenever possible. Once the concept of reading and writing and basic literacy skills are developed in a child, further scripts can be introduced over time and are then more easily learned.

Approach to Languages in the Karnataka State Curriculum Framework

The approach to Language Education, as clearly delineated in the National Curriculum Framework (NCF, 2022) and quoted here is “*to ensure that children learn languages in such a way so as to optimize learning (across all domains and areas), communication skills (both oral and written), and socio-emotional skills, during their early years and throughout their lives.*”

As discussed in Chapter 2, Karnataka as a state is home to significant diversity in terms of the languages spoken across the state. While Kannada is the regional language of the state, many communities in the coastal region and in other areas speak Konkani, Kodava, Tulu and Urdu. Some of the languages are actually dialects without scripts of their own. Additionally, children living in border districts adjoining Maharashtra, Tamil Nadu, Kerala and Telangana, often speak the language of the neighbouring state. Again, with massive migration into Bengaluru especially due to the software industry, there are also likely to be many other languages from other states being spoken as home languages, with children coming into school not being familiar with the regional language.

A key part of the NCF, which this SCF is also reiterating, is thus aimed at instilling foundations of **excellent multilingual skills orally in children as early as is possible** and in a manner that is developmentally appropriate. It is important to immerse children in multiple oral languages early.

To the extent feasible, the state policy will ensure that children have opportunity to learn in the language they are most familiar with and which they bring with them to the Anganwadi/preschool/school from their homes. However, it is also acknowledged that no one centralised solution can be easily adopted, and different possibilities may be required to be explored at decentralized levels of decision making. A few lessons from innovative experiences can be considered. These include:

- a. Carrying out detailed, area wise *language mapping surveys* to identify the range of home languages of children that will inform planning and decision making at decentralised district and sub district/block levels.
- b. In a context where the dominant dialect does not have a script, a bilingual approach, where children can be taught emergent and early literacy skills in their dialect using the Kannada script could be adopted. This may make it easier for children to learn the script since they would have the advantage of the known vocabulary and expression which facilitates reading. Here the medium of instruction is the dominant language and Kannada is introduced alongside in oral form as the second language. All early interactions at 3-4 years, in the AWC can be in the home language with a gradual shift towards Kannada throughout the ECE period so that children enter grade 1 with a working knowledge of the state language. Kannada could be taught alongside in oral form in a planned manner across the preschool stage, so that by the time children enter grade school, they are ready to transition to Kannada as the medium of instruction, while retaining the bilingual classroom environment.

- c. In the context such as the blocks bordering other states the dominant language can be the language of instruction and early literacy. The choice of second language (Kannada or English) can be left to the gram panchayats/ local bodies who will take a decision after due consultation with the parents and school authorities.
- d. Children in state supported schools /affiliated to state boards / seeking recognition from the state will adopt a bilingual curriculum where they will spend equal amounts of time in learning Kannada and English (80 minutes). **Numeracy will be taught in the language children are most comfortable with** (usually Kannada) so that they will learn important maths concepts in the language they understand. The aim should be to help children achieve oral fluency in both languages and be able to read and write at grade level in two languages by the end of grade III.
- e. Children in all other schools will have to obtain oral fluency in both Kannada and English and read and write at grade level competencies by the end of grade III. As far as possible the distinction between grade L1 and L2 should be reduced so that all schools become bilingual schools.

The NCF (2022) clearly discourages the adoption of English as medium of instruction. A major issue reported in surveys in Karnataka is the importance accorded to learning of English and teaching in English medium, which is a societal demand. English as the medium of instruction at this early stage is not at all desirable from the perspective of Foundational learning for the reasons given above. However, enabling children to learn English as a language is certainly valuable, given its advantages in a multilingual country like India, in addition to its association with social mobility and resulting social demand. English, should therefore be part of the curriculum as a language but not as the medium, and should be introduced primarily in oral form initially in the early years to help children learn to communicate in English. The oral language competence will later facilitate learning of English literacy as well.

4.2 Importance of Play for Children's Learning

The NCF (2022) emphasizes the value of play as the primary medium for children's learning at the Foundational stage. To quote from the Framework "*children are natural learners and they learn best through play - through curiosity, exploration, activity and interaction. Children have an innate sense of curiosity - they wonder, question, explore, try out, and discover to make sense of the world. They are active, eager to learn and respond with interest to new things. They like to run, jump, crawl, and balance, they enjoy repetition, they respond spontaneously to rhythm, they talk, they ask, and they reason and answer questions posed to them. They learn by first-hand experiences involving manipulation, exploration, and experimentation. They create their own play materials out*

of nothing. This playfulness with materials, ideas, thoughts, and feelings helps in developing children's creativity, flexible thinking, and problem-solving abilities, and enhances their concentration, attention, and perseverance".

The KSCF (2022) also endorses the view that play is the best medium for children's learning at the Foundational stage as it meets all the requirements for children's learning mentioned at the beginning of this chapter. Childhood is associated in our tradition with stories, rhymes, infant games, dolls and puppets and '*grandmother stories*' which are seen as an inseparable part of the childhood years. This appreciation of the importance of play as an integral and important part of childhood is further evident in traditional toys developed by local craftsmen for children as in the case of the *Channapatna* wooden toys – that may now be less popular due to technology diverting children towards other devices, but can be revived and redesigned to meet the new requirements for children's learning.

Play has an important place in the Foundational curriculum and the following paragraphs detail out how it progresses with age. Also discussed are the different types of play and the important role they play in children's development in the early years. It is important for curriculum content designers, teachers and parents to know how children progress through different stages of play in their growth trajectory, and the role that it plays in development, so that they can plan developmentally appropriate activities and experiences for them.

Stages of play:

The way children play differ at each developmental substage. The type of play that children indulge in at all substages comes naturally to them, irrespective of socio-cultural diversity. These are discussed below:

Solitary play: Children below 3 years tend to indulge in *solitary play* i.e. they tend to enjoy playing on their own individually and do not seek the company of other children. At this stage they also do not tend to demonstrate prosocial behavior and are not developmentally ready for behavior such as sharing or helping others or seeking friends

Parallel play: As children transition into the next substage of 3/ 4 years, they begin to indulge in *parallel play*, i.e., they prefer to sit with another child for company, but interestingly still play on their own! This is a gradual entry into the socialization phase, but they are not yet ready to play together.

Cooperative play: Around 4 to 6 years, children begin to gradually demonstrate a strong need to be with other children and indulge in *cooperative play* or playing together. This is also a sensitive period for development of their social skills. Therefore, an important objective of ECCE programmes is to ensure an interactive and non-threatening environment for children to meet the need for socializing with others. The ECCE curriculum needs to be accordingly designed to provide opportunities for them to play together, work together, interact with each other, and in the process learn to share, cooperate, collaborate, communicate and develop compassion and empathy towards others which are now being considered important for the 21st century! These skills come naturally to children through play with guidance by teachers/parents.

Games with rules: As children come into the 6 to 8 age range, when they are beginning to think and reason more logically, becoming more socio-centric and developing an understanding of the environment, they move on to the next sub stage of *games with rules*, i.e., indoor and outdoor games both played in pairs or as team games, involving competition and strategic thinking. They learn to regulate their behavior, discipline themselves as they learn to abide with the rules, while also learning to recognize and respect their own rights and those of others.

Types of Play

Children at all ages indulge in four or five different kinds of play each of which also has its own developmental significance. These include:

Imaginative or dramatic play: Young children play with dolls, “keep house” or act as doctor and patient. A block may be used as a car or a stick can be made to run as a horse. When children create their own make-believe world and live out their own experiences or those of others, through creating imaginary objects and characters they are engaging in pretend/ make-belief or symbolic play. While the complexity of play increases with age, imaginative play helps children’s internalization of social habits and practices, emotional release in case of stress, nurturance of creativity and imagination and cognitive problem solving.

Creative play: Along with imaginative play which involves imagining or reliving situations, children also engage in *creative play*, which involves drawing, scribbling, painting or creative movement where they imagine and create a character or an action. E.g., hopping like a frog, creating a drawing of their dog, making up rhymes, playing with words, making riddles etc.

Constructive play: Children also indulge in *constructive play* in which they try to construct or build different objects. Playing with building blocks, puzzles, manipulative toys and sand play again are favorites with children at all stages, with the complexity of the structures they create

increasing with age. These not only foster imagination in children, but also help children experientially learn cognitive concepts such as those of size, shape, space, number, volume and color and concept of quantitative measurement and engage in problem solving.

Physical play and games with rules: Another kind of play children engage in, is *physical play* which involves more of running, jumping, skipping, balancing etc. which largely helps them develop their gross motor skills and contributes to their physical development. While younger children move around and play on their own the older ones play with others and gradually move to teams. Thus, *games with rules*, is yet another category of play which brings in multiple benefits in terms of nurturing almost all aspects of development.

Play and Development of Positive Learning Habits

As children play, they also inherently develop several life skills which are directly linked to the process of learning and are important from the perspective of facilitating learning and education. As explained in chapter 2, the SCF (2022) also places a great deal of significance on these processes or *executive skills* (described as Positive Learning Habits in the NCF) as they are fundamental to all learning. These include skills related to planning and organizing tasks, time management, task perseverance, emotional regulation and inhibitory control, working memory and cognitive flexibility. Teachers report that many children today demonstrate an inability to concentrate on a task, instances of attention deficit, lack of engagement, tendency to leave tasks incomplete and so on, challenges which are becoming more evident post Covid, when children had to be kept away from school for two long years.

These abilities develop naturally in children if they are given an appropriate and balanced free play and guided play environment. How play can be used as an effective medium for learning will be described in greater length in the next chapter on pedagogy.

Implications for the Karnataka context

Karnataka has a head start in play-based pedagogy since it has been historically implementing play-based pedagogical practices in the *Chilli Pili* curriculum in its Anganwadi centres since 2000. Similar pedagogies are implemented in the Chilli Pili plus curriculum for monograde preschools and other NGO initiatives such as Prajayatna and Kalike curriculum for Anganwadis, the latter now being scaled up to cover more AWCs across the state.

Given this experience, it is expected that there is a basic understanding of play-based pedagogy and its significance already in the system, particularly amongst the Anganwadi workers and

supervisory staff in the state. This understanding may be required to be further strengthened and updated in accordance with the NEP and NCF (2022) recommendations.

Play-based pedagogies, however, are absent in many of the private pre-schools, where the focus of the management, teachers, parents is on learning of the 3Rs with rote learning and drill. Play based pedagogies are not recognized and are not seen as serving any useful functions.

Karnataka also has grades 1 to 3 practicing activity-based pedagogy under the Nali Kali curriculum which is again consonant with play-based pedagogy. This again will need to be aligned to the Anganwadi curriculum in terms of continuity and widened to enhance the socio-emotional, oral language and creative development components of the curriculum. Play based approaches for strengthening the oral language and numeracy curriculum will also need to be introduced to meet the needs of the new NCF stress on Foundational skills.

The private school system, (both the high-end schools and the affordable schools) which is exponentially expanding in the state poses a significant challenge to implementation of play based curricula as they focus on a more academic curriculum and teacher directed pedagogy. Since these are the pace setters for the *Anganwadis* and government school system their curricular practices, unless influenced, are likely to adversely impact the practices in the *anganwadis* and schools also. The oft suggested routes of standards, regulations and certification, which have been the way in the higher classes, will not work in this case, where parental perception is strongly in favour of a more rigorous academic curriculum. Creating an enabling environment for play based pedagogy in this sector is thus an important requirement for the success of this pedagogy.

The other challenge is the lack of awareness amongst parents and the larger community, who evidently do not have an appreciation of the value of play in children's learning and insist on formal teaching of the 3 R's. This is reflected in large scale migration of children from *Anganwadis* to private schools and needs carefully planned parent education and community outreach programmes.

4.3 The Foundational Stage Teacher

Research, both Indian and international, has consistently demonstrated that the teacher is the most significant factor that determines the quality of any educational programme. This is particularly significant for the Foundation stage. Why is it so? Children at the Foundation stage are very young and are in a phase of rapid growth and development. They are buzzing with curiosity, eager to learn and extremely responsive to the environment they are placed in and most

importantly to the teacher, who at this stage is emulated more by the children than their own parents! The teacher holds a very special position in the children's minds and hearts and is a role model for them. The kind of environment and stimulation children get is also significantly dependent on the teacher's efforts and initiatives.

What are the characteristics of an effective teacher at this stage? Again, research indicates that a democratic teacher is more effective and has greater impact than an authoritarian teacher. The word "democratic" though often used to describe societies and political systems is also important in the area of Foundation education. Who is a democratic teacher? This is a teacher who works with children, consults with them and allows them the freedom to choose within the boundaries set by the agreed rules. Democratic teachers create an environment for effective communication between teacher and children and amongst the children, gives importance to all children without any discrimination, and provides all children equal opportunity to express and participate in the class activities.

The Foundational stage teacher is expected to provide a nurturant environment to every child in her class or Anganwadi with proper attention to their health and nutrition. In addition, she has to provide opportunities for early learning in a safe and secure environment. The emphasis on play-based pedagogy, requires her to plan each day's programme, collect, compile and maintain learning resources, assess how each child is progressing and encourage him/her to learn and develop at their own pace.

In the Karnataka context we consider the Anganwadi worker, preschool teacher and the Nali Kali teacher in this category. But the demands on each of these categories are different. An Anganwadi worker has to do all this and much more! Being a multipurpose worker (in addition to a teacher) she is responsible for as many as 28 duties listed in the official records, of which preschool education is only one! The preschool teacher in contrast has only one responsibility and that is to ensure good quality preschool education. The Nali Kali teacher has to handle the educational needs as well as support the mid-day meal programme and support other initiatives of the education department. However, all three categories of teachers are expected to ensure similar standards of quality as teachers irrespective of their contexts and service conditions!

How to enable each of the three categories of teachers to be able to perform up to expectations particularly in the context of Karnataka is discussed later in greater detail in Chapter 7.

4.4 Significance of Family and Community

A child comes into a preschool or *Anganwadi* (and subsequently into a school) only for a few hours of the day. For a larger part of the day the child is at home and spending time with the immediate or extended family including grandparents, neighbors, and others in the close community. Most children in India grow up surrounded by people within and outside the immediate family. The predominant influence during this period are the relationships in the family including those that ensure adequate nutrition, social engagement, health and emotional support. Stable, nurturing, and responsive families contribute to healthy development and positive learning for children.

Given the time the child spends outside the preschool or school, much of the child's learning is influenced by what the child is exposed to outside the school. Relationships and engagement between the child and the family during the early years is one of the most powerful predictors of a child's development. Content and pedagogy in the early years must take this critical factor into account. Schools, family and community are partners in the child's development and learning. For this partnership to be effective the family needs to:

- a) Be an integral part of the school's planning and be involved in the preschool/school activities to the extent feasible and necessary.
- b) Have a shared vision of early Foundational education of children, understand and appreciate the value of mother tongue teaching and play as of fundamental importance to children's learning and development.
- c) Commit to providing a consistent and complementary environment to the child to the extent feasible at home, so that the child derives optimal benefit from the educational programme.

To facilitate this, it is important for the government and civil society to sponsor parenting programmes which can orient the parents and family members regarding what activities they can do with children which support their school learning in various domains and are also not a burden on the parents. A much bigger role needs to be paid by the Bal Vikas Samithi to support schools, act as intermediaries between the parents and preschools by reaching out to and educating parents on what constitutes good education. The strategies for community involvement in education in the foundation stage is described in greater detail in the report of the working group on community involvement provided in the annexure.

At the Foundational Stage, the curriculum must also be contextualized and rooted with content and derived from children's life experiences that reflect the familiar i.e., the cultural and social context in which the child is growing. This helps build deep connections with children and develop the ownership of families and children of the curriculum. To this end, it is important for the school to ensure that while contemporary ideas of teaching and learning must be part of the curriculum, it is critical that the diverse experiences of children, their families, and their communities find a place in the classroom. Cultural traditions, local stories, songs, games, food, clothes, art, music, and dances should be an integral part of the learning experiences of children in school.

Implications for Karnataka

Karnataka has a number of important initiatives to support active parent and family involvement in early education especially in the ICDS and school programmes. Visits to parent's home and encouraging parents to visit the school are organized activities.

As mentioned in the previous section, parental education on what constitutes a good preschool needs to be propagated at the community level. This component will be further strengthened. Steps will be taken to enhance the responsibility of the community by building the capabilities of the Anganwadi Level Monitoring and Support Committee / Bal Vikas Committees (parents committee), SDMCs (school development and management committees) and the Panchayat Raj Institutions. Regular meetings will be held with the committees to help them take increased responsibility for spreading awareness on Foundational education and develop a correct perspective about early child care and education, language of instruction and the role of play.

In this context, mother's meetings that are there in the AWC should be expanded to become parent's meetings which involve the fathers as well. These meetings should be used as spaces to share children's learning and to partner with the parents in the learning of the children.

Inviting parents to share any expertise or skill they may have with the children helps to enrich the AWC /school programme, provide support to teachers but also encourage them to make informed choices regarding selection of preschools/schools on the basis of what is best for the child rather than what is socially more prestigious!

Programmes such as the CLAP (described in the annexure 1) which is a platform to support parents and children do joint activities at home goes a long way in switching the mindset away from the 3Rs as the sole aim of a preschool curriculum. Such programmes should be made widely available to all schools and families.

Chapter 5: Play based Pedagogy & Assessment in the Foundational Stage

The Context for Curricular Reform: NEP (2020) Recommendation for Foundational stage and its implications

The NEP (2020) has recommended the carving out of the Foundation stage as the first stage in school education for children between 3 to 8 years, through curricular integration of grades 1 and 2 with early childhood education.

The NEP has clarified that 'curricular integration' does not necessarily mean physical integration of preschools with primary schools. It refers instead to *curricular integration across the entire stage especially from preschool to early primary and to ensure a seamless and smooth transition for children between the two substages* which may often be in different institutions. Therefore, some key aspects of this reform when discussing pedagogy are as follows:

Upward Continuity in Curriculum: which implies that the state should develop a curriculum for children starting with 3 -4year olds and continuing upwards to 4 to 6year olds and then for 6 to 8year olds in a seamless manner without disruption. The key principle is *upward continuity* and not downward extension as is happening in most preschools today.

Curriculum should be Flexible and allow children to move at their own learning pace. The curriculum should be developed in an incremental mode from 3 to 8 years with each level determining the complexity of the next level. Though the curriculum will be planned age wise, children will have the freedom to learn and master any given competency at their own pace. The decision to move to the next level of activities should be taken not administratively but on the basis of where the child is across the age groups/levels.

A Play-based Pedagogy will be central to the curriculum development as recommended in the NEP (2020) and subsequently in the NCF (2022). The pedagogy for the Foundational stage should be play and discovery based and should address the six developmental domains identified in Chapter 3.

5.1 Curriculum Reform in the Karnataka Context

As discussed in Chapter 2, Karnataka is at an advantageous position as it already has a history of reforms in ECCE curriculum within the ICDS which follows a play- based pedagogy and

developmentally appropriate curricula followed by an innovative activity based early learning continuum in grades 1 to 3. This has created a systemic appreciation for play based pedagogy and a ready environment for the implementation of the reforms in curriculum and pedagogy suggested in the NEP (2020) and the NCF (2022).

The state initiatives are discussed in detail in annexure 1 but a more analytical overview is given below:

5.1.1 Chilli Pili:

The *Chilli Pili curriculum* was introduced as a play- based curriculum in the state ICDS in 2001. It is a theme- based resource package designed by local educational experts for the Government of Karnataka. The package consists of songs, stories, creative activities and games in the local language based around 52 weekly themes that is implemented for 2 hours in each day for six days of the week. It is a child friendly package that pays attention to the child's developmental abilities and also provides a rich repertoire of activities including stories, poems, games etc. which teachers can dip into easily. However, the material is not age graded and therefore not always age appropriate, and also leaves out the development of some perceptual and cognitive skills related to early literacy and numeracy that are important to include and are the need of the hour. All ICDS centres currently follow the Chilli Pili curriculum but will in the next few years move to the Kalike curriculum.

5.1.2 Chilli Pili Plus:

Responding to the need for a curriculum for LKG and UKG classes of the Composite Karnataka Public schools set up under the Samagraha Shikshana another curriculum titled *Chilli Pili plus* was developed more recently. The *Chilli Pili plus* has been planned as an appropriate curriculum for monograde classes with age segregation that can also be used in private schools. It has also tried to address some of the gaps of the Chilli Pili curriculum. The programme follows a thematic curriculum with 9 themes that deal with self and surroundings and the natural, physical and social worlds. It is currently being implemented on a pilot basis in 1100 preschools attached to government primary schools. Given the challenge that teachers have in initiating and holding activities for a length of time (especially conversations) each theme is broken into topics and a teacher's handbook is provided which provides guidance for conducting conversations and other activities for children. The curriculum also has an *Emergent Literacy and Emergent Numeracy* component that have been developed on a learning continuum and is planned to dovetail into the

Nali Kali of grade 1. The curriculum has just been implemented and needs to be evaluated and revised as necessary.

5.1.3 Kalike:

The Kalike curriculum implemented in 12000 ICDS centers in N Karnataka since 2011 is currently being extended to cover 20,000 centres across the state. The program was developed with the specific aim of improving the quality of ECE in the ICDS through empowering the AWW to deliver quality programmes in the time available to her and at a level that she is able to execute. The intervention works within the Chilli Pili framework and seeks to enhance the time spent in the AWC on free play, art activities and spoken language development for 4 hours each day with a variety of teaching and learning materials. The curriculum is divided into four areas with dedicated time slots that include a thematic curriculum for general awareness, language and perceptual skills; emergent literacy and numeracy activities and free play. The 43 themes are transacted through activities such as circle time, picture discussion and conversation, story-telling and nature walks followed by discussion. This is potentially a more balanced 'curriculum' than the Chilli Pili but needs to be reviewed from the NCF (2020) perspective and adjusted and enhanced as per need.

5.1.4 Nali Kali Curriculum:

Further along the early learning continuum, the Nali Kali Curriculum for 6-9-year-olds is implemented in grades 1-3 in 53,450 classes of LPS and HPS schools by the SSA - Department of Education in Karnataka. The Nali Kali program is play-based, designed for the teaching of language, mathematics and EVS between grades 1-3 in multi-grade settings. Initiated in one block of Mysore in 1995, the programme is being implemented in all state schools across the state since 2008.

Children in grades 1-3 are grouped in the same classroom with a teacher who has been trained to use this methodology. The curriculum includes language (Kannada), mathematics and EVS with 90 minutes devoted to each subject in a day. Each subject is supported by a learning continuum which is in turn made up of learning milestones. Milestones are comprised of steps with each step performing a function- preparatory / pre-learning activities, instructional, practice and evaluation. Children work through the milestones at their own pace. In deference to the multi grade system, the classroom management system supports children to understand the sequence of activities, replace and pick up cards, and learn to find their own place in the ladder and in an

activity group. Since all activities do not require equal attention of the teacher, the class is divided into activity groups depending on the amount of attention required by the teacher.

5.1.5 The English Nali Kali Curriculum (ENK):

Back in 2008, the Government of Karnataka responded to the growing parental demand for English education by introducing English as a subject in grade I in the state schools. However, English was taught with a textbook approach and teachers found it difficult to implement this in a multigrade classroom. In 2017 the government adopted a revised approach to English Language Teaching, through the Nali Kali system of classroom transaction.

Since English is a foreign language for students, the curriculum is divided equally into an oral and a literacy component. The oral English method follows the *Communicative Language Teaching* (CLT) recommended by NCERT and focuses on increasing students understanding of a new language as well as their ability to use it as a means of communication. Some of its important features are a) it is a whole class activity with the contents designed to allow for multigrade teaching b) an across-the-curriculum approach that breaks down the barriers between English and other subjects, and helps children learn the new language through concepts learnt in another language. The English curriculum loosely shadows the EVS curriculum in grade I. Since early EVS curriculums are embedded in the child's world, the vocabulary introduced has immediate relevance to the child's environment and needs c) it employs a thematic approach to oral language communication using a set of 7 themes where the vocabulary and grammar are taught through direct instruction and reinforced through rhymes; story reading /discussions/narration; conversation circles to practice greetings and structured conversation; and playing of language games. It also includes Total Physical Response for understanding and responding to oral instructions.

The literacy curriculum follows the Nali Kali method and includes the introduction of the alphabet structure through groups of commonly used letters rather than the conventional alphabet method. Once children have mastered a cluster of letters, they combine known letters (COAPT) to word families (at, ap, op) and three letter words (cat, cap, cot) and then moving on to 4 and 5 letters using blends (bl, cl, fl, gr etc.) in later grades. High frequency words (e.g., is, the, a) are taught simultaneously as sight words. The above steps allow for children to combine letters to form words and sentences very early on in the curriculum.

The Nali Kali is used in the early primary grades and the Chilli Pili and Kalike are used in the preschool / Anganwadis. Though the continuity in curriculum that is required from preschool to

primary is not consciously planned, potentially the two structures can be together conceptualised as reflecting the Foundational stage continuum that is recommended by the NEP (2020) and can be accordingly aligned during a process of joint planning of LOs and syllabus content.

While these innovations broadly conform to the recommended play and activity- based pedagogy, which is potentially an asset for the state, there is a need to review these more specifically as a ‘whole stage’, as recommended in the NEP (2020) in terms of the continuity in basic principles, concepts, content, competencies, method scope and depth of the curriculum to align with the concept of the Foundational stage.

The next section moves on to discuss and describe the contours of what the NEP (2020) and NCF (2022) describe as the play- based pedagogy and curriculum for the Foundational stage which builds on the state experiences and strengths such as play based- activities, materials and the thematic approach already in the repertoire of the practitioners. The framework can serve as reference for the systemic review by the state of the existing curricula from the perspective of developing a composite Foundational stage curriculum for 3- to 8-year-olds.

5.2 Play Based Pedagogy

An important recommendation of the NEP which is further reiterated by the NCF is the central role of play- based pedagogies at the Foundation stage. Since this is a comparatively new pedagogical area especially in the early primary grades, it is being treated in some detail in the KSCF.

The previous chapter discussed importance of play for children’s learning, particularly in these formative years i.e., between 3 to 8 years. This chapter will deal with discussions on play- based pedagogy, its benefits and advantages over formal methods of teaching and how it should be implemented in the classrooms.

In addition, we will talk about how to plan the content and activities for a play- based pedagogy and what should a daily classroom schedule be like. We will also discuss how the classroom needs to be organised to create a stimulating, age- appropriate- learning environment for children, including mixed age groupings in the class or *Anganwadi*. We will conclude with a discussion on why, how and when we should assess children’s progress and how it should be reported to the parents.

5.2.1 Content for the Foundational Stage

It is important to note that in the Foundational stage, education is more *process based* and less content based. In other words, unlike in the later primary grades and preparatory stage, where the learning focus becomes more subject or discipline based, in the Foundational stage, the emphasis is on the development of basic cognitive, language and socio-emotional concepts and skills related to the five domains of development, along with skills of early literacy and numeracy. These competencies which relate to all round development and school preparation are Foundational for all learning in school and later in life.

The *content* for the activities and experiences at this stage is drawn from the natural, physical and social environment the child is exposed to, but in an integrated manner through a thematic, project or story -based approach, as discussed in more detail later in this chapter. The emphasis however at this stage is not on acquiring or memorizing this knowledge but on the *development of basic concepts and related vocabulary* which will help the child understand the immediate environment around him/her through exploration, experimentation and engaging with the environment.

These concepts and vocabulary include those related to colour, shape, size, position, distance, weight, height, volume, number etc. Additionally, basic environmental concepts in the child's immediate environment such as family, plants, animals, insects, transport, seasons etc. are also included. The pedagogy employed to learn these concepts is through engaging children in theme wise activities which involve use of cognitive skills of comparison, classification, seriation, pattern identification and completion, memory, sequential thinking, creative thinking, problem solving and communication (as listed in Chapter 3). Children learn these concepts and skills through experiential modes of learning. These skills involve lower order critical thinking skills which form the base for higher order thinking later in school and are thus Foundational for the child's future learning and development. In addition, children learn these concepts and skills effectively if they are placed in a classroom learning environment that is socio-emotionally enabling and empowering for them, whether in an Anganwadi or in a pre-primary or early primary class.

5.2.2 Play Based Pedagogy –What Does it Mean?

We have already discussed earlier how play is second nature to children and it is the best medium for children's learning. In this section we move on to discuss how this needs to be converted into

a pedagogy which will address the two major goals of the Foundation Stage viz. a) providing a sound foundation for life-long learning and development and b) preparing children for schooling.

A play- based pedagogy has a science of its own which is reflected in its design and implementation. There are three core and non -negotiable elements which define play- based pedagogy and which are also essential for effective learning in the early years which includes:

1. *The agency of the child* (which means that the programme respects each child's right to *make decisions and to initiate and direct* their own learning).
2. The Child's complete *engagement* with the task at hand.
3. A *facilitating and caring* teacher.

If a stranger visits a classroom at this Foundational stage of education, a clear indicator of good play -based pedagogy would be that the children are so absorbed in what they are doing that they do not even look up to see who is there!

Research tells us that children in the early years learn best when they are supported in actively engaging, interacting and co-creating or constructing learning together with other children and with the teacher, in a caring, non -threatening environment. Play based pedagogy provides this space and opportunity for children to explore different ideas and concepts and in the process develop healthy collaborative relationships.

5.2.3 Play Based Pedagogy: What are its Advantages?

Why is play the best medium for children's learning in these early years of their education? What makes play based pedagogy much more effective with children at this stage as compared to the conventional didactic, teacher centred pedagogy that we see in most classrooms? In this chapter we discuss how this natural inclination towards play in children can be mobilised by teachers to guide them towards acquiring the desired competencies identified for each of the five domains i.e. socio-emotional, cognitive, creative, physical and motor development as well as development of language and early literacy and numeracy, using play as the mode of learning.

Some **key reasons** why play based pedagogy is more effective as compared to teacher centred pedagogy are as follows:

- Play as we all know, is second nature to a child and therefore it serves as a *natural mode of learning* for children. It presents learning experiences to them in a concrete form as per

their need, through activities and play situations, thus helping them to *learn experientially* and be active participants and not passive recipients in the learning process.

- The play-based pedagogy is more *individual centred* as it allows each child to respond to it on his/her own terms based on individual needs and abilities. It thus allows learning to proceed at the child's own pace.
- It also offers children a *balanced, process- oriented curriculum* as opposed to a content loaded one, which fulfils all desired developmental objectives across the five domains more effectively as compared to teacher centred teaching.
- Its content and method have *the space and opportunity for children to express themselves*, to communicate with others, learn sharing and cooperation and develop other socialisation skills, as well as get to explore, experiment and understand the world around them, which are all objectives of early years' education.
- Play as a process encourages exploration and experimentation, which provide an inbuilt opportunity for children to strengthen their observation, experimentation and problem-solving skills and creativity while simultaneously promoting their other domains of physical, language and social development.
- Play pedagogy also provides a conducive environment for *facilitating emergent literacy and numeracy* particularly for children from underprivileged home environments, who often do not have the privilege of a learning environment at home. It enables children to be exposed to a rich literacy environment, with stories and picture books, print materials in the classroom and other learning materials and immerses them in a rich language environment through stories, songs, drama etc. This pedagogy also provides them time, space and the environment to connect with and develop an interest in books and reading and also engage with concrete experiences and activities that give them a pre numeracy foundation for later learning.
- Above all, the free play opportunities in activity corners are known to *foster executive skills or positive learning habits* of task perseverance, emotional regulation, working memory and cognitive flexibility in these earliest years of life when brain development is most rapid, and these are sustained over time into adulthood. These skills which can develop only through child- initiated activities and not through teacher directed ones, enable a child to have control over his /her learning process. These are thus invaluable for not only school education but as an asset for lifelong learning and success.
- From the teacher's perspective this pedagogy *facilitates individual attention* to each child and the group and individual play activities in action provide immediate feedback on each child's progress through observation, without putting any pressure on the child or the teacher in terms of assessment.

- Most importantly, it makes learning enjoyable for children, enables them to form relationships and develops in them a sustained motivation for school and learning.

Play based pedagogy in the process thus meets both objectives of the Foundational stage which are (a) to lay the foundation for all round development of the child for life and (b) in short term, *prepare* the child for academic learning.

5.2.4 Play Based Pedagogy: A Balance of Free and Guided Play

The curricular goals for the Foundational Stage are, as mentioned earlier to facilitate and promote children's development in the five domains viz. physical and motor, socio-emotional, cognitive, language and creative development and development of Foundational skills and concepts in early literacy and numeracy. The competencies for these are already discussed in Chapter 3. How does play based pedagogy address these developmental domains and related competencies?

Defining Free Play and Guided Play

Play based Pedagogy in essence adopts a two -pronged approach to teaching -learning through (a) *Free play* activities and opportunities and (b) *Guided play* activities and opportunities. Each category has its own specific objectives, and both are required to be an integral part of the daily schedule of all levels within the Foundational stage.

Free play may be defined as any activity that

- Is open ended, i.e. it is not expected to lead to any pre-scripted right answers! So, when the teacher invites the child for free play, she does not have any pre-set expectations or any specific learning outcomes from the child in mind.
- Gives children full freedom and autonomy to play in whatever way they want, with whoever they choose to play with, but within the premises of the organised ECCE center.
- Gives the child freedom to make his/her choice in selection of play materials from those available and to choose the content or theme of their play or engagement.
 - a) Can be both an Individual or a group activity.
 - b) Teacher facilitates the play by maintaining overall supervision to ensure no child harms herself or others, by interacting with the children as they play and asking an occasional question to encourage them to extend their thinking further, but provides no direct guidance or interference.
 - c) Has the following key elements that are significant—autonomy, interest, choice, decision making, creativity and perseverance.

- d) Enhances creativity, imagination and socio-emotional development in particular, while also contributing to development of competencies in other domains.

Guided play may be defined as any activity that is:

1. Of interest to the child and has meaning for the child.
2. Decided and designed by the teacher with a focus on a specific learning goal or outcome.
3. Age appropriate yet challenging for the child in terms of the expected learning outcome.
4. Guided by the teacher who hand holds and mentors the process and can even model the desired outcome for child's benefit, if required.
5. Distinct in terms of its key elements which are (a) a focus on competency and outcome (b), meaningful for the child (c) interesting yet challenging for the child to advance her learning; (d) requiring scaffolding and adult/teacher mentorship
6. Conducted both individually and in small groups, but with focus on individual engagement.
7. Helps to enhance skills and concept formation primarily in cognitive and or language /early literacy and numeracy domains, while also contributing to other domains.

Play based Activities: Free and Guided.

Play- based pedagogy addresses the development of the competencies identified in Chapter 2 through the following kinds of activities which, it is important to note, should be *age appropriate* as children progress from 3 to 8 years and *contextually relevant*. It is important to note that no activity is focused only on a particular domain as each activity influences multiple domains. For example, story -telling is not only a language activity but also has elements of creative, cognitive and socio-emotional development in it.

- a) **Conversation:** This can be both *Free* (allowing children to take the lead) and/or *Guided* (on a pre-planned theme) for developing oral language skills in children e.g., communication skills, vocabulary and verbal expression. Introducing theme wise vocabulary during the guided conversation is an excellent mode of helping children expand their vocabulary. Teachers often need specific guidance on the type of questions to ask. Questions with yes and no answers are not very helpful at this time. Questions that push children to speak, describe something using more words and sentences are useful.

Children should get equal opportunities to participate and to express themselves without being judged. Models of how these can be conducted are provided in the CFS²⁵.

- b) **Story-telling, Story reading and Story making** are all *guided* activities which evoke a great deal of interest, help children bond with story books, foster imagination and also contribute to their language development including vocabulary, sequential thinking and expression. Stories should be age-appropriate, in familiar language, and should be of interest to children. Stories could be connected to whatever else is being taught in the classroom e.g., counting or shapes or colours. Stories could also be used to reinforce important learning objectives like sensitivity to others and good work habits. They should be rooted in the local or in the Indian context to the extent possible to maximise relevance and relatability. Story telling should be followed by many activities that include asking “*what, whom, why, where, how and what if*” questions. Older children can discuss why a character behaved in a certain way, what was the consequence, and talk about right and wrong actions. Another follow-up activity could be drawing. Children can draw a scene or characters in the story. Role play and dramatization can be other follow-up activities.
- c) **Dramatization including creative drama** which can be either or a mix of *free* and *guided*, for helping children develop creativity and imagination as well as non-verbal and verbal communication skills and expression.
- d) **Puppet play, rhymes and songs** are all *guided* activities which promote oral language skills as well as help children expand their creativity and imagination. It also helps develop sensitivity towards sounds and rhythm, while also being joyful and fun for children.
- e) **Music and movement** can again be either *free* or *guided* or a combination, which allows children to ‘move with the music’ and helps them develop a natural sense of rhythm and melody. Sometimes teachers get children to anticipate and recognise a song from the tune and thus enable children to develop sensitivity to sound and strengthen their skill of sound discrimination. Children understand different concepts through songs and their vocabulary also expands. Physical movements accompanying the songs enhance gross and fine motor movements, and body movements and gestures help children in understanding concepts. Songs promote interaction among children and lead to cooperation.
- f) **Indoor play in activity corners**: This is primarily a *free play* activity and allotted time during the day is required to be set aside for this activity. The corners may include a

²⁵ NCF 2022 - Teacher’s Voice 4.4A; Box 4.4A “Show and Tell sessions” pages 94-95

Blocks and Construction corner, an Imaginative Play and Doll's corner; an Art Activities corner for creative art; a Picture Story Books' corner for promoting interest in reading book browsing; and an Arts corner for free creative play. Some preschools also have a science corner equipped with a magnet, weights etc and some local, no cost material like leaves, stones etc. to encourage children to explore and experiment. Other possible corners could include sand play or water play. Benefits of free play in activity corners is discussed in the previous section.

- g) **Outdoor play** which could be both free and guided or a combination is important for children's physical development, besides helping them relieve anxieties and stress if any. Letting children play with each other out in the playground on the play equipment etc. would be a free activity. Teacher could also combine free play with some guided activities like getting children to walk up to her hopping like a frog and then sliding like a snail etc.; or getting them to skip on a skipping rope or play a game of catching the ball etc. Sand play could also be a good free outdoor play activity.
- h) **Nature walk, field trips and outings** for developing sensitivity towards nature and familiarity with the local environment are also useful *free cum guided* activities which children enjoy and learn from.
- i) **Specific guided activities** are deliberately designed with manipulative, age-appropriate materials developed by teachers for helping children develop cognitive and language competencies, especially related to learning of literacy and numeracy and eye hand coordination. These have specific objectives and could include materials developed by teachers such as picture and letter dominoes, picture cards, number or word/letter cards, puzzles, picture charts, etc. for constructive activities at age- appropriate levels.
- j) Detailed descriptions of how the activities can be conducted are available in the NCF 2020 document in Section 4.4 Learning through Play - Conversation, Stories, Toys, Music, Art and Craft (pages 92-111).

5.3 Early Language and Literacy

At present, early literacy classrooms are focussed mainly on teaching the alphabet, (*Aksharas* and *Gunitas*), choral repetition of a text being read by the teacher or children and copying or handwriting practice. There is little emphasis on meaning-oriented work, and few opportunities are provided for children to develop as readers and writers. With the recent surveys showing that children often learn to read fluently but lack comprehension, the close link between oral language and literacy has been realised and emphasized. Research indicates that oral language skills not only facilitate reading fluency but also ensure reading comprehension. Oral language and literacy

have therefore been brought together as one comprehensive domain for which competencies have been specified in Chapter 3. In addition to oral language competencies, emergent literacy is also a significant contributor to learning of reading and writing.

5.3.1 Components of Early Language and Literacy

Early literacy relates more to the planned curricular interventions by the teacher to enable children to move towards regular reading and writing. Development of early language and literacy in the formative years requires developing a wide range of skills, knowledge and attitudes. Skilled reading and writing require a child to distinguish different sounds in spoken words, recognize letter-sound relationships, make words by combining sounds, develop vocabulary, comprehend what is written and develop reading fluency. This requires teaching of literacy to include several processes that build comprehension, vocabulary, fluency, word recognition, letter knowledge and phonological awareness. The components of early language include:

- **Oral language development:** Improved listening comprehension, oral vocabulary development and using talk and conversation for learning with peers and knowledgeable others (e.g., older students, teachers, parents).
- **Phonological awareness:** Phonological awareness is the understanding of the sound structure of language, i.e., sentences which are made up of words, syllables and smaller units of sound. This knowledge is first developed orally. Phonological awareness and print concepts are the two most important Foundational skills for learning decoding.

5.3.2 Emergent Literacy

Emergent Literacy is defined as the skills, knowledge and attitudes that children develop about reading and writing before they become conventional or fluent readers and writers. Children learn these in the early childhood years, if given a stimulating literacy environment in the home by way of adequate exposure to print and to reading and writing activities. Children often start learning to 'read' and 'write' informally from a very young age and much before they are able to decode and write conventionally (using letters and words) if they have role models, (such as mother reading the newspaper, or brother reading a book etc.), and opportunities to read and write.

The new understanding is that learning to write does not begin, by teaching children to write letters or draw straight and slanting lines, as is done conventionally, but in a more natural mode,

through the child's natural urge to draw and scribble to represent something, as the first stage of expressing themselves. Unfortunately, what often happens in early language classrooms is a focus is on teaching the Aksharas and Swara Chinhas, choral repetition of a text and copying or handwriting practice. There is little emphasis on meaning-oriented work, and few opportunities are provided for children to develop as readers and writers.

5.3.3 Emergent Reading Skills Include

- ***Print awareness*** is knowing that printed words are symbols for words in a spoken language. Concepts about print is an awareness about how print works: that print conveys meaning, that it is used for different purposes, and that written texts and books have different features, forms and conventions. knowing that writing mostly has a left to right orientation, that a word is preceded and followed by a space; that there are letters, words, and sentences in a printed text; knowing punctuation marks and how words differ in length.
- ***Decoding and differentiating*** between letters such as visual discrimination skills, sound discrimination or phonemic/phonetic awareness and sound-visual association. Deciphering written words by sounding them out, based on understanding the relationship between symbols and their corresponding sounds. It is the ability to associate sounds with individual letters and letter combinations (aksharas) and blending the sounds together to pronounce (or read) the whole word and identify the meaning (if the word is known).
- ***Book bonding*** or developing an interest in reading occurs through listening to stories being read from books from infancy and helps children associate reading with fun and enjoyment. Engaging with a wide variety of books and other reading materials and developing an appreciation for literature.

Emergent literacy skills move to more advanced skills such as reading with comprehension where the child constructs meaning from a written text and critically thinking about it and then on to fluent reading with accurate, automatic recognition of words and reading with expression.

5.3.4 Emergent Writing Skills

Emergent writing begins with children *drawing and scribbling* to represent something. A chalk or crayon in a child's hand inevitably leads to a scribble on paper or on the floor, as a representation of the child's natural need to express a thought or idea. That is an indication of emergence of interest in writing in a child. Children express themselves in the form of writing

and then talking about what they have written. Young children's writing is related to their talk, experiences, drawing, reading, and pretend-play.

At later stages, children also use letter-like shapes and invent their own spellings. (e.g., kat for cat, ಗೊಮಾಬೆ for ಗೊಂಬೆ) as they give label their drawings or begin writing their names before gradually understanding the relationship between sound and symbols and moving towards conventional spellings and writing and then on to the ability to write words correctly, along with presentation of thoughts or information in a logical and organized manner.

Strategies that Support Emergent Literacy:

Some strategies that support emergent literacy include:

- a) Encouraging children to *engage with books* and to 'pretend read' (look and say) illustrated storybooks that they have listened to being read aloud by the teacher.
- b) Encouraging children to *draw and write or scribble* on the floor, on their slates or notebooks to express themselves e.g., after a storytelling session or a nature walk or label their free hand drawing or even write their own names in a make-believe manner.
- c) Creating a *print rich environment* in the classroom to help children develop print awareness. Children acquire emergent reading and writing skills through exposure to print at home and outside, e.g., recognizing labels, listening to story books being read to them, seeing people write or draw. Many children do not get exposure to print and may join school with little awareness of print. They need to be initiated into understanding print through a print-rich environment at school and through engagement with books. Children need to understand what literacy is and how literacy is useful for them in their lives before they are taught to read and write letters and words through use of *print resources* (e.g., such as big books, picture books, story posters, poem posters, children's magazines) displayed or kept in the classroom within children's reach. Labelling different objects in the classroom or Anganwadi or also a chart of their own names (which children often learn to recognise before they have started to read) also helps children relate to print in a meaningful context and initiates them into reading through recognising these labels as sight words. Setting up a '*reading corner*' and '*writing corner*' in the classroom or as a part of Activity Corners for free play is very important.

5.3.5 Balanced Literacy Approach

Research has shown that developing the above components of language and literacy requires a comprehensive and systematic approach known as the *Balanced Literacy Approach*. The Balanced Approach focuses on developing word recognition skills as well as a focus on *meaning-making*. It balances decoding work with the use of whole language (sentences); as well as the balance between oral language and reading and writing. In the early years, teaching of language and literacy should be focussed on children acquiring skills related to two broad categories:

- **Word recognition and accuracy in writing words (lower order skills):** These include print awareness and phonological awareness (considered as Foundational skills before learning of decoding), decoding, writing letters and words correctly.
- **Language comprehension and expression (higher order skills):** Oral language development, vocabulary development, reading with comprehension (including active response to reading), and original writing or composition.

A balance between these lower order and higher order skills is planned through the use of a variety of activities such as oral games, phonological awareness activities, explicit instructions for letter recognition in context, decoding and word-work, fine motor activities, read aloud, shared reading, guided reading, independent reading, modelled writing, guided writing and independent writing.

Oral Language Development: Strategies for this can include storytelling and discussion, conversation on pictures and environmental themes, opportunities to talk and share their experiences through free and guided conversations, language games, role play activities and others.

Phonological Awareness: activities of phonological awareness where children are helped to pay attention to sounds in words (beginning, middle, ending sounds). This can be done through games, and activities such as clapping to syllables in words.

Decoding Instruction and Word Solving: This refers to direct teaching of letter-sound relationships. Decoding instruction should follow phonological awareness activities. Letters and words are to be introduced simultaneously so that meaning making remains at the centre of language and literacy instruction (since words are fundamental units of meaning). Indian scripts contain numerous *aksharas* and hence *akshara* groups need to be carefully chosen and ordered so that children can generate meaningful words with their recently acquired *akshara* knowledge.

Explicit instruction needs to be given for word decoding and spelling with segmenting and blending words and *aksharas*. In case of English, phonics instruction would mean paying attention to specific letter combinations that represent sounds in English, rather than a sequential introduction of the alphabet.

Reading Strategies:

1. **Read-aloud:** The teacher reads aloud to the children from well-chosen children's literature (not textbooks). The intent is not for the children to repeat after the teacher but to develop their language capacities and vocabulary. "Read aloud activities" are opportunities to introduce children to good literature, and familiarise them with vocabulary, language use and meaning making. Discussions and conversations are an essential part of this activity, where the children are actively engaged with text being read out to them.
2. **Shared Reading:** Teachers choose texts with large print which is visible from a distance and encourage students to read along with them. As children read aloud stories and participate in shared reading, they can progress beyond the level at which they are currently reading and become confident about their reading abilities.
3. **Guided Reading:** In guided reading, the responsibility for reading shifts from the teacher to the children. This is different from shared reading. In shared reading, the teacher takes the lead in reading while children contribute occasionally. In this guided reading, the children read while the teacher supports them as needed. In this process, strategies and techniques the teacher may have modelled during reading aloud sessions and shared reading are reinforced and practiced.
4. **Independent Reading:** Children must be given opportunities to read independently or with a partner. While reading independently, they develop the habit of reading quietly, begin to value the act of reading, and of reflecting on and experiencing a book for pleasure. It follows that children should have the freedom to choose the book they would like to read independently or with a partner.

Writing Strategies:

1. **Modelled Writing:** Teachers need to model the writing process to young children who are learning to write. If we want to keep meaning at the centre of language instruction, copywriting is not a very meaningful activity for children, even if it helps in developing writing fluency. Teachers, by modelling the writing process encourage young children to begin seeing writing as an expressive activity along with speaking. In modelled writing

the teacher clearly demonstrate the process of writing by 'thinking aloud' as she records her thoughts while children watch her doing it. She may talk about planning what she intends to write, what should be the most important point that should come first, how she chooses a descriptive word, how she places the punctuation etc.

2. **Shared Writing**: Like shared reading, shared writing is a more collaborative process where the teacher assists the children in writing with them. For example, they can start a sentence "I ate ___ for breakfast" on the board and ask a child to come and complete it. Talk, conversation and writing goes along side by side and the teacher is continuously modelling, prompting and guiding children in the writing process.
3. **Guided Writing**: While free writing by children is desirable, it doesn't emerge on its own, by just giving writing tasks to young children. From shared writing, responsibility is partially shifted to the child, while the teacher gives frequent feedback, suggestions and prompts to keep the writing flowing. Setting appropriate tasks for writing, which combine elements of purposiveness, functional and imaginative, would sustain the interest of young children to write. Guided writing could include peer writing and multiple drafts of writing with teacher feedback.
4. **Independent Writing**: Children should be given time write on their own. Encouraging them to write stories, poems, messages, instructions, and recipes gives them opportunities to use their creativity and imagination as well as engaging with functional aspects of literacy.

Another dimension of balanced language and literacy teaching at the Foundational Stage is that oral language development, decoding related work, reading and writing activities should happen simultaneously and on a daily basis. An approach to use these as four blocks of instructional time is presented next.

5.3.6 The Four-Block Approach for Literacy Instruction

There are four major components in language and literacy instruction - oral language, word recognition, reading, and writing. While activities for the four blocks may be implemented in an integrated manner, it is important that children spend time working on each of the blocks on a regular basis.

While children are learning decoding, they should continue to engage with storybooks e.g., listen to and respond to interactive reading-aloud of storybooks and write or draw in response to the text being read to them. Also, teaching of letters and vowels or *varnas* and *aksharas* can be organized in a clustered manner so that children can begin to read and write simple words and

meaningful sentences soon after learning a few symbols, instead of waiting to learn all *aksharas* and *swara Chinhas*.

The four-block model is as follows:



By the end of grades 1 and 2, there would be a need to provide time for additional support to children who have not acquired the basic word recognition skills. A **differentiated** approach to addressing the needs of such children should be a part of the activities in all the four blocks.

Some strategies for teaching an unfamiliar language.

The teacher might encounter children in their classroom who are not familiar with the language that is being taught. The pedagogy of teaching an unfamiliar language needs to be understood better with strategies like Total Physical Response (TPR) activities, extended oral and communicative work, vocabulary development, simple phrases and sentences used as commands, conversations, and stories. Some strategies for teaching of an unfamiliar language are below:

1. **Promote oral language development** initially with lots of fun-filled and interactive activities; like TPR (e.g., TPR exercises in English Nali Kali begins with 5 simple commands -*sit, stand, walk, stop, turn around*- which are modelled, gestured and spoken by the

teacher till children can reproduce the action with only a verbal instruction) simple words, phrases and sentences can be used as commands and conversations and stories.

2. **Provide comprehensible input in the unfamiliar language.** ‘Comprehensible input’ means providing many opportunities of listening to the language and reading it in a form that is within the children’s ability to understand. (English Nali Kali uses many instructions, greetings, early stories and rhymes which use the same vocabulary so that children hear the words repeatedly). The language used by the teacher should be simple and supported by gestures, pictures, actions, and use of words from the children’s home languages. Using a familiar context that children can easily relate to is important for better comprehension.
3. **Build a meaningful and purposeful context.** It means children should be encouraged to acquire an unfamiliar language by using it for effective communication instead of being stuck with purity and correctness of language. This will improve the oral expression of children in an unfamiliar language.
4. **Provide ample exposure to unfamiliar language.** This could be done by providing opportunities of listening, using the language for communication, and ample print materials.
5. **Create a stress-free and safe environment.** There should not be any pressure on early production or speaking and formal assessment of learning for an unfamiliar language. A positive and supportive classroom environment where children are motivated and have high self-esteem and a low level of anxiety helps children learn better and be at ease.

5.3.7 The Karnataka Context

The following section analyses two important contexts.

1. The nature of the orthography (the representation of the sounds by written or printed symbols) and how it affects the mastery of reading.
2. The Nali Kali method of introducing literacy skills and its efficiency.

It is true that knowledge of a language and vocabulary are important contributors to the ease with which children can read and make meaning. Not all languages can be learnt with equal ease and in the same amount of time. The nature and complexity of the script in the language does to some extent determine ease of acquisition.

The Literacy Research in Indian Languages (LiRIL)²⁶, a Study of Literacy Acquisition in Kannada (2013-2016) was conducted in one district of Karnataka over a period of 3 years. The study gave some insights (which is reinforced by other research evidence) about the nature of the Kannada script and how it affects children's ability to master reading. They also went further to discuss how literacy is introduced in the Nali Kali and its effect on children's acquisition of reading and writing. These are described below:

The nature of the Kannada script

The study points out that **Indic scripts have several unique characteristics that leads to longer acquisition period than alphabetic scripts like English.** What are these complexities? These are given in the box:

First, the sheer number of symbols to be mastered is much larger.

Second, they are more visuo-spatially complex with symbols placed to the left, right, above and below the main text.

Third, they are bound by complex ligaturing rules, for example, the ways in which swarachinhas get attached to moolaksharas or jodaksharas get combined together.

Even within Indian scripts some are more complex. Mastery of Swarachinhas (or matras) is an important determinant of children's ability to read. In the Devanagari script the swarachinhas are predictable. They appear in predictable ways vis-à-vis the moolaksharas and there are fewer unique symbols for jodaksharas. In the Kannada script, the gunitas (Matras) attach differently to different moolaksharas – so children have to not just learn the symbols for the moolaksharas and the gunitas, but also the rules for attaching them! This makes mastery of Kannada that much more difficult.

The researchers found that, even in grade 3, students do not complete the process of script acquisition. Though the most of the commonly used moolaksharas are recognized by the end of grade 3, the acquisition of Swara Chinhas, jodaksharas and akshara writing take more time. The Kannada script therefore takes several years to master.

The research notes that curriculum designers do not appear to be aware of the length of time it takes to acquire the extensive akshara sets. They assume that most moolaksharas are mastered by the end of grade 1 and most swara chinha and jodaksharas latest by the end of grade 2 when this is not so.

²⁶ Menon, S., Krishnamurthy, R., Sajitha, S., Apte, N., Basargekar, A., Subramaniam, S., Nalkamani, M., & Modugala, M. (2017). Literacy Research in Indian Languages (LiRIL): Report of a Three-Year Longitudinal Study on Early Reading and Writing in Marathi and Kannada. Bangalore: Azim Premji University and New Delhi: Tata Trusts

This has important implications for the finalizing of learning outcomes which must be based on their ability to master the script.

The teaching of literacy skills in the Nali Kali

The LiRIL study also threw up some important information regarding the Nali Kali curriculum and how it affects children's ability to read with meaning. These are explained below so that they can be kept in mind when formulating the revised curriculum.

The study noted that the chief focus of reading instruction in the early grades is on decoding and spelling words correctly. Literacy (reading and writing) is taught in a sequential manner – first aksharas, then words, then sentences, then passages.

The chief instructional strategy is rote and repetition and there is not much emphasis on meaning making and children's oral languages are not invoked in the pedagogy or curriculum. Children are taught comprehension through explaining each sentence and efforts to connect the content with their own experiences are rare. Writing is restricted largely to copy-writing and dictation. Overall, students spend very little "time on task" in the 90-minute session where they should be actively involved in the learning process.

Though there is plenty of material in the classroom they are usually static or decorative that are not connected to the curriculum and are never referred to during teaching. Some suggestions are given below on how this can be rectified during the curriculum review process.

To begin with, children enter grade 1 without any emergent literacy skills. Only about 20% children arrive with more than 50% scores in print awareness tasks. Syllabic segmentation (the ability to segment words into constituent syllables) or the ability to discern the syllabic units in words, a critical component of accurate decoding and spelling, is also lacking. **Emergent literacy needs to be a special focus area in the 4-6 years curriculum.**

Nali Kali curriculum itself focuses largely on lower-order skills such as decoding. This should change and there should be more inclusion of meaningful texts in curriculum. The format of the MGML ladder and classroom organization must give opportunities for oral language activities, such as conversations, discussions, storytelling, and the teacher reading- aloud good children's literature. Since a solely self-paced nature of curriculum makes it difficult to have meaningful whole-class and small group language experiences, the classroom management must make space to allow the teacher to take up a small group activity that is relevant to all the children in that

group. This is important as even in teacher-led groups, the teacher is attending to several different activity cards within the same group, making individual attention difficult.

Comprehension and composition are not automatic outcomes of learning to read the script. As a result, even students who performed well on script-reading tasks, performed poorly in understanding what was read, and their ability to communicate ideas through writing.

The design of the early literacy lessons /materials needs to move from a simple presentation of the varnamala and focus on other aspects of literacy learning, such as, vocabulary, meaning making, and engagement with literature. Unlike popular perception word and passage reading are not automatic outcomes of learning to read the aksharas. Even with the large amount of attention paid to decoding, word reading was below expected levels. The curriculum needs to pay more attention to phonics, word solving etc.

The teaching of writing should move from the current practice of restricting it to dictation and copy-writing. Students should spend less time in copying down words, questions and answers etc. and focus on developing the skills of composition. The focus on copy writing is largely due to the ease of classroom management in the current classroom groupings. This may be reviewed to give teachers more time to allow them to pay the kind of attention needed for guided /modelled writing which will increase their ability to write for expression and communication.

Teachers also need to be prepared specifically to teach language and literacy and need to be given a clear understanding of approaches to teaching early language and literacy, or ways to address specific student difficulties.

5.4 Emergent and Early Numeracy

In a similar vein as emergent literacy, helping children acquire the concepts and skills or competencies related to *early numeracy* is also an equally significant objective.

In this framework the term Early 'Numeracy' has been used instead of the subject discipline of 'Mathematics.' This is done to convey that mathematics in these early years is more Foundational and limited to developing a basic understanding of numbers and number operations in children. This is done through connecting knowledge with the child's daily life and the environment. It is also used to help the child develop interest and meaning in learning numeracy so that he/she can apply this learning purposefully to his/ her own immediate environment.

5.4.1 Pre number concepts and skills

Numeracy has been integrated with cognitive development as a domain in this framework since learning numeracy concepts and skills requires use of several sensory and cognitive competencies. These skills which are also known as *pre number concepts and skills* need to be strengthened through play-based activities to prepare a strong foundation for learning of concept of number and number related operations.

The cognitive processes that help children achieve both higher and content-specific goals include i) problem-solving and reasoning; ii) connection-making; iii) sequential thinking; iv) seriation; v) classification; vi) pattern making; vii) representation i.e., using concrete, visual images/diagrams to represent mathematical concepts and ideas; viii) communication – explaining and communicating mathematical ideas; and ix) estimation i.e., using estimation as a process to estimate quantity and solution.

The focus in the Foundational stage should therefore be for children to develop the basic cognitive processes /skills and learn the above concepts gradually through an active learning process where children learn by doing and constructing their own meaning. They work with activities and materials that require the use of cognitive skills identified above, of course with gentle mentoring by teachers. Children need to be given multiple and varied opportunities in using these skills through guided activities, moving from simple to complex stimuli and from concrete to abstract i.e., following the way children learn by beginning from real life situations, further through objects/pictures and then moving towards symbols and abstract representations, as the child gets older and cognitively more mature.

5.4.2 Components of Early Numeracy

Though even a two- year- old has a primitive or intuitive sense of quantity and number and can rote memorize numbers, the objective of the numeracy curriculum is to hand hold the child towards acquiring *conceptual clarity and understanding* with regard to each of the above concepts and learn the related *vocabulary* based on which the child can build his/her further knowledge. That is only possible through experiential learning.

Children bring various numeracy experiences from their surroundings and culture into the classroom, which must be the basis of learning numeracy skills.

Numeracy learning goals can be categorized into:

- **Higher goals such as mathematization** of a child's thought processes i.e., use of mathematical concepts and processes in everyday life situations including in play and in conversations or story telling by making connections and 'seeing' mathematics in the environment eg. "This is bigger than that is smaller" or "She has two I have only one" or "That's round this is square," "My house is very far".
- **Content-specific goals** (those related to different concepts in mathematics e.g., understanding numbers, shapes, pattern, space etc.). Children achieve content-specific goals once they are mathematically proficient in it. So, teaching and learning in the early years must emphasise achieving both higher goals and content-specific goals as both goals are interdependent and interconnected.

Children should be given opportunities to practice the above skills and processes with the objective of helping them learn/form basic Foundational *concepts* related to numeracy. These concepts include a) Concepts related to **quantitative dimensions** often known as prenumber concepts i.e., concepts of size, quantity, length, width, weight, height, temperature and distance; b) Concepts related to **relative locations/positions/space**; c) moving on to **concept of group/set**; d) concept of **one- to- one correspondence**; e) concept of **equivalence** and then f) concept of **number, number properties and number operations**.

Children need to develop proficiency in the following conceptual areas:

1. *Number and its Relations* refers to understanding number concepts (Sound, Symbol, and Quantity) in various contexts, counting, representation, and its relation.
2. *Basic Mathematical Operation* refers to understanding concepts of calculation and developing strategies to solve problems using them.
3. *Shapes and Spatial Understanding* refers to developing an understanding of shapes and making and classifying shapes as well as develop a spatial sense understanding.
4. *Patterns* refer to the understanding of the repeated arrangement of numbers, shapes, and designs and making a generalization based on some rules and structure.
5. *Measurement* refers to understanding units of measuring something and using it to quantify.
6. *Data Handling* refers to understanding the collection of data and collecting and analysing it.

Learning numeracy skills must follow the *simple to the complex* path. It means that in the initial years, children learn mathematical skills (e.g., matching, sorting, pairing, ordering, pattern, classification, one-to-one correspondence) and mathematical concepts related to numbers,

shapes, space, and measures. These skills gradually move to more complex and higher skills (e.g., quantity, shapes and space, measurement) at later ages. In the teaching-learning process for numeracy, those skills which are more focused on applying numeracy skills in a real-life situation to understand, solve, reason, communicate, and make decisions need greater emphasis.

Incorporating these processes in the classroom helps children experience numeracy in a comprehensive manner and this helps children develop a foundation for mathematical proficiency later in school i.e., development of conceptual understanding, procedural understanding, application, adaptive reasoning, and a positive attitude towards mathematics.

Materials could be those in the local environment, procured from other sources or developed by teachers as per need. These could include building blocks, dominoes, number cards, odd man out pictures; classification and seriation cards; cards with patterns, puzzles etc. This process, if followed well, has been found to ensure children move forward to the preparatory stage in the school system, with a sound foundation for learning of numeracy and for higher order thinking and demonstrate better performance in mathematics and language in the higher stages of education.

5.4.3 Approaches for Teaching Learning Numeracy

The following approaches can be integrated into early numeracy to give children comprehensive numeracy experiences considering the nature and cognitive demand of the tasks/skills.

Developing mathematical abstract ideas (concepts) through concrete experience (ELPS)

Mathematical concepts are abstract, such as learning to understand numbers, doing operations, and drawing 2D shapes. So, it is important that children learn these abstract concepts through concrete experience and gradually move from *concrete to pictorial to abstract*. When children engage with a concrete experience, they can understand the meaning of mathematical concepts easily. The following sequence can be followed to teach the abstract mathematical concept. **An example of learning numbers through ELPS:**

- **E – Experience:** Learning the mathematical concept of concrete objects, e.g., counting concrete objects for learning numbers.
- **L – Spoken Language:** Describing the experience in language, e.g., what is being counted, how many have been counted.
- **P – Pictures:** Representing numeracy related concepts in a pictorial form e.g., if 3 balls have been counted, these can be represented through 3 pictures of the ball.

- **S – Written Symbols:** Mathematical concept that has been learned through concrete experience and pictorial can be represented in written symbol form such as writing the number 3 for three balls.

Connecting numeracy learning with children’s real-life and prior knowledge

Learning numeracy must relate to children’s real life and their prior knowledge. Real-life examples also help children to understand a mathematical concept, develop the ability to apply mathematical skills in real life and more importantly see mathematics as worth learning and doable. So, while teaching numeracy skills, teachers or Anganwadi workers should use real-life examples to build conceptual and problem-solving understanding and abilities in children.

Numeracy as problem-solving tools

Problem-solving is an important higher goal of mathematics learning and children must understand that mathematics can be used as a problem-solving tool to solve a real-life problem. So, learning should not only focus on developing concepts - focus must be given, to giving children the opportunity to use their problem-solving skills. Problem-solving abilities provide children an opportunity to make sense of skills and knowledge as well as an understanding of where they can apply these. Setting up interesting numeracy tasks, understanding the problem, devising the strategies, solving, and checking the solution and justification are important steps to help children build problem-solving abilities.

The following steps could help develop problem-solving abilities among children:

- Understand the problem - What is known? What is unknown?
- Devise a strategy/plan- Do I know a related problem? What strategies could be useful to solve it?
- Solving the problem - What steps I am taking to solve it? Am I taking the correct steps? Can I argue about why and how I solved this problem?
- Looking back/Checking solution- Did I do the right thing? Did I answer the question?
- Encouraging flexible thinking and use of multiple strategies for problem-solving.

Children should learn not only one way of problem-solving, but that multiple strategies can be used, and the decision on what and where specific strategies can be applied. For example, what would be different strategies to solve $8+7$? Children can count on 7 more from 8 or they can split 7 into $5+2$ and add 2 in 8 to make it 10 and then add both 10 and 5 to arrive at 15. Hence, teaching-learning must be focused on helping children to invent multiple strategies to solve the problem

and not focus only on a single way of problem-solving. Children must be encouraged to invent their own strategies but in order to do this, they need a strong understanding of mathematical concepts and processes.

Using mathematical talk, communication, and reasoning.

Numeracy has its own language, different from everyday language in numerous ways. It has its own unique vocabulary, symbols, and sign systems which are often not used in daily lives e.g., addition, multiplication, '+', '-', '='.

A child may be encountering these for the first time in a mathematics classroom. There is a need for rich discussion/conversation between teachers and children around mathematical concepts, processes, applications, and reasoning. This discussion must also focus on numeracy that children encounter in their real life and provide an opportunity for children to explain their mathematical thinking, reason, justify and listen to other mathematical ideas and also the opportunity to listen to the teacher's explanation, reasoning, and justification. So, an oral math talk must be encouraged in the classroom rather than engaging silently in written tasks.

Developing a positive attitude towards learning mathematics

There is vast research on the strong dislike and negative attitudes children may develop towards mathematics even as early as Grade 3. We need to examine why this is so. In the Indian context, it is commonly seen that people who are not formally educated use many modes of mental mathematics. What may be called folk algorithms exist for not only mentally performing number operations, but also for measurement, estimation, understanding of shapes and aesthetics. Appreciating the richness of these methods can enrich the child's perception of mathematics. Many children are immersed in situations where they see and learn the use of these methods and relating such knowledge to what is formally learnt as mathematics can be inspiring and additionally motivating.²⁷ The problem seems not in the subject but the teaching of it.

The teaching methods should address not only knowledge and skills but also the attitudinal aspect in any learning situation. A major reason for lack of interest in mathematics is that mathematics in early years is taught in an abstract mode on the blackboard which is developmentally not compatible for children at this stage. Instead, children need to learn through concrete experiences through which they can relate the concepts to be learnt with their daily life

²⁷ Position Paper National Focus Group On Teaching Of Mathematics, 2005.

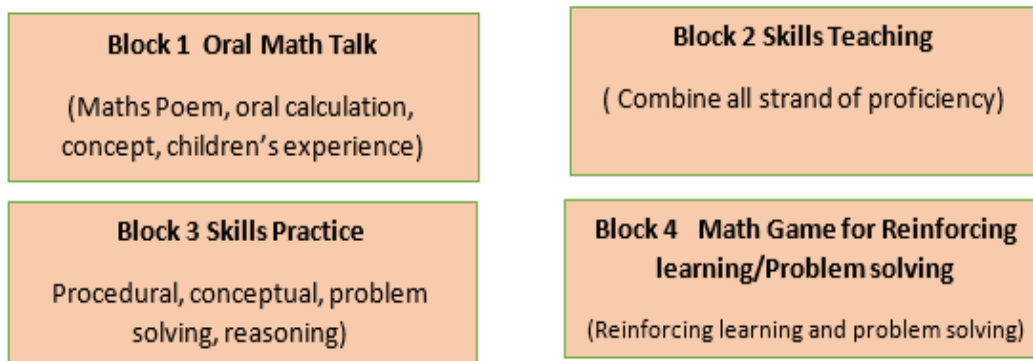
and environment. The ELPS as suggested above is a positive and child friendly approach to learning. Some key principles for making learning of numeracy joyful and interesting for children are as follows:

- Start with helping children develop a strong foundation of pre-number concepts and skills through play-based experiences. A strong foundation at the preschool and early primary stage⁵; in early mathematics can play an important role in pruning the negative image the subject has for many, since children begin to engage with mathematics with understanding and joy.
- Design activities and experiences that can be related to children's daily lives.
- Design activities that allow space and time to children to discover patterns and relationships themselves rather than being taught directly by the teacher.
- Give some time to children to have fun with mathematics with group games, competitions, quiz, creating their own problems etc. involving mental maths or problem solving through mentally engaging with concepts.
- Let children work at their own pace and not be driven by the 'syllabus' approach, so that they learn in a threat free environment and can enjoy the process and experience more success than failures.
- Learning of numeracy should be planned in ways that enable children to develop positive learning habits like perseverance, problem-solving, creativity, and curiosity.

5.4.4 Four Block Model for Teaching-Learning of Numeracy

To become mathematically proficient, children need to build conceptual understanding, procedural understanding, strategies competence/application, communication and reasoning, and a positive attitude towards mathematics.

All these strands of mathematical proficiency can be designed in the following four blocks for the daily classroom teaching-learning process. A mathematical approach/process must be the basis of and based on the nature of the task.



Block 1: Oral math talk: At the beginning of class, for 5-10 minutes, children could sing a rhyme/poem or discuss their experiences with and/or problems related to what they have learnt as they may have experienced in real life. Discussion can also be on what were the steps they followed in working out an oral calculation or any problem, their strategies and reasoning. This helps to *mathematize* their experiences and develop mathematical vocabulary. It works well also as a free play activity with building blocks, or any constructive play which sensitizes children inadvertently to many numeracy related concepts, patterns and interrelationships.

Block 2: Skills teaching (combining all strands): This is teaching numeracy concepts, problem-solving, and communication through concrete experience, systematic guided activities, and instruction that follow the Gradual Release of Responsibility approach, though not necessarily in the same sequence for every activity or numeracy task. Teachers can also anticipate or get children to come up with a numeracy task and let children solve it independently before providing guiding support. Every child must get an opportunity to learn, explain, and be given feedback.

Block 3: Skills practice: Providing children in a sequenced way with various kinds of grade/age appropriate and rich numeracy tasks based on concepts, processes, problem solving, reasoning, and communication for practicing numeracy skills. This can be through teacher guided activities, workbook, or other means.

Block 4: Math game for reinforcing learning/problem solving: Children enjoy playing games. There could be various kinds of numeracy games which are teacher designed and guided activities which help children to strengthen their learning in various ways. These games must be based on problem-solving, concepts as well as reasoning. Group-wise games can also be planned according to the learning levels of the children.

The total suggested time in the day for mathematics is 60 minutes. A rough distribution of this time is given below:

Table A

Blocks		Objectives	Suggested Strategies and Approaches	Suggested time
Blocks 1 and 2	Math Oral Talk	As warm-up activities for encouraging oral math talk about children’s experience with numeracy, communication, concepts, thinking, and doing math orally.	Open-ended/large group discussions, singing, poems, talk about children’s real life math experience, concept, oral calculation, reasoning	5-10 mins
	Skills teaching (Combining all strands)	Helping children to achieve mathematical skills through structured instruction/activities.	GRR/ELPS/Problem-solving approach. Conducting activities to build concepts, processes, application, strategies and reasoning.	20-25 mins
Blocks 3 and 4	Skills Practices	Helping children to master skills through the opportunity of skills practice.	Providing math tasks through workbooks or worksheets Individual, peer, group practice.	15 mins
	Numeracy games for reinforcing learning	Reinforcing taught skills through games focusing on problem solving.	Playing math games with children to reinforce learning and supporting children who are struggling.	15 mins

5.5 Including Children with Developmental Delay and Disability

5.5.1 The Karnataka Context: Status of Children with Disabilities

There is no reliable data on the incidence of disabilities in children in Karnataka. In Karnataka state there are regions which need special focus in this context. As per the Census 2011 data, the Hyderabad-Karnataka region also known as Kalyana Karnataka which comprises of Bidar, Kalburgi, Yadgir, Raichur, Koppal and Ballari has the highest number of persons with disabilities for various demographic reasons. This points toward the need for a special plan to scale up quality inclusive education in this region.

SATS data for 2021 reports a total of 96,020 children with various forms of disability in school. This includes children with some form of visual impairments (14,047), children with hearing impairments, (10,652) speech and language disability (10,024) locomotor impairments, intellectual disability (18,524) and Multiple Disabilities (10,054) along with smaller numbers for a host of other issues like cerebral palsy, muscular dystrophy, learning disabilities etc.

5.5.2 Understanding Inclusion and an Inclusive Curriculum

An *inclusive classroom* is one in which every child irrespective of caste, class, religion, gender or ability is welcomed without any discrimination and given equal respect, care and opportunities to learn to his/her full potential. An *Inclusive Curriculum* is one which accommodates the needs of all children, affording them the time, space and opportunity to participate and engage at their own level. It commits to providing children with all the support that they require, which will enable them to realise their potential. While there are many social categories that often face discrimination in schools, in this section we are discussing only one such category that is most neglected and that is of children with developmental delays and disabilities.

As we are all aware, the development of children never proceeds at the same pace for all children. Some develop very fast while others are slower than most children of their age but catch up later. Some children have a more serious disability and cannot perform activities like other children at all. Disability, thus, is a condition that limits or prevents a child from attaining the physical or mental abilities that is expected at his/her chronological age. *But what is important to know is that every child, irrespective of a developmental delay or disability condition, has the potential, if given the opportunity and cognitive and social stimulation, to grow and develop further to his or her own potential.* The goal of an inclusive curriculum is thus to provide all necessary support to the child while including the child in all activities the class is engaged with, with the expectation that

the opportunity to participate will help the child progress cognitively and socially, while also interacting and learning from other children. It is also important to note that there is a reverse impact too, that is inclusion of children with disabilities is beneficial for other children as well, as they learn through this experience to appreciate the values of diversity, compassion and care.

5.5.3 Early Identification in the Foundational Stage and Role of Teacher

Since brain development is at its most rapid pace in the early childhood years, that is the most optimal time to identify delay or disability in the child and plan early intervention. That is why it is important for the child to be enrolled in a preschool class or Anganwadi irrespective of his or her developmental status, as that provides an opportunity to reach the child with the required diagnosis and support in time.

It must however be emphasized that the teachers or Anganwadi workers are neither authorized nor have the necessary skills and devices to themselves make any diagnosis of developmental delay or disability. That is the job of authorized medical professionals. The teachers or AWWs play a crucial role in early identification i.e., identifying symptoms of delay and disability in a non-judgmental manner and referring the parents to seek medical diagnosis and advice. Educational institutions and teachers are not authorized to make any diagnosis of developmental delay or disability. That is the job of authorized medical professionals.

As the NCF (2022) specifies, the teachers and Anganwadi workers at the Foundational stage should not jump to any conclusions if they observe any delay or deviance from age appropriate behaviour. Instead, they should start with the assumption that each child learns at his/her own pace and differences in levels of learning and development are very much a principle of child development. As specified in the NCF (2022), it is only *if and when* they see a noticeable or persistent issue with the child that the teacher should:

Step 1: Observe the child carefully to understand the child's functioning in all domains.

Step 2: Keep a record of daily or weekly observations of the child based on some basic questions. (The WHO list of Ten Questions below could be used as a guide to identify and observe children at risk). The teacher should make silent observations and not let this interfere or impact in any way with her interactions with the child or those of other children with this child. If need be, she can make some small adjustments or provide some additional support to the child, which often helps the child make the required progress. It may not be wise to immediately on observing any deviant behaviour report it to parents and create anxiety for them which may be counter-productive for the child too.

Step 3: If the concern is persistent and does not get corrected by everyday actions, the third step would be to share this concern with parents and family. The sharing with parents must be done gently, with due sensitivity, with no judgement or labelling of the child's issue or behavior – but more as a shared concern.

Step 4: If the family is in agreement, the next step would be to refer the child to an appropriate medical professional to check whether the concern is valid and whether the child is indeed at risk for delay or disability. A developmental pediatrician would be the best person to consult. A list of local institutions /organisations and professionals who could be referred to so that the teacher/AWW and can guide the family accordingly must be available at district and block levels.

Step 5: If the medical professional confirms the risk, the family, the teacher/AWW, and the medical professional should together plan for the next steps. This could include consulting a disability rehabilitation professional (e.g., physiotherapist, speech therapist, special educator), starting medicines, using aids (e.g., hearing aid or crutches), simple speech and language activities or therapy, simple physical activities or therapy, cognitive exercises, and instructions for the classroom, or anything else that is necessary for the child.

Step 6: The next step would be to begin focused work with the child in school.

- a) The teacher should start a documented profile of the child that is regularly updated.
- b) Regular assessment will have to be done based on an appropriate checklist or tool suggested by the medical or rehabilitation professional.

5.5.4 Screening Indicators for Early identification

Box 1 lists out ten different screening questions which the teacher /AWW can look out for. In terms of broad categories these could relate to *any* or *some* of the following categories:

- Visual impairment
- Intellectual disability
- Hearing impairment
- Autism spectrum disorder
- Speech and language impairment
- Attention Deficit
- Hyperactivity Disorder
- Multiple Disabilities

Ten Questions for Screening for Disabilities: World Health Organisation

1. *Compared with other children, did the child have any serious delay in sitting, standing, or walking?*
2. *Compared with other children does the child have difficulty seeing, either in the daytime or at night?*
3. *Does the child appear to have difficulty hearing?*
4. *When you tell the child to do something, does she seem to not understand what you are saying?*
5. *Does the child have difficulty in walking or moving her arms or does she have weakness and/or stiffness in the arms or legs?*
6. *Does the child sometimes have fits, become rigid, or lose consciousness?*
7. *Does the child learn to do things like other children her age?*
8. *Does the child speak at all (can she make herself understood in words; can she say any recognizable words)?*
9. *For 3-to-9-year-olds, ask: Is the child's speech in any way different from normal (not clear enough to be understood by people other than her immediate family)? For 2-year-olds ask: Can she name at least one object (for example, an animal, a toy, a cup, a spoon)?*
10. *Compared with other children of her age, does the child appear in any way dull or slow?*

1. Guidance for Teachers for Including a Child with Disabilities

What Can Teachers Do in an Inclusive Class?

- *Know the child well:* Try to get as much information as possible about the child. For example, what all can the child do or cannot do. What does the child like to do and what he does not. What are the different ways in which the child learns best.
- *Know about the family:* what is the child's home environment, family, and the community like.
- *Set clear goals:* Set clear and operational goals for the child that are realistic and achievable so that they make for success based on the baseline where the child currently is.
- *Seat the child near you:* That will give the child a sense of security and self-worth.
- *Focus on communication:* Use simple, familiar language, speak clearly and slowly.
- *Praise and encourage generously.*
- *Use a multisensory approach.* For example, use action rhymes, speaking and doing the same time; or teach a concept by simultaneously showing pictures, talking about them, and doing a related craft activity.

- *Use concrete examples:* Make information as concrete as possible. E.g., to teach patterns use concrete objects like sticks, stones etc and then move to pencil and paper as advised for the entire Foundational stage.
- *Allow plenty of practice* and flexible time to complete task.
- *Give breaks* in tasks when needed.
- *Show, demonstrate, and model* - repeat this cycle as often as possible.
- *Encourage interactions* with other children.
- *Sensitize other children* to the situation.
- *Use stories and role plays* that highlight different abilities.
- *Teach and encourage* other children to communicate and play with the child.
- *Choose a mentor/buddy* for this child from among the rest of the class (make it a great honor to be chosen!).
- *No labels:* Actively discourage the use of hurtful language or behavior towards the child.
- *Do's and don'ts:* Have a list of clear do's and don'ts to ensure the safety of the child and communicate this to all the other children.
- *Always encourage, support, and honor the child.* Do not use labels/terms that are hurtful and derogatory (e.g., lame boy, blind girl, dumb fellow, stupid girl) or allow anyone to do so. Do not make negative remarks about the child or allow others to do so.
- *Include the child in all activities:* Most importantly encourage the child to participate in all activities in the classroom, to the extent the child can. The experience of being included will do more for him/her than working alone on a task.

2. Individualized Education Plan (IEP)

Once identified and diagnosed, the teacher needs to prepare an Individualized Education Plan (IEP) in consultation with parents and caregivers. If the child has a severe disability for which the school does not have adequate resources, it would be important to discuss this in detail with the family, relevant education functionaries and the medical/rehabilitation professional for alternative.

Sample Individualized Education Plan (IEP)

Muthanna is a five-and-a-half-year-old child. He can fully understand whatever is being said to him and can speak about twenty words meaningfully. He speaks in one-word utterances. Although he cannot walk independently, with some help, he can stand, and he tries to walk a few steps forward. He drools most of the time. This is a 3-month individualized education plan (IEP) for him.

Goals	Learning Outcomes	Specific Classroom Activities
Physical Development	<ul style="list-style-type: none"> Stand without support. Walk ten steps forward with support. 	<ul style="list-style-type: none"> Draw a line, place a red ball (which he loves) at the end point. Support him to walk up to the ball. Count from 1-10 as he takes 10 steps with support. Continuously encourage him as he does this.
Language Development	<ul style="list-style-type: none"> Speak 50 words meaningfully. Indicate needs using two words. Reduce drooling by strengthening mouth muscles. 	<ul style="list-style-type: none"> Place different objects, e.g., ball, cup, plate in a colourful box close to him. Help him take them out one object at a time, and prompt him to name them. The same activity can be done using clear pictures of objects or people. Encourage him to make animal sounds and say action words during song-time and rhyme-time. Use play activities such as feeding a doll, giving it a bath, putting it to sleep and ask him to use words to describe the same. Use a mirror to show him how to make each sound, specifying the shape of the mouth and placement of the tongue. Do specific mouth muscle exercises four times a day.
Self-Help	<ul style="list-style-type: none"> Brush his teeth on his own. Eat food on his own. Indicate toilet needs using words and gestures. 	<ul style="list-style-type: none"> Break down each activity into simple steps and take him through each step. Use a mirror to show him how he is doing it. Use pictures to help him point to what he is doing. Use beginning sounds for each activity, e.g., 'su' for toilet needs, 'eee' for brushing, 'um' for eating.

Source: National Curriculum Framework (NCF, 2022).

5.6 Assessment of Children's Learning and Development at the Foundational Stage

Assessment is an integral part of the learning cycle of a child at the Foundation stage. Assessment at this early stage in education however needs to be competency based and *formative or*

diagnostic in nature, and not summative or evaluative or judgmental. Each child needs to be assessed against her own previous status, to see if she is making adequate progress. ***There should not be any comparisons among children*** as each child has her own strengths and limitations and these need to be addressed individually. The competencies laid down in Chapter 3 provide indicators around which assessments can be planned periodically.

5.6.1 Objectives of Formative Assessment

The main objectives of Formative Assessment in the Foundational stage are to:

- a. *Identify the needs, preferences, and interests of each child individually*, which will guide the teacher or Anganwadi worker in her selection of content and pedagogical approaches for the particular class she is teaching and for individuals who may require specific inputs.
- b. *Give the teacher or Anganwadi worker feedback about progress of her class* as a whole so that she can decide whether children are on track in terms of the learning objectives or competencies laid down and if not where she needs to put in additional support within her program. Thus, it also serves the purpose of being an assessment of her own initiatives in designing content and pedagogy.
- c. *Give the teacher/Anganwadi worker an insight into each child's progress* in terms of the competencies (as laid down in Chapter 3) along the early learning continuum and guide her on whether the child is (age wise) on track and is meeting the learning goals or needs additional or different inputs. On the other hand, a child may be ahead of others and may require more advanced inputs to stay engaged.
- d. *Elicit and record children's responses to assessment tasks* which are a wealth of information on which teachers can further act. These responses give a window into the child's thinking and learning process. Careful response analysis is as much a task for the teacher as designing well thought out assessments.
- e. *Share information with parents /caregivers* so that where and when needed collaborative and complementary efforts could be made to provide the appropriate learning opportunities for the child.
- f. *Identify early signals about possible developmental challenges or learning difficulties* a child might be facing. While this early identification is particularly important in the Foundational stage, equal care must be taken not to make simplistic 'labelling' of children based on poorly designed assessments.

Given the different socio-economic backgrounds of children and differences in the pace of learning, gaps in learning between children in the same class begin to emerge early and could get

pronounced by grade 2, if this is not addressed in good time. Ongoing, well-designed assessments can help a teacher design appropriate additional learning experiences for *children who need special inputs* from the perspective of equitable quality.

5.6.2 Principles of assessment

1. Formative assessment not a burden/ stressful for children

Formative assessments are inherently low stakes as they are integral to the teaching learning process. Their purpose is not to provide children or their parents with a final or summative judgement of the children's abilities, but more to help children learn optimally. This makes periodic formative assessment a stress free and non-threatening experience for both children and their parents, as well as for the teachers too as they do not have to make difficult decisions like failing or passing a child.

Children in the Foundational stage are very young, and any unnecessary emotional stress caused due to the process of assessment is antithetical to any teaching-learning process. It is important to be cautious that assessment of any kind should not contribute to any additional burden for the child nor create any labelling for the child. Assessments in this stage should be designed in such a way that they are a natural extension of the learning experience for the child and a part of the learning cycle. Explicit tests and exams are completely inappropriate as assessment tools for this stage.

2. Assessment at the Foundational stage should be stress-free, continuous and comprehensive

The testing should also take into consideration that children not only learn differently, but also express their learning differently. Some children are orally expressive, some prefer to draw instead. Some respond immediately and some are more reflective and slower to respond. Assessment process should accommodate to this diversity in children and to their process of learning, and should be carried out in the natural environment of the classroom when conducting activities, rather than in an exclusive testing session. The assessment process should also consider that children at this stage do not always understand that they are being assessed. They may know but not respond as their attention may get diverted or they may not be in a mood to respond.

Play based pedagogy allows for the teacher to take on a more passive role and observe children as they respond in group activities or games, as they engage with individual activities, the extent

to which they collaborate or cooperate with other peers, the questions they ask etc. Observation of each child is an “assessment in progress” without the child being conscious of it at all.

If the class size is large, the teacher can divide the children into four groups for her monthly assessment; she can observe 25 percent of the class strength each week during class activities and thus cover all children for monthly assessment without over burdening herself. Where in doubt in group activities she can repeat an activity on an individual basis and confirm her assessment or modify it as per the case.

3. The assessment process should not overly burden the teacher or AWW

The teacher should have the autonomy to judiciously choose the appropriate tool or mode for assessment and the periodicity in which assessment related record keeping is maintained. While giving such autonomy is important, systematic record keeping of children’s assessment should be seen as an important part of a teacher’s professional responsibilities.

4. Keeping records of the child’s progress and analyzing them is important

It is even more important that the teacher **analyses the records** to understand the child’s strengths and weaknesses and decides on steps to help the child. The teacher should have the necessary training in being able to observe and assess during activities and also design different kinds of activities to assess children for the same learning outcome and use these assessments appropriately and systematically. The training should also enable the teacher to know how to record and document children’s performance and progress.

The assessment checks how the child **performs on the stated learning outcomes but should not be confined to it**. In addition, children’s **participation and involvement** in learning experiences, such as artwork, games and exercises, music and movement, as well as **their behaviour** in classroom and outside also form important aspects of assessment.

It is equally important that the teacher **discusses the progress with the parents** and seeks their cooperation to help the child further.

5.6.3 Methods and Tools of Assessments

The two broad methods of assessment that are appropriate for the Foundational Stage for children between 3 to 8 years are (a) observation of the child and b) analysing the artefacts that

the child has produced as part of her learning experience.

The methods are described below and can be used selectively by the teachers based on their capacity and time available to them. Field experience shows that some of the methods such as event sampling or anecdotal records take time and constant guidance to master.

Qualitative observation based on the performance of the child, in the various activities conducted in the classroom should be an important method to assess progress. Observations should assess both the programme effectiveness as well as student progress.

Observations should not be left to general impressions. It is important for teachers to be purposeful in their observations and have a clear plan on when and what to observe. Otherwise, they will realize that they have much to say about some children and no idea of the others.

Systematic observation involves coming up with a plan to look at and record a specific group of children over a period of time in a variety of spontaneous and planned situations, rather than observing all the children at the same time.

When assessing the programme, it may be a good idea for the teacher to have a monthly plan on the questions that need answers and what has to be observed. The teacher can plan on observing classroom behavior for one activity each month. E.g., in a particular month she may decide that her question will focus on how she can make structured play (outdoor play /indoor play) enjoyable for all children. She then makes notes on the points that she will observe: do all children participate equally or only some children? Which ones? Do children understand the instructions? Do they all seem to enjoy? Do all children manage to do the tasks? Which children have a problem-what is the nature of the problem?

These questions and observations are directed to help her decide how she will help the children participate in the games and specifically help children who seem hesitant or unwilling to participate. This will mean that she keeps notes at the end of the activity, or at the end of the day so that at the end of the week when she reviews her notes, she can formulate a plan to help children and better manage the activity.

The teacher should work out clear statements or questions to which she wants answers as it will help her direct her observations e.g., if she wants to assess how to improve classroom management during free play so that all children can experience every single activity area some of the observation questions can include

- Which area of free play is most popular and which area seems free most days? Are there frequent arguments or fights in some areas as children jostle for material? (What can I do to ensure a more even distribution / arrange for more children to work in the area)
- Do some children tend to go to the same area every day? Even after a considerable period of time? (What can I do to move the child to experience other corners?)
- Do some children act only as observers without engaging in any activity (what can I do to help the child participate?)

Casual observation without reflection is a waste of time

The three *tools for observation* are:

- Maintaining anecdotal records
- Checklists
- Event sampling

Anecdotal Records

An anecdotal record is an attempt to record in detail a specific episode/event that is of particular interest or concern. In the context of preschools/schools an anecdotal record is an observation of what children say and do while they are engaged in an activity. When a specific event that catches the attention of the teacher takes place (e.g., a child is very aggressive in class) she writes a narrative account of the event as soon as possible. Teachers should have a notebook close at hand to jot down observations that can be added to portfolios and progress reports of students.

Checklists

Checklists are lists of behaviours arranged in a system of categories. The observer can use the check lists to determine if the child exhibits the behaviours or skills listed. Checklists are usually based on a sequential approach to development and assume that all children will proceed through the defined stages in a linear way the same systematic order. Checklists are used when many behaviours are to be observed. They can be used quickly and easily.

Teachers should use checklists and questionnaires for the purpose of improving practice and not as a 'report card' to evaluate children's achievement. When using checklists, a 'mix and match' approach that combines checklists with another data collection method is preferred (e.g., checklist with observation record to take a decision).

Event Sampling

while anecdotal records are detailed, qualitative observations and checklists are summarized observations in tight formats. Event sampling allows for a combination of both. Each time a targeted event or behavior occurs, the observer or teacher captures, in writing, as many details as possible from the beginning of the event until the end. Event or frequency sampling is useful when teachers want to address children's unacceptable behaviors. Recording can take the form of a simple table where the teacher checks off the number of times the unacceptable behaviors occur. Details such as events leading up to the behaviors, time of the day and the presence of another person and situation can also be included.

Time Sampling

Similarly, if the teacher wants to assess certain behaviors/ actions at regular intervals to understand the intensity of the problem, she can do it in 'Time sampling', like recording an action in the span of 10 minutes throughout a one-hour activity, over two morning sessions. For example, if the teacher wants to observe the aggressive behaviors of a child, she can record every 10 minutes, during free play time for two days on the same activity thus she will get a clear sense of tantrums and conflicts of the child and understand their socio-emotional behaviors in a particular situation.

Child's Portfolio

A portfolio is a collection of student work that exhibits the child's efforts, progress and achievements in one or more areas. This includes the things the child created through his/her work in the classroom, such as drawings, paintings, clay work, cutting/pasting, writing etc. The collection of student work allows for assessment by providing evidence of efforts and accomplishments over a period of time. It is a useful tool when discussing progress with the parent. The teacher should analyze the portfolio of the child with regards to specific learning outcomes and mark the child's progress against competencies. The organization of a child's portfolio should clearly indicate the learning goals. Each child should have a dedicated folder to store the relevant artefacts.

Teachers need to keep children's completed work or photographs of their work in progress in a folder. Children will get to bring the entire folder home at the end of the term. This compilation of artwork and activity sheets, collection of artefacts from field trips, photographs of children in action, video/sound recordings (if possible), together with a systematic record of teachers'

comments and observation notes can provide comprehensive information of a child's learning, development and progress. This can be treated as evidence for the child's progress and maintained for documentation in an organized way in a 'Child Portfolio'.

Some of the important things to remember when creating the child's portfolio:

- The portfolio must include many samples of the child's work -not just the best. This allows for comparison and record of progress.
- The portfolio must include the height and weight chart, a record of the child's illness, a record of the child's attendance.
- Achievement of simple developmental milestones is also an important inclusion.
- Observations about the child's work and the checklists described above can also be part of the portfolio.
- A report on the child's strengths and progress made over time is useful and must be used to discuss the child with the parents.
- The report must be simple and clear and must not overwhelm the parents.

Work sheets:

Worksheets contain tasks that children perform and respond to in writing. These tasks can be designed for specific learning outcomes. Worksheets can be very effective assessment tools for teachers. Analyzing student responses in worksheets can give the teacher a clear understanding of the learning level of the child. For specific literacy and numeracy competencies, it is useful to include such 'assessment' worksheets as part of the workbooks for children in grades 1 and 2. These can be included for each unit or groups of competencies or even on a periodic basis. The NCF (2022) provides several illustrations for worksheets etc. which can be referred to.

5.6.4 Guidelines for Assessment

- a) Teachers should analyze evidence/students' work to judge the extent to which they have demonstrated conceptual understanding and acquisition of skills. For instance, teachers should be able to identify misconceptions/ alternative conceptions, or gaps in student learning while analyzing evidence/students' work. Teachers should be able to determine whether a student has completely, partially or incorrectly understood a concept or grasped a skill.
- b) Teachers should not focus on what students do not know and cannot do. For their assessments to be fair and accurate, they should focus on what students know and can do.

- c) Teachers should use multiple sources of evidence before making conclusions about a child's learning. For instance, they should integrate information from classroom responses, children's work, and observed behaviour to form a reliable and coherent interpretation of the child's learning.
- d) Evidence gathered from formative assessment should be utilized to plan or alter instruction for meeting children's learning needs. Such instruction may take the form of targeted activities, mixed ability groupings, and/or alternative modes of presentation.

Holistic Progress Card (HPC)

While assessments can be ongoing even on a daily basis in the Foundational Stage, it is important to periodically aggregate, summarise and analyze all the assessments during a term. The summary of such an analysis can be captured into a Holistic Progress Card (HPC) and this can be used to communicate to the parents of the child.

The school should maintain a folder for each child. The folder can contain general information about the child, the teacher's narrative summary for each term/year, and the HPC generated at the end of each term/year. If recording and maintaining the narrative summary is found too burdensome, the narrative summary can be considered optional additional inputs, but the HPC is an important piece of documentation of the child's progress and hence needs to be maintained for every academic year. A comprehensive HPC can also be considered that tracks the child's progress longitudinally from age 3 to age 8.

The NEP 2020 suggests that HPC is a 'multidimensional report that reflects in great detail the progress as well as the uniqueness of each learner in the cognitive, affective, and psychomotor domains. (Para 4.35) The HPC can contain not just the assessments done by the teacher but can also include comments and observations by the parents.

The HPC needs to have a section that is competency based. This section would track the progress of the child against each competency that is defined for specific Curricular Goals. These competencies can be further broken down into learning trajectories with five stages of growth (A,B,C,D,E). These stages, while they approximately map to an age group, are not necessarily tied to a specific age group. Children can progress from one stage of growth to another at a pace they are comfortable with. Some of them may achieve it at a faster pace and some of them might take more time. Each of these five stages have indicative learning outcomes which act as a rubric for evaluating the achievement.

5.6.5 Conclusion

It must be remembered that assessment is a part of the teaching-learning process. It involves the systematic gathering of information from different sources regarding children's learning. Just as systematic information gathering is useful it is also equally important to analyse the information gathered and then use to support programme planning or to support the child. Without any of these follow up actions, assessment as a data gathering exercise to tick off a box is a waste of time.

Detailed examples and models of the different kinds of assessment methods, analysis and documentation are provided in the NCF Chapter 6 Assessment for Furthering Learning.



Chapter 6: Planning and Organizing Learning in a Foundation Classroom

The chapter is divided into four separate parts. Section I deals with different approaches to structuring and organizing the curriculum. Section II deals with planning and organizing a preschool programme from a year to a day, section III describes ways of organizing the class room environment to facilitate play based pedagogies and section IV discusses Teaching Learning material.

6.1 Planning and Organizing a Play-Based Curriculum

The Curriculum Structure in a play- based pedagogy has several activities including various components such as free and guided indoor and outdoor play, conversations, rhymes, stories, art and creative activities, activities for emergent literacy and cognitive and numeracy that are all inter-related.

As explained in chapter 3 there is no one to one correspondence between competencies and activities within a curriculum. Just as there are many activities that contribute to a single competency/ learning outcome, there are many activities that contribute to each of the developmental domains. A broad overview of the activities that are related and support each domain and subdomain development is given in the table below.

Table 1: Play based Pedagogy at a Glance

Domains	Sub domains	Activities
Physical & Motor	<ul style="list-style-type: none">• Physical health• Gross motor• Fine Motor	<ul style="list-style-type: none">• Nutrition & health /hygiene check.• Outdoor free and guided play.• Indoor free play with beads, drawing, cutting, tearing, coloring in spaces etc.• <i>Free play</i> with blocks, construction toys in activity corners.

Cognitive & Numeracy	<ul style="list-style-type: none"> • Cognitive skills & Critical thinking • Concept Formation • Environmental awareness 	<p><i>Guided play</i> with dominoes, seriation cards, puzzles; games, classification activities; pre number & number concepts and skills related activities.</p> <ul style="list-style-type: none"> • Story telling/reading • Rhymes • Phonic activities • Language games • Conversation (free & guided) • Dramatization
Language development and early literacy	<ul style="list-style-type: none"> • Listening • Speaking • Reading • Writing 	
Creative	<ul style="list-style-type: none"> • Creative Expression • Development of imagination 	Creative Art; Creative drama; Role play; Free play in Activity corners with toys, story making etc.
Socio-emotional	<ul style="list-style-type: none"> • Self esteem • Socialization & Cultural identity • Cooperation • Collaboration • Compassion • Emotional regulation • Sensitivity to environment 	<ul style="list-style-type: none"> • Celebration of festivals • Free play in activity corners especially doll's play • Art activities • Large & small group activities • Teacher child interaction • Peer interaction • Nature walk • Free and guided conversation • Story- telling and making
Positive Habits	<ul style="list-style-type: none"> • Working memory • Task perseverance • Cognitive flexibility • Attention span • Inhibitory control 	<ul style="list-style-type: none"> • Free play in activity corners • Group and individual activities • Story telling • Creative Art

Note: it is important to understand that activities and experiences cannot be completely domain specific since there is a great deal of inter dependence between and across domains. As a result any

activity planned for children can address more than one domain. Therefore, planning can be more activity centred with ensuring its potential for multiple domains. E.g., storytelling as an activity can enable vocabulary development, foster imagination, help develop concepts, enable children to think in sequence and so on.

Principles of Planning and Organizing a Curriculum for the Foundational Stage

Principles of pedagogy underlie all decisions related to teaching learning strategies in the classroom appropriate for the Foundational Stage. The following principles inform classroom planning and instruction at the Foundational Stage:

1. Develop one progressive curriculum for the full early learning Continuum from 3 to 8 years

The Curriculum should be developed for 3–8-year-olds in upward continuity, and not as a downward extension. It should ensure a seamless transition and continuity for children in terms of competencies as well as pedagogy and learning environment. It should also allow for *spiral learning* especially for the 6–8-year-olds, to ensure all domains are addressed and it can lead to mastery of Foundational skills and competencies. For this reason, it is important that the preschool/ Chilli Pili / Nali Kali / should follow a similar approach and curriculum developers coordinate efforts to ensure one continuous extension of content and approach from 3-8 years.

2. Ensure appropriate sequence in planning activities and materials for each substage.

Given the characteristics of children’s learning process at the Foundational stage the activities and materials should be designed to conform to the following direction/progression:

- a. From simple to complex.
- b. From familiar to unfamiliar.
- c. From Real life experiences/objects > Manipulative materials that represent real life objects e.g., toys, blocks etc. > Pictures of real-life experiences > Symbolic or abstract representations i.e. words/text; numbers etc.

Approaches to curriculum development/transaction

There are different approaches adopted for developing and transacting the curriculum from which a choice can be made. These include a *Thematic Approach, Project/Inquiry Based Approach or Activity Based Approach*. Given that Karnataka has historically been practising the thematic approach in the ICDS as part of the *Chilli Pili* curriculum and subsequently *Chilli Pili Plus* and

Kalike curriculum and there is large scale familiarity and experience with it, the approach discussed in more detail here in this framework is thematic, while project and story-based approaches are also described as these are also followed to some degree in the Chili Pili Plus and Nali Kali.

Thematic Approach is aimed at providing the entire learning experience for children covering all five domains as an integrated whole and woven around a set of themes decided for the year. These could be themes drawn from the natural, physical and social environment and could include Myself; Family, Plants; Animals; Transport etc. These themes may be decided centrally but the materials for activities related to the theme are to be developed locally by the teacher. The decision could be to have 12 themes for the year broken down to 3-4 themes for each term. There could be more or even less than 12 themes and could be distributed over the academic year proportionately.

The principle is to plan and conduct all guided play activities drawing the content from the given theme. For example, if the theme is animals the conversation, stories, rhymes, classification activities etc. will all be related to animals. The advantage of the theme approach is it caters to children's integrated understanding of the environment, as children do not see or understand in disciplinary silos. It also lends variety to the classroom activities, display etc., which is received well by children. Further it helps children interact with and understand the environment better and more meaningfully and holistically as well as exposes them to new vocabulary. The limitation is that, if practised too rigidly, often teachers are not able to find appropriate stories, rhymes, materials etc. for every theme. A more flexible approach, if adopted, to allow for deviations where required, enhances the quality and effectiveness of the classroom transaction and learning outcomes.

Project Approach: A project approach is another common methodology adopted which is more inquiry-based, involves investigation, exploration or experimentation. This is undertaken by the teacher and the children together on a given topic or problem. It is usually carried out in multiple modes, as an individual activity, or a small group project or even a whole class project. The teacher offers some open-ended ideas to trigger children's thinking, and then observes the children, listens to their stories and questions, sees how they navigate the activity, notes their interest areas and levels of participation and guides them as and when required. The main challenge in this approach is that teachers need to know the children well, respond to respective strengths and interests and also have enough confidence and knowledge herself to respond to and guide their enquiry in an effective manner.

Activity Based Approach is largely planned around the regular ECCE activities which are organised in the form of a daily and weekly schedule. The assumption in this approach is that all developmental domains are interdependent. Therefore, each activity serves multiple domains. The risk in this approach is that it can be reduced to a set of repetitive and monotonous activities for children over time, if not monitored and mentored well. Combining this with the thematic approach addresses this challenge and can give good results.

Story Based Approach: Stories are one of the oldest tools of communication. In our culture, stories play a very important role in binding together our families and communities. Since most children have already been introduced to stories in their home language, their use in school is an effective introduction to new languages in a meaningful context. Besides being a rich resource in language learning and teaching, stories also introduce children to the world beyond their immediate experience, thereby helping them learn much more than words. Teachers must carefully consider the aims they want to achieve while planning a story-based approach. They must think of possible activities, time required, links across the curriculum and the languages children speak. These and similar considerations must inform material preparation as well as lesson planning.

A story-based approach is generally developed on the basis of three phases - pre-story activities, activities while reading a story and post-story activities. a). The first step is to finalize stories based on teaching objectives and children's needs followed by creating ideas for activities based on the stories that culminates in the preparation of the lesson plan. b). Pre-story reading activities that help to relate the topic of the story to their own lives and c). Activities while reading include repeat and mime vocabulary, predict what is going to happen next, sequence parts of the story, ask yes/no questions, guess the endings, discuss "what if" situations etc. d) Post reading activities could include narrating the story, dramatization, connecting the story to sound and letter associations etc.

6.2 Organizing the Learning Calendar

Principles of Programme Planning

For a play-based curriculum and pedagogy, no centralised, rigid, grade-wise syllabus can be prepared and prescribed, as every teacher is required to plan and develop content that is contextually relevant for children and relate all activities and materials to children's immediate environment. This need for familiarity and meaning making is an important consideration for young children's learning and development.

Long Term Planning

Refers to a full year's plan and related term wise plans, a broad structure for which can be developed at the state or district levels. Long term planning involves drawing up a full year plan for which content may be decided based on the approach recommended.

Short Term Planning: A Balanced Plan

Short term planning involves a *weekly plan* and a *daily plan*. The projects or themes specified for the year and term could provide the base for the weekly and daily planning. The weekly plan should lay down the objectives for the week (based on the approach adopted), project/theme of the week and specific activities and materials to be used for each of the days of the week and indicators for assessment.

Each *day's plan* should reflect a *balance* of:

- Free and guided activities
- Individual, small group and large group/whole class activities
- Outdoor and indoor activities
- Active and quiet activities
- Activities to foster all domains of development and early literacy and numeracy

This balance is very important for the child's participation and learning, as it is need based. Free and guided activities cater to different learning needs of children, as discussed earlier. Balance of Individual, small group and large group activities helps children who, before entering a preschool, were used to being on their own and getting total family attention at home. They are now gradually expected to adjust and be able to share space and the adult (teacher or Anganwadi worker) with others and learn pro-social habits while developing the confidence to be able to participate actively in a group. This balance of individual, small and large group activities provides space, time and opportunity to every child to make this adjustment at his or her own pace and get adjusted to the routine. Balance of active and quiet activities are required, as children in this Foundation stage tire easily while being in any one position for a long time, sitting or standing. This happens because their bones and muscles are still developing and they need to change positions and engage in some movement intermittently. They also need frequent change in activity as their attention spans are limited. The importance of ensuring a balance of outdoor and indoor activities and addressing of all five domains has already been discussed.

Organizing the Day and Week

Based on the institutional setting, the number of working days, and daily working hours for each day, the routine will be determined. It is expected that the Anganwadi will offer preschool education for 3 - 6year olds for at least four hours every day for 25 days in a month. Each activity may be planned keeping in mind the attention span of the child (e.g., 20-30 minutes) and the “changeover” time between activities, since it takes time to get children to make shifts in sitting arrangements from individual to small group to whole class settings. The daily schedule can be extended into a weekly schedule with the nature of sessions remaining the same. Children like routines and get habituated to a schedule. It also gives them a sense of security and a rudimentary sense of time.

Sample. Daily Schedule - Balanced Activities (4 hours)

From (hrs)	To (hrs)	Duration	Activity
09.30	10.00	00.30	Circle time
10.00	10.15	00.15	<i>Snack time</i>
10.15	10.45	00. 30	Concept Time-Guided (Language/literacy)
10.45	11.15	00.30	Story telling /reading
11.15	12 .00	00.45	Free play in Activity corners
12.00	12. 45	00.45	<i>Lunch break</i>
12.45	13.15	00.30	Pre numeracy/early numeracy -Guided
13.15	13.45	00.30	Outdoor play / Art & Craft
13.45	14.00	00. 15	Good bye circle

Sample. Daily Schedule - Balanced Activities for a School Day

For 6-8 year olds, the school hours should have 5.5 hours of actual studying. Based on the recommendation of the NCF /SCF the curriculum has to be reworked to provide time for:

- a) **Oral work for language in both L1 and L2** especially reading activities, modelled writing etc. where the teacher would need to work with the whole class or with smaller groups of children. The individual ladder- based approach may not work for these kinds of activities.
- b) **Provide one hour for mathematical activities** as recommended in the NCF.
- c) **Provide time for free play activities**, where children immerse themselves in free play - working in play corners based on their interest.

A sample exercise is given below:

From (hrs)	To(hrs)	Duration	Activity
09.00	10.20	00.80	Language / literacy L1
10.20	10.35	00.15	<i>Snack time</i>
10.35	11.35	00.60	Pre numeracy/early numeracy -Guided
11.35	12.10	00.45	Circle time – discuss themes / topics (EVS)
12.10	12.45	00.35	Free play and Activity corners
12.45	13.30	00.45	<i>Lunch break</i>
13.30	14.50	00.80	Language and literacy L2
14.50	15.20	00.30	Outdoor play (Free & guided) /Art and Craft
15.20	15.30	00.10	Good bye circle

Note: These timings are indicative - beginning and ending as well as lunch and snack break hours will depend on individual schools. The curriculum can be adapted to the Chilli Pili and Nali Kali workday but adhering to the time for free play and oral work.

Managing a Multi-Age Classroom

A major challenge in *Anganwadis* is that there is only one Anganwadi worker with a mixed age group of 3 to 6 year olds. With the conventional teacher centered pedagogy wherein the teacher has to initiate and be in control of all activities, this becomes problematic as children are at different levels.

The play- based pedagogy addresses this issue very effectively, as demonstrated in the *Nali Kali* schools too. In these schools multi-grade is not seen as a challenge, but as an opportunity. The methodology followed is that children work at their respective levels with graded materials, thus promoting self -regulation and perseverance as well in the children. The teacher works in rotation, as she attends to one group at a time where she has to introduce a new concept or activity or a group of children who need special attention or in whole class situations for story telling/rhyme etc.

This pedagogy already well established in Nali Kali can in terms of principles be certainly adapted for the Anganwadis also. However, some of the recommendations of the NCF would also mean a rethink of the Nali Kali ladder to allow the teacher to work with smaller groups of children where peer group interaction is very necessary.

Annual and Term wise AW/School Calendar

The AW/ school calendar is an annual and term wise plan which covers all important events of the school over the year, e.g., duration of the school term, vacations, annual day/sports day/other school celebrations, exhibitions/field trips, parent teacher meetings, teacher professional development programs and school meetings. This should be done collaboratively with the Anganwadi/s so that the Foundation stage operates in a coordinated and collaborative manner and parents do not have to adjust to different schedules. This allows teachers and AWWs to plan their classroom activities accordingly. It informs children and families of what is coming up as far as the school or Anganwadi is concerned so they too can plan for it. This calendar should be accessible to all, including parents and families.

Similarly, AWW and Teachers can also plan an annual, term wise and week wise schedule of activities indicating the theme for the week /month. This will help teachers and AWWs to plan activities better as well as track progress on the curriculum.

The Nali Kali ladder is arranged on a grade wise ladder but does give students the flexibility to move on the ladder at their own pace. However, there should be scope for whole group activities that can be conducted on particular days. At present the Nali Kali teacher is like a class teacher where she is involved with the class for every single period. Teachers should be allowed to set aside time to informally evaluate and keep notes on children's progress, pay attention to students who are not progressing as they should or spend time planning ahead.

6.3 Organizing the Learning Environment

Children thrive in a classroom environment that is welcoming and non-threatening for every child, that encourages children to confidently come forward and participate in activities. A space that makes them feel safe and secure, is uncluttered so that they can move around freely and joyfully and colourful and stimulating so that it invites their curiosity and sense of wonder. A classroom should be a space that feels like a second home to young children!

Most importantly, a classroom should have a warm, affectionate, caring and welcoming teacher who enjoys being with children, has the energy and patience to listen to every child, accepts each child on his or her own terms without discrimination, has the skills to create stimulating and meaningful activities and learning materials for them and the ability to engage and interact with them with both free and guided play activities in ways that help each child grow and develop steadily in terms of the goals of Foundational stage education.

The *physical environment* in the class needs to be designed specifically to support an environment as described above. Some specifications for this child friendly classroom include the following:

Every classroom should ensure:

- i. Adequate light and ventilation.
- ii. Adequate, safe and clean indoor space that will allow for different sitting arrangements for children i.e., alternating between individual, small groups and whole class/large group activities (groups as in Nali Kali configurations).
- iii. Adequate space within the classroom for arranging four well laid out *activity corners* with materials and play space for children to engage in free play in small groups (in Nali Kali classrooms children can pick up material and bring to their working groups as they are used to doing).
- iv. Adequate and safe outdoor space for children to engage in outdoor play as well as maintain a green environment.
- v. Separate storage space for keeping play and learning play materials, registers etc.

All schools should have:

- i. Usable toilets with clean water for boys and girls and for the adults/teacher and helper.
- ii. Availability of clean and potable drinking water for all children and adults without discrimination.
- iii. A safe and clean - kitchen for cooking/heating food separate from the classroom to avoid smoke and other hazards for children.

Additionally, it is desirable to have a *Running blackboard* along the three walls of the classroom after leaving half a foot of space at the bottom of the wall, to accommodate to children's height, but not too low for them to affect their postures as they write/draw on it. Each child needs at least 3 feet of space on the blackboard. The running board can be put to use in multiple ways for children to express themselves spontaneously through art or engage in literacy and numeracy activities, including helping to strengthen their hand-eye coordination. The advantage of this arrangement is also that children's work becomes immediately visible for both the teacher and other children in the classroom.

Classroom display is an important part of any child friendly classroom as it not only looks decorative and colourful but serves a pedagogical purpose as well. The display should include (a) Children's work and (b) Charts/pictures or any objects to be pinned up which relate to the theme of the week/month. Display of children's work is very motivational for them as they have a sense

of pride in seeing their own work on the board and their name alongside not only adds to the self-pride but also initiates them into sight reading and understanding of print. The Kalika Chapra that is used to dangle work from the ceiling as in the Nali Kali classroom may have to be reimagined.

The charts /pictures related to the theme on display evoke curiosity, a great deal of conversation amongst children and with the teacher leading to development of new vocabulary related to the theme. Every time the display changes is extremely exciting for children as they respond with a lot of curiosity and the desire to learn. *The display in both cases must be at the children's eye level for them to see and enjoy.*

Weather Chart: The daily and weekly weather along with the day of the week information can be displayed too. Again, a cardboard piece with a chart paper can be the background and the weather for the day can be indicated pictorially and through text. Alongside an *Emotional chart* can also be pinned up with smileys indicating different moods and children asked to tick the one they are feeling on coming into class and when leaving-a barometer of children's satisfaction level and an opportunity to enable them to recognise their emotions.

Timetables: Certain other information to be displayed includes the weekly and daily Timetable: Children thus also get exposed to more print in the classroom and begin to 'read' what is written which is their further initiation into reading and becoming print aware. It is important that the timetable is displayed clearly in the classroom as it guides both the teacher and the children. Children of this age appreciate structure, routine and sequence.

Portfolio Bags: It is important to record and store children's work. Making it accessible and visible to other children is equally important. This becomes relevant for assessment too. Portfolio bags can be hung on a wire/rope and should be neatly labelled with each child's name. Along with these display areas, every classroom should have a mirror, clock, allotted spaces outside to keep footwear and a dustbin. The labelling of these locations, the text in the displays and the reading corners should make the environment print rich, colorful and a happy place.

Setting up Activity Corners:

Activity Corners for free and creative play are a very important part of the classroom for 3- to 8-year-olds in the Foundation stage. These can be planned as far as possible within the classroom with each corner labelled. Each corner should be able to accommodate around at least 4 to 5 children at a time. The corners can be demarcated by cardboard boxes or low height shelves and the appropriate materials can be kept within them.

Activity corners provide children opportunity for development of several of the competencies indicated in Chapter 2. These promote the 5 C's i.e., creativity, cooperation/collaboration; critical thinking and communication skills inadvertently through the process of playing, negotiating, waiting for ones turn, sharing etc. Similarly, by providing children opportunity to engage in self-initiated play children develop many of the positive learning habits mentioned in the Competency framework.

Activity corners could include:

1. *Dramatic Play Corner* - This corner could be covered with transparent curtains on two sides. Along with dolls, masks and puppets, different kinds of material sets can be placed in the corner. These materials can be gathered or prepared with the use of low cost and locally available material. Children get the opportunity to play without hesitation and imitate what they observe adults doing, a process of getting socialized. Older children can use this space for dramatization etc.
2. *Construction Play Corner*: In this corner, children can be provided with blocks, puzzles, beads, pegboards, matching, classification materials and so on. Play activities in this corner promote sensorial development as well as development of many cognitive, pre numeracy and numeracy concepts and skills as children play by handling and manipulating these materials and moulding them into different constructions. Children also use blocks and other materials to build models and what they build helps them to develop their imagination and oral expression.
3. Construction material in the early grades can be more sophisticated and allow for more complex constructions. Bigger sets of construction blocks, with a variety of equipment / toys doing building activities with construction equipment/toys (e.g., blocks, Lego toys/ mechanical sets and games) can be provided.
4. *Art/Drawing Corner* - This corner can have paper, crayons, pencils, colours, brushes, leaves, and sticks. This corner would give opportunities to children for free drawing and express their views and emotions. Cloth, thread, origami paper, cardboard sheets, would also enable 3-D expressions through craft work.
5. In older classes the art and craft activities can be clubbed with the construction corner and can include collage work, painting, paper folding, and creation activities (like a group poster or a story book).
6. *Reading Corner/Library* This corner can contain picture books, picture charts, picture cards, and children's literature. Through this corner, children get the opportunity to handle books, browse through them, "mock read" stories already read to them by the

teacher, tell each other stories and enjoy trying to decode words as well as treat this as a space for children to read.

7. For older children this space essentially becomes a library corner where they have a variety of books to read and enjoy. Children should be encouraged to borrow and take books home and look after these carefully.
8. **A board games corner** that houses board games which can be played by children and indirectly support attainment of maths and language skills is a very useful addition to play corners. Games like snakes and ladders, checkers, scrabble, paper and pencil games should be an essential part of the Nali Kali kit as the classroom will be the only place many children will get access to such material.
9. Additional corners can be added based on the space availability. A *tinkering corner* where common household devices that are safe for young children to dismantle and put back together would be ideal to challenge young minds.

Outdoor Equipment and Materials

1. **Sand pit:** If adequate space is available, a sand pit would be an excellent play area for children. For environments where such space is a premium, a sand box can be setup with the use of bricks and filled with sand or mud. The sand pit/box should be periodically cleaned to remove stones and other sharp objects. During free play, children can use the sand area. It provides opportunities for development of fine motor and eye hand coordination and also helps develop in children concepts of quantity, volume, texture etc.
2. **Clay box:** A small box built with bricks containing claying soil would allow children to mix and knead clay and make clay figures and toys. This is a very good exercise of both their gross motor and fine motor abilities.
3. **Water:** Very young children find playing with water calming. Pouring water without spilling helps coordination of multiple muscles and increases attention. Water is useful for measurement too. A simple arrangement of buckets, mugs and a tub for water activities should be kept along with the sand and clay areas.

The NCF (2022) provides an illustration of a well -designed classroom which could be referred to.



- a. Running Blackboard
- b. Circle
- c. Corner Setup
 - i. Dramatic Play Corner
 - ii. Blocks/Puzzles and Math Corner
 - iii. Art/Drawing Corner
 - iv. Books/Language Corner
- d. Classroom Display
- e. Portfolio Bags

6.4 Teaching Learning Materials (TLM) for Preschools and Schools

Children in the Foundational Stage are more engaged in learning when they use multiple senses and actively use their hands. From simple toys for play to specific manipulatives for counting and numeracy, a variety of TLM is essential in this Stage. As children grow, use of workbooks and worksheets are also appropriate.

Some of the important principles for the choice of TLM are:

- a. Material chosen should be attractive and safe to use by children of this age group. Since 3-year-olds put things in their mouth, it is important that the materials and colours are appropriately chosen and do not have components or paint that can be toxic.
- b. Material chosen should provide adequate opportunities for the children to explore and experiment with curiosity. Durable and well-made material would allow 'rough' use and still be available for future use.
- c. Material chosen should be preferably locally made or locally available. This would allow for easy replacement.
- d. The mix of TLM should include materials purchased, materials locally made, materials made by teachers and even materials made by children.
- e. Books and a children's library. Along with materials, books play a very important role in developing language and literacy. Books in general, and children's literature in particular, are mandatory to make early childhood learning environments print rich and promote the excitement of reading. Having a small but good collection of children's literature completes the TLM set for the Foundational Stage.

A suggestive list of teaching learning materials is given in Annexure 2

Chapter 7: An Enabling and Empowering Environment for Teachers

7.1 Vision for Foundational Stage and Role of Teachers

The National Education Policy (NEP 2020) envisions that schools and *Anganwadis* will demonstrate a radical shift in the nature and quality of classroom transaction at the Foundational stage. It recommends a play-based pedagogy that will involve exploration, discovery, discussion, and high quality of teacher pupil interaction from preschool to early primary grades. Expected learning outcomes, while ensuring literacy and numeracy, will also address the holistic development of children and development of 21st century skills such as creativity, communication, critical thinking, collaboration, and problem solving.

This aspiration implies that all institutions supporting preschool education for 3-6 years old children, significantly change the scope of their curricula but also expand this pedagogical approach upwards to cover ages 6-8 years for children in the early primary grades of 1 and 2. This includes the *Chilli Pili* curricula currently operating in the *Anganwadis*, and the *Nali kali* curriculum in Grades 1 and 2 of government schools as well the programmes implemented in private schools.

How can this vision for enhanced curricular integration between the preschool stage and early primary grades be realistically achieved? This chapter explores what would be the non-negotiable and desirable aspects required in the eco system for teachers that would enable and empower them to make this vision a reality.

It is understood that *changes in the curriculum are a necessary but not sufficient condition* for meeting the ambitious goals for improving school quality. In order to ensure equitable quality in foundational education, which is also inherently the right of every child in the state, it will be necessary to look beyond the curriculum revision and put in place a far-reaching systemic reform agenda that will ensure an enabling ecosystem for the new curriculum to be taken to its logical end. The most significant peg in this reform process will necessarily be *the teacher* and her work situation.

As explained in Chapter 4, one of the four pillars that determines how well children learn is a *“warm and child friendly teacher at the Foundational stage who is professionally qualified to address the learning and developmental needs of children between the ages of 3 to 8 years”*

Recognizing this, the NEP (2020) has asserted that enabling and empowering the teachers is required on priority to ensure the best possible future for our children and our nation.

7.2 Ensuring an Enabling Environment for Teachers

A central recommendation of the NEP that has important implications for teacher empowerment is “*The state to ensure equity so that all students can thrive in the education system and every student gets the same high-quality education*”. Equity in education as envisaged in the NEP will mean that all children have access to a good quality programme, regardless of the circumstances of their birth (community, caste and socio-economic status), geography of residence (urban/rural/tribal) etc. or the nature of schools/preschools they study in (state schools run by different departments, government aided schools, model schools and private schools). *This essentially calls for an inclusive school quality enhancement programme covering teachers in all the schools in the state.* This inclusive approach is also essential from another perspective. Given the interdependence of the different sectors and systems, it must be noted that quality reforms in curriculum and pedagogy can only be successful in government schools if the private schools also demonstrate similar reforms as the latter are considered pace setters by the parents and community. *Teacher education and empowerment initiatives must therefore cover all anganwadis, private and public preschools and schools.*

Teacher motivation and empowerment go hand in hand in creating an enabling environment for the teachers. The NEP (2020) has recommended several interventions in this context. These include recruitment, deployment and good service conditions as well as creating an environment and school culture that maximizes the ability of teachers to do their jobs effectively. The NCF (2022) quote from the policy states that “*The school environment should ensure that teachers are part of vibrant, caring, and inclusive communities who share a common goal of ensuring that children are learning and thriving.*” Creating such an enabling environment for teachers at the Foundational stage has both *immediate* and *medium-term* implications.

7.3 Immediate Measures for Enabling Teacher Effectiveness

The immediate measures that must be taken to enable teachers to perform optimally and effectively are as follows:

1. Ensure sufficient dedicated ‘time on task’ for teachers and children on a daily and annual basis for transaction of the curriculum

- The state should prescribe a daily schedule of a minimum of 4 hours for 25 days in a month for all 3–6-year-old children regardless of what preschool programme they attend.
- Anganwadi workers and teachers must allot four hours of their time to preschool education on a daily basis so that the children spend an optimal amount of “*time on task*” for active learning. Anganwadi workers, who now spend a great deal of time in community mobilisation and support activities, must be relieved from tasks related to other services of the ICDS, as well as tasks related to other government schemes, so that they can devote 4 hours of uninterrupted time daily to transact the preschool education curriculum with children.
- If AWWs devote 4 hours to ECE activities, their posts must be officially changed to Anganwadi Teacher or preschool teacher. This will help a change in public perception of their work, contribute to their self-worth and their perception of the role of ECE in their duties. Primary school teachers/children must also be supported to spend 220 working days in active teaching activities and be relieved of other duties that eat into their classroom time.

2. Involve Foundational Stage teachers representing different categories of preschools/schools from government and private sectors, including experienced Anganwadi workers, to be part of the Syllabus Committee

Learning from the history of Nali Kali development, there will be every effort to follow an inclusive process during the development of the syllabus/content, teacher’s guides and learning materials. This will have a dual impact. It will bring in (a) realism based on field realities into determining the scope and content of the curriculum and determination of expected competencies in children, and (b) in the process, include the ‘*empowered*’ voice of the teachers in taking curricular decisions, since they are the ones who are ultimately responsible for taking the curriculum to the child. This will also be one step further towards their professional empowerment and recognition and at the same time ensure their understanding and ownership of the curriculum.

3. Design effective training strategies and audio- visual content for teachers and other officials to understand the nuances of play- based pedagogy and the importance of the early learning continuum.

Since *Chili Pili* teachers (in the ICDS) and *Nali Kali* school teachers have been adopting an activity-based approach for several years, the revised curriculum will not be an entirely new approach. However, the new pedagogy will be more comprehensive, holistic and age appropriate, with a

focus on outcomes. Since most teachers in the ICDS and Foundational stage will not be familiar with the changes and the new thrusts in pedagogy, they will require effective, intensive and recurrent training. The training should cover not only the AWWs and teachers, but also of the supervisory staff, CRPs and other officials who will provide mentoring and monitoring to the teachers.

The design of training should ensure four critical elements viz (i) demonstration of good practice; (ii) hands on practice in AWCs and schools with children; (iii) reflection-based theory sessions and (iv) designing, development and use of age- appropriate learning materials for guided play.

4. Establish teachers' centres at cluster levels for AWWs to come together on a monthly or fortnightly basis and be facilitated by a joint team of the CRP and supervisor to review progress in the previous month and plan the curriculum for the following month.

The ICDS teacher meetings can be held at a central point or can be at a rotating venue. In the monthly/fortnightly meetings, the AWWs should be facilitated to plan the coming month's activities and teaching strategies. The particular theme to be addressed in the coming month should be discussed and the specific learning outcomes / skills to be developed for each age level identified, the activities to be conducted (songs, stories, games etc.) introduced and practiced. This helps focus attention of the training on particular themes/ topics and skills to be addressed for each set of children for the month and paves the way for better implementation. Measures to facilitate participation will be required in terms of meeting travelling and meal costs etc.

Guiding principles for professional development and in service teacher development:

Given the wide disparities in teacher qualifications and the limited opportunities teachers have had for training in teaching the ECCE and Foundational programmes, the SCF acknowledges that teachers will need to follow an independent development journey. Some important principles that should drive the teacher professional development approach are as follows.

- **The approach should be inclusive** -it must be available to all teachers in the state regardless of the institutions they work in.
- **Teachers should get an opportunity to take control of their own training** to determine the area where they need to enhance their knowledge and skills.
- **Teachers should be supported to access the training at their convenience** and without disrupting the academic schedule. All teachers must be supported to engage

continuously with their professional development through a variety of means. (Online, through summer courses, or a mixed mode).

- Professional development courses should support teachers to become **competent and reflective individuals** with the ability to drive educational improvement and transfer of learning into the classroom.

5. Setting up a mechanism for operationalization of a coordinated inclusive professional development strategy for all teachers in the Foundational stage of education (including In-service Teacher Training, Mentoring and Teacher Support)

The Department of Education and DSCERT Karnataka have already made strides in this area. The *Nali Kali* system reaches out to teachers in a number of ways with regular, refresher trainings and support. Teachers have the opportunity to manage their own training by choosing and completing training online and for a specified number of days. In addition, the SSK supports face to face /online training every time the curriculum is revised or if major staff recruitment or movement takes place. These trainings are conducted through a system of State Resource Teams (who have been responsible for effecting the changes in the curriculum) through Master Resource Persons at the district level and Block Resource Teams at the block level. Depending on the number of persons to be trained, the district conducts direct trainings at the district DIET or trains block resource teams to conduct teacher trainings at the block level. A major teacher support system has been the operationalization of the DIKSHA platform which allows for teachers to access training and demonstration modules of best practices on various subjects.

While the above facilities are available for teachers of children between 6 to 8 years in the government schools, the *anganwadi* teachers who are also a part of the Foundation stage now, have very limited opportunities and exposure to ECE training. The department is trying to bring in more qualified persons into the programme by increasing the minimum qualifications of AWWs to 12th pass. However as of now, the majority of the AWWs have only 10th pass or lesser qualifications with a few graduates and postgraduates. However, DWCD has initiated a few interventions with organizations for support to the AWWs. This includes:

- An initiative with the Tata Trust to support a three-year long training of AWWs in 20,000 AWCs which will expand to cover all AWWs in the state. The training will follow a cascade mode where supervisors will be trained to in turn train the AWWs in their charge. Staff are trained to carry out all ECE activities gradually, in segments of 2-3 activities per training session and allowed to practice it before returning to be trained

for the next round of activities. Training to implement the whole curriculum will be completed in a total of 81 days training in 12 sessions, 4 months apart.

- The department is also translating and making available an online course developed by UNICEF to provide an 8-hour online training for all AWWs. Workers can complete the training to obtain a certificate. The possibility of using the training modules for face-to-face training during monthly meetings can also be considered.

There is a lack of data on the number of teachers in the system or information on the qualifications of teachers in the private sector. Anecdotal evidence also suggests there is wide diversity in qualifications and private establishments work independently with no system support. Given this context, if the vision for every child having access to *high quality Foundational stage education* is to be realized, there is a need on priority to have a coordinated professional development strategy for all teachers in the Foundational stage of education across the ICDS and *Nali Kali* systems as well as for the private sector.

Given the above scenario there is an urgent need to develop an integrated and coordinated professional development strategy covering all teachers from 3-8 years. This should include a) some joint trainings across all levels (preschool and early primary grades) to provide opportunities for teachers to develop a holistic perspective of the pedagogy and its benefits b) an honest review of the ICDS teachers' capacity to navigate online training and if necessary, convert these into face- to- face training using the online modules c) regular monthly training and mentoring based on a monthly support calendar.

With the above requirement in mind, the following steps must be initiated to create a systemic response towards developing an integrated and inclusive system for Foundational Education stage teachers that will extend to all teachers and children in the state. This will be in keeping with the NEP's vision and recommendations for teacher empowerment (ref NEP 2020 1.7-1.9 Pg 8). Since the MOE at the national level has been given the responsibility for ensuring quality of the foundational programme, the SSA and DSERT will take on the responsibility at the state level of driving the teacher empowerment programme. The following steps must be undertaken by the state:

1. A separate joint task force at the state level comprising of members of the Departments of Education, Women and Child Development (WCD), Health and Family Welfare (HFW), and Tribal Affairs as well as managements /associations of private schools should be set up for continuous monitoring and guidance of the smooth integration of early childhood

care and education into school education. The task force should be headed by the Additional chief secretary and Development Commissioner, with the Nodal Officer responsible for ECE and Foundational Education as the convenor. Members will include secretary / Directors of Education, WCD, tribal affairs and DSERT and other technical experts and teacher's unions. The task force will be responsible for overseeing the implementation of the Plan of Action act as an interface for multi-sectoral and inter agency coordination and guiding the process of teacher rationalization, piloting of innovations and coordination of the capacity development process.

2. A training cell to be established in the DSERT with members of the different departments /agencies (Education and WCD and other co-opted members from academic institutions and NGOs involved in ECE) who will drive the training agenda and be responsible for drawing up the long- term plan and the annual training calendar. A joint training strategy will be developed at the state level which will bring all capacity building structures and initiatives under one umbrella so that a coordinated effort can be made for the vibrant and inclusive professional development plan of teachers.
3. Establishing an ECE cell in the DWCD: To ensure smooth coordination and management of programmes, an ECCE Cell will be established within the DWCD to provide operational and administrative and oversight support for the implementation of the plans of action which will also include data and MIS management. It will also act as an interface for multi-sectoral and inter agency coordination. The cell will include technical experts to ensure that quality norms and benchmarks are followed across the state.
4. A joint resource group at the state district and block levels will be constituted that will consist of experienced members of the *Nali Kali* (practicing teachers) *ICDS supervisors* and *AWWs* and *preschool teachers*. The State Resource Group will work with the DSERT team to finalize the content and calendar of training. All resource groups from the state to the block will undergo a 45 day training on play based pedagogy for holistic development and early literacy and numeracy with 30 days of theoretical instruction and 15 days of practical internship (where they will set up model training units in AWCs and NK schools, provide mentoring support for a determined number of schools and develop and trial at least one TLM).
5. The training calendar for district level training will be coordinated by the DIET and carried out by district teams either at the district or block levels. It will include all teachers and will be open to teachers in private schools who can be part of the trainings at the district level. They will do so at the cost of the private school management who will be required to support their TA/DA costs and a pro rata rate for cost of materials and training resources.

6. Strengthening mechanisms for mentoring at the block programme jurisdiction at the block level should be an important innovation. The state should consider aligning of the geographic areas of the ICDS and school complexes so that supervisory and cluster areas are aligned as far as possible and block resource center becomes the nodal agency for supporting preschools and schools (of all managements) in curriculum implementation. A mentoring calendar will be jointly developed to support academic mentoring for all schools at the cluster level.
7. All cluster teams of CRPs and supervisors should be supported by the Block Resource Persons (BRPs) who will support the development and implementation of the joint training and mentoring calendar.
8. In addition to the supporting the CRPs and supervisors to conduct the monthly meetings, members of the district and block resource teams and other support organizations could visit schools/AWCs on a regular basis. During the visit, they can observe teachers and AWWs, hold discussions with them, demonstrate pedagogy, work on material development with teachers, share information about upcoming events, and activities.
9. Joint resource sharing: The Digital Infrastructure for Knowledge Sharing (DIKSHA) platform should also upload videos of all training and best classroom practices which should be made available to all teachers.
10. Teacher isolation must be tackled by setting up online/WhatsApp teacher's groups so they can connect digitally to discuss and support each other through mobile phones and other devices. The online groups should also be used for sharing feedback by cluster and block resource teams on common issues that need attention and to promote cross learning among districts through exchange of best practises amongst Districts, Blocks, Clusters and Schools.
11. Platforms for peer learning with mentoring and coaching support will be made available to all teachers from state, private schools and the ICDS. Online training programmes developed by agencies such as National Open University and UNICEF for ICDS workers should be made available to all preschool teachers. All teachers at the cluster level (AWCs, private schools and NK) can be part of teachers WhatsApp groups and use the platform to clarify doubts and share resources and experiences.

7.4 Medium Term Measures

The NEP 2020 has clear recommendations for teacher empowerment, “*Teachers will be given continuous opportunities for self-improvement and to learn the latest innovations and advances in their professions. These will be offered in multiple modes, including in the form of local, regional, state, national, and international workshops as well as online teacher development modules. Platforms (especially online platforms) will be developed so that teachers may share ideas and best practices. Each teacher will be expected to participate in at least 50 hours of CPD opportunities every year for their own professional development, driven by their own interests*” (NEP 5.15 page 22).

1. Professionalization of teaching at the Foundation stage

Given the critical importance of the Foundation stage for all education and the adoption of the new pedagogy which requires innovative teaching, demands on the teacher’s capabilities are expected to be significant. This would require more professionally trained and qualified teachers. The NEP 2020 therefore envisions teachers for the Foundation stage to be graduates with specialization in this area, through a four year’s Integrated Teacher Education Programme. (ITEP) which would be at par with teachers at all other stages of education.

In accordance with this vision, the state will in collaboration with the National Council of Teacher Education (NCTE), estimate the teacher demand for Foundational Education teachers and plan in accordance by identifying the required number of teachers and corresponding requirement of graduate teacher development programmes in higher learning institutions, that have the necessary multidisciplinary environment that can meaningfully offer the four-year Integrated Teacher Education Programme (ITEP), with specialization in the Foundational Stage.

State initiative will include:

- a) The state should, in the long run, obtain legislative clearance for establishment of a cadre of Foundational Stage teachers for children from 3 to 8 years with parity in salary structure and work conditions with other stages of education.
- b) Complete a realistic estimation of the demand for teachers in the next decade or so for the Foundational stage (in terms of number of schools and teachers) and
- c) Map and support identified universities by attaching “training / practice” AWCs, preschools and primary Nali Kali grades to enable student practice in all institutions

d) Adopt the guidelines prescribed for all future teacher recruitment. The Teacher Eligibility Test (TET) will be extended to all new entrants to the Foundational Stage, once the re-structuring of school stages is complete. This certification of suitability to teach should cover teachers across all kinds of schools.

The curriculum for the Foundational Stage specialization within the ITEP must be based on the curriculum and pedagogy of the NCF/SCF for the Foundational Stage. It must also ensure adequate practice opportunities for student teachers in all contexts of the Foundational Stage, e.g., *Anganwadis*, Balvatikas, stand-alone preschools, preschool classes of larger schools, and Grades 1 and 2.

2. Optimizing classroom size and teacher pupil ratios:

In order to facilitate an interactive, play based pedagogy and a developmentally appropriate curriculum as recommended, that allows for active and experiential learning, interactions, collaborative learning and creativity, the enrolment level in each classroom should not be less than 18-20 and not more than 25-30. Number below or above this threshold number affects the quality of interaction and individual support.

An optimum class size is essential for children to be given individual attention while also be able to interact with each other, engage in group activities such as discussions, conduct experiments, present work and play together. Seen in this light, exceedingly small classes of 5-10 children are not conducive to learning.

The state government must gradually take steps to ensure that all Foundational education classrooms (regardless of management) have a) an optimum class size and b) an optimum teacher- pupil ratio (preferably not more than 1: 30)

It has also been pointed out by various studies (and the NEP) that apart from being a drain on state financial resources (a small primary school of less than 20 children and 2 teachers costs Rs 6522 per child²⁸). Very small schools lock up teacher resources, create teacher isolation and is a severe deterrent to teacher motivation (as are very large classes).

²⁸ Kingdon, G. G. (2017, March). The private schooling phenomenon in India: A review. Discussion Paper Series

The problem of small classes plague both government schools as well as Anganwadi centres. The important steps to break teacher isolation recommended by the NEP (2020) include

- a. Initiating a systematic process of school rationalization to merge schools with very poor student strength to create bigger schools. This move will help the state to support mono grade classes in the preparatory stage with optimum student teacher pupil ratios, make schools economically viable & ensure quality. Small schools must be maintained in far flung/scattered areas, where distances do not permit rationalization.
- b. School rationalization decisions must be an inclusive process that carries all stakeholders with it. It is suggested that the state take a year to pilot the process in a few representative blocks (rural and urban in different divisions with a large number of small schools) and work out a strategy where decision making is done in a decentralized mode in consultation with the SDMCs and the local communities with arrangements made to ferry children if necessary.
- c. As per the ASER reports of 2019, and the GOK -SATS report of 2021, around 50% children aged 5 years and 6-8 years are in private schools pointing to the existence of a sizable number of private schools (and teachers) in the state. However, there is a complete lack of reliable data on the schools and teachers in the private sector. As a first step towards establishing an inclusive teacher empowerment programme, complexes will need to initiate a mapping exercise to identify and register all institutions providing foundational education its jurisdiction with basic information available on enrolments, teacher qualifications and class size etc.

3. Institutionalize periodic assessments (linked to accreditation) that focus on school quality, holistic development, and attainment of competencies of the child as outlined in the NIPUN BHARAT and the NCF.

Initiatives such as the “macro and micro evaluation of school quality” and the State CAS Assessment of learning outcomes are well established in Karnataka. The macro evaluation of school quality assesses the inputs in a school environment (that includes teacher pupil ratio, presence of a trained teacher, availability of essential TLM and optimal use of access and use of materials, teacher time, and support systems). The macro assessment based on observable indicators, is done by outside resource persons and classifies schools based on a grading system. The results of the evaluation are shared with all schools and is followed up by a process of school planning and target setting to improve on specific areas that have been rated low. The entire process is transparent and supportive.

The micro evaluation that focuses on teaching learning quality and learning outcomes is done only for schools that have scored well on the macro assessment (based on the logic that inputs have to be in place before quality can be achieved). This should be a voluntary process, where schools offer themselves up for assessment and accreditation. The macro and micro assessments should be institutionalized and be extended to ICDS and all pre-schools and early grades. Other tests to assess children's learning outcomes should also be factored in. This should include a) a school readiness assessment after children enter class I, which can be used to support children through the Vidya Pravesh programme and b) sample testing to check on literacy and numeracy outcomes in school c) in addition, special assessment techniques that will measure specific 21st century skills such as application, creative thinking, problem solving etc. will be developed by the state in collaboration with institutes of higher education and carried out as sample studies to guide curriculum review and implementation.

4. Support school infrastructure and human resource availability through programmes such as the PM Shree, Viveka Classrooms and draw upon CSR and crowd-funding initiatives

Over the years the state has supported a number of initiatives to set up model schools that can be seen as islands of excellence to support other schools around them. These have included initiatives such as the scheme to adopt a school programme by MLAs, Adarsha Vidyalaya, and most recently the composite Karnataka Public Schools set up under the Samagraha Shikshana programme. Newer schemes such as the PM shri scheme and Viveka Classrooms can be used to support infrastructure in bigger schools that will need more classrooms etc once rationalization is complete. A smaller number of large schools with larger enrollment and more teachers (achieved through efficient rationalization) will allow for targeted classroom constructions.

Given the current student strength in lower primary grades, the Nali Kali multigrade curriculum for classes 1-3 will have to continue for the next few years. However, the state should consider starting separate monograde third grades in bigger schools with a larger student strength. With rationalization of small schools, and the increase in the number of bigger schools with higher student strength (and availability of more teachers) this process should be gradually extended to all big schools.

If the state has to seriously implement a multilingual language policy, it will need to appoint language teachers in the near future. Having language teachers who will support multiple classes/ appointing guest teachers in the short run may also be considered.

Every effort should be made to co-locate AWCs with schools and some thought can be given to merge the Balvatika section with the Nali Kali section in urban areas to have a continuum of ages 5- 8 years.

7.5 Ensuring an Inclusive Teacher Empowerment Programme

NEP 2020 speaks of parity in service conditions across all stages of school education. This means that, as soon as possible and in the long term, pay and service conditions of teachers have to be commensurate with their social and professional responsibilities, and must be set so as to attract and retain talented teachers in the profession. All Teachers, from Foundational Stage Teachers to Secondary Stage Teachers, will be recruited with standard service conditions as per their work requirements, and the same salary structure. Some of the long-term reforms to be considered should include:

- a) Given the multiple tasks to be performed by the ICDS, the state may consider having an extra ITEP certified teacher appointed for supporting ECE function in the ICDS.
- b) ICDS staff who currently have the necessary 12th pass certificate can be encouraged to take equivalence course developed by open universities to pass the TET and be full time ECE teachers.
- c) *Regularising existing teachers in the system:* While new teachers will be recruited on the basis of their ITEP qualification, teachers already in the system e.g. AWWs and teachers with Diplomas in ECCE should be regularised on a case to case basis through development of a credit accumulation process by establishing parity with the ITEP based on the in-service trainings they may have cumulatively completed and their years of experience. The process of credit accumulation and formula for this regularization will be devised based on existing numbers and availability of Diploma and other training programmes.

As recommended by the NCF “All Teachers must have the opportunity to progress in their career (in terms of salary, promotions, etc) while remaining as Teachers in the same stage of education (i.e., Foundational, Preparatory, Middle, or Secondary). The approach will be to ensure that growth in one’s career (salary and promotion) is available to teachers within a single school stage, and that there is no career progression-related incentive to move from being teachers in early stages to later stages (though such career moves across stages will be allowed, provided the teacher has the desire and qualifications for such a move)”. Competent and capable teachers are critical to improve the quality of learning. Supportive environments within schools and the eco-system improve teacher effectiveness.

Teachers must have the pedagogic autonomy to plan and organize content, decide the sequence, and methods of teaching children as the situation demands, along with ways of assessing their learning. All this must be based on the prescribed curricular goals, competencies, learning outcomes, and pedagogical approaches and principles in the Foundational stage.



Chapter 8: The Way Forward – Recommendations and Road Map of Action

This chapter is divided into two sections.

1. **Section 1** discusses the five main recommendations of the NEP (2020) (carried forward by the NCF/SCF) which signal a major departure from conventional educational practices and the implications for education in the early years. It discusses the implication of these reforms for Karnataka and examines how well the state is placed to carry out the recommendations; it identifies some of the strengths and challenges in the way towards full implementation and recommends immediate steps.
2. **Section 2** provides a broad roadmap of the immediate, medium and long-term policy decisions, administrative actions and academic interventions needed in order to get a head start and make the NEP/SCF reforms a reality.

8.1 Reforms and their Implication for Education in the Early Years

The State Curriculum Framework (SCF) has carried forward the NCF recommendations, adapting these to the Karnataka situation, with practical suggestions on how these can be implemented to suit Karnataka's unique curriculum structures in the early years. In this context, the SCF has analyzed the recommendations of the NEP (further reinforced by the NCF), to arrive at **five radical changes** required, that call for significant reform within the education structures, systems and pedagogies in the Foundational Stage. This section outlines these five reforms and the policy, administrative and academic actions required to implement these.

The main recommendations (many of them non-negotiable), if implemented, will have far reaching effects on early education. There is no longer scope for a “business as usual” mode of transacting education in this stage. Efficient interventions of the recommendations will go a long way to achieve the aims of the NEP, to provide a firm launching ground for children to continue and complete school and be productive members of a 21st century society.

This section takes a closer look at the 5 proposed reforms and examines how Karnataka is placed to implement the changes inherent in the reforms. It provides recommendations on what needs to be put in place to make the reforms a reality for Karnataka. Some factors that make the Karnataka situation unique from a curriculum reform point of view are as follows:

1. Karnataka is in a happy situation today of having almost universal attendance of young children aged 3-8 years in some form of education. The pandemic may have led to a setback in some areas, but by and large there is a psychological mindset that children should be in school by the time they are 3 years old. This will ensure that the situation will right itself once the economic effects of the pandemic subside. It is also fortunate that the state already has a school entry age of 6 years as recommended by the NEP (2020) and so does not require any further “unsettling” policy decisions on the matter.
2. By insisting on both equity and quality the NEP and the NCF /SCF have blurred the distinction between the public funded and private schools. The SCF has reiterated that the principle of quality with equity should apply to this stage and all institutions, and all children should benefit from the reform. This must pave the way for uniform standards, equal opportunities, and resource sharing. This has special relevance for Karnataka where 50% of children are in private schools, which makes their inclusion imperative in a quality improvement programme. It is important that all departments and managements are considered in the review process.
3. There is already in place a teacher led Nali Kali curriculum especially suited for multigrade classes in grades 1-3 and a play- based Chili Pili curriculum. Curricular reform must build on the work done by the teachers over the past two decades to strengthen it further in line with the proposed reforms and ensure that the suggested changes are carried out within this framework.
4. Bangalore has 20% of the state’s population with a huge migrant mix speaking different languages. The fact that the state shares borders with 5 other states with children in border districts having varied home languages, and the presence of several dominant dialects has implications for contextualization of the policy for determining the language of instruction and that requires special attention.
5. Presence of a large number of very small schools will pose a challenge to the implementation of a play and discovery based, interactive curriculum and will indicate the need to bring systemic changes to tackle this problem.

The curriculum reform process will have to keep the above aspects firmly in mind when finalizing the structure, content and pedagogy for the Foundational Stage.

Reform 1. The vision of an integrated Foundational Stage education for children aged 3-8 years.

This implies the restructuring of the curricular and pedagogical structure of school education into a 5 + 3 + 3 + 4 continuum, with a single, seamless learning continuum for children aged 3-8 years.

This recommendation has brought the Early Childhood Education (ECE) component for 3-6 year olds to centre stage and paved the way for its curricular integration with early primary education, to together form the first stage of school education i.e., the Foundational Stage of Education.

Till date, ECE (including after the RTE act of 2009) has been largely unregulated, operating without any major accountability for curriculum, pedagogies or learning outcomes. With the restructuring, ECE has gained legitimacy and a role in the education structure. The NCF (2022) has carried this further, by articulating clear learning outcomes and pedagogies for the Foundational Stage. The SCF has in turn suggested how these pedagogies can be integrated into the *Chili Pili* and *Nali Kali* curriculum being implemented in the state.

The clearly stated developmental and learning outcomes impose a measure of responsibility and accountability on all institutions offering education for the 3-6 year olds. Preschool education can no longer be considered as a secondary activity, to be attended to when other responsibilities permit (as in the ICDS); or as a time for mindless rote learning at the exclusion of all other developmental goals (as in the affordable private sector.) The integration of these two streams into one single curricular stage calls for a unified and continuous curriculum that will require curriculum developers to work together to ensure a seamless, continuous and spiral Foundational curriculum for all children from 3-8 year olds.

There are two major challenges to curriculum restructuring in the Karnataka context

The first issue, as explained above, is that till date the two arms of the government that deliver Foundational education (the ICDS and the school system) have worked independently of each other. Since ICDS has major priorities for nutrition and health as well -there are no serious attempts to ensure outcomes in early learning. Adjusting to the reality that children enter class I with low levels or no early experience, the Nali Kali curriculum begins from scratch with readiness and preparatory exercises. Children entering with poor readiness skills take that much more time to adjust and start on a learning curve. The third player in the group is the affordable private schools. The operation of private schools cannot be ignored in this state as they house over 50% of the eligible children in the state. The private sector operates at the other extreme and is outside the purview of any curricular reform. In order for any meaningful result from any curricular reform, it is critical to see the early education sector as a whole for which the private schools have to be active participants in the reform process.

The second issue that is unique to Karnataka is the complexity of the Kannada script that has been explained in some detail in Chapter 5.²⁹ The Kannada script is far more complex than English or even Devanagari and takes longer to master. The state needs to decide the grade at which children will be expected to achieve the Foundational skills in literacy in particular.

The problem is complicated by the conflicting messages given by the NIPUN and the NCF (2022). The NEP uses the term achieving Foundational Literacy and Numeracy “by grade 3” which is interpreted differently by NIPUN (which interprets this by the END of grade 3) and NCF (which expects the competencies to be achieved by the BEGINNING of grade 3)

The observations of the LiRIL study have serious implications for when Foundational literacy can realistically be expected to be achieved by a child. Given the difficult nature of the script, the goal of achieving reading fluency by the end of grade III as required by NIPUN seems more realistic than by the end of grade II as required by the NCF.

In order to help the state to quickly move into the process of reimagining early education as a continuous stream from 3-8 years, the SCF recommends the following immediate steps to be taken by the state:

1. Immediately constitute the *joint task force* at the state level with units at district levels to guide the process of coordination between the various stakeholders, as explained in Chapter 7³⁰.
2. Constitute a joint technical group of Nali Kali resource teams, experienced ICDS staff (supervisors and teachers), ECE technical experts and private school teachers and hold workshop/s to finalize the year wise learning outcomes³¹ based on the curricular goals and learning competencies identified in the SCF³² and suggest the syllabus framework or content and learning materials in accordance with that. The learning outcomes will form the core competencies that must be achieved by all children when they enter grade 1 and when they leave the Foundational Stage and must be agreed to by all agencies.
3. Take a well thought out decision on the length or period of Foundational education stage since currently Nali Kali includes grades 1 to 3. This decision will also decide on the

²⁹ Chapter 5 3.7 the Karnataka context: The nature of the Kannada script.

³⁰ Details of the constitution etc are given in chapter 7.

³¹ Learning outcomes break learning competencies to list out outcomes for each year from 3-4 years, 4-5 years, 5-6 years, 6-7 years and 7-8 years. Learning outcomes of the NIPUN, NCF and other programmes such as Chili Pili PLUS, Nali Kali, Kalike and Prajayatna may be consulted to arrive at the final outcomes.

³² The Curricular goals and learning competencies are elaborated under Domain Wise Curriculum Goals and Learning Competencies of Chapter 2 of SCF.

configuration of the Nali Kali section, whether to delink grade 3 from the multi-grade class structure or retain it as a transition year to formal education.

Reform 2: Placing “play” and “learning through play’ at the core of the conceptual, and transactional approaches to pedagogy, time and content organization at the Foundational Stage

Though Child Development research over the past two decades has established the importance of play as the main source of all children’s learning, this has now been unequivocally recommended by the NEP (2020) as the desired pedagogy. The NCF/ SCF has, in turn, translated the concept into clear actionable interventions that can be adopted in the *Chili Pili* curriculum for children aged 3-6 years and, in the Nali Kali, curriculum implemented in grades 1 and 2.

Both the Chili Pili and the Nali Kali have the advantage that due to its philosophy and long-standing nature of the programme, administrators and teachers are familiar with and favourably disposed to the concept of a play-based curriculum.

In addition, the Nali Kali has been developed to support an activity- based curriculum in a challenging multi grade environment. However, play based learning as mentioned in the NCF/SCF is still a new concept in the Nali Kali programme (though not in the *Chili Pili/Plus* or the *Kalike Curriculum*).

The challenge in Karnataka is the prevailing parental mindset that ECE is a space for serious academic work which paves the way for schooling success. So, though experts and administrators all agree on play as a mode of learning, this is not a view held by most parents. A large percentage of our children are in private schools because of the parental perception that the ICDS is not academic enough and does not teach reading and writing. Private schools play to this perception with each offering denser and more academically challenging programmes, which are detrimental for children’s Foundational learning.

As mentioned in Chapter 4 of the SCF,³³ it is important to influence the practices in private schools if a change has to be affected. This can best be done by (a) getting the private school associations to the negotiating table, ensuring their involvement in the curriculum development process,

³³ The private school system, which is exponentially expanding in the state poses a significant challenge to implementation of play- based curricula as they focus on a more academic curriculum and teacher directed pedagogy. Since these are the pace setters for the *Anganwadis* and government school system their curricular practices, unless influenced, are likely to adversely impact the practices in the *anganwadis* and schools also.

providing them access to the methodology and resources and support them with training and mentoring. (b) efforts with school managements should be accompanied by a concerted parent education/engagement and community outreach programmes to educate the public on what constitutes good early education practice.

The reform has the following implications for Karnataka:

1. Initiate discussions with private school associations and get them on board with the recommendations of the SCF.
2. Constitute the curriculum/syllabus committee with teachers representing different categories of schools from government (Nali Kali and private sectors).
3. Train the members of the curriculum committee on the essence of a play-based curriculum. The training programme must include visits to schools / AWCs with established play corners with opportunities for observing demonstrations and actual practice with children.
4. Ensure that all programmes offering early education programmes for 3-6 years follow a minimum of 4 hours transacting a core curriculum to support all round development and emergent literacy and numeracy.
5. The joint team should support the revision of the curriculum for 3-6 years and 6-8 years and make it available to all schools irrespective of management. The review should include the *content* to ensure that there is upward continuity and that it will enable children to achieve the revised curricular goals and outcomes and the *pedagogical implications* of a play- based curriculum (defined in detail in the SCF) to make necessary changes to the pedagogical structures to accommodate these. Specifically, this would entail:
 - a. The review of the Chili Pili and Kalike curriculum along with other available curricula in light of the SCF priorities, to develop a curriculum suitable for a 4-hour multi age programme for the ICDS.
 - b. The review of the Chili Pili Plus and other curriculum available to develop a core 4 hour curriculum for monograde preschools for 3-6 age group. This will be made available to all schools as a core curriculum (schools can cover over and above this).
 - c. Review and revision of the Nali Kali curriculum to make it more play based and in line with time allocations suggested by the SCF (review the daily timetable in light of the SCF³⁴ suggestions) and how free play activities can be included in the curriculum.
 - d. Assess and ensure that adequate play/ teaching learning material, time for teaching and essential teacher training is provided to make for efficient classroom transaction.

³⁴ SCF chapter 6 -organizing the learning calendar.

- e. Adapt/develop the assessment process into an effective *formative mode* to allow for strengthening the individual paced learning of *Nali Kali & Kalike* with a view to maximize chances for every child to achieve the expected learning outcomes, as per his/her pace and potential.
6. Along with the curriculum and TLM, class strength and teacher pupil ratios are important determinants of how a play based interactive curriculum with scope for collaboration, exploration, interaction and experiencing is transacted. All schools -both state run and private schools, will need to assess and ensure optimum class size and teacher pupil ratios, to make the curricular reform a reality and make schools a richer, happier learning environment.
7. Training /orientation of administrators, curriculum developers, and teachers in all stages of education to understand the implications of all round development (including the very important 21st century skills) along with literacy and numeracy.

Decisions on approaches to the curriculum (thematic/story based / project based) should be taken at this point. There will be no need to start from scratch as there are many curricula available and the technical group can carefully review activities and approaches to arrive at acceptable content. Subgroups can review stories, toys, TLM etc, to arrive at a suitable recommended list to be acquired by institutions. Content can also be reviewed by subgroups for cultural appropriateness.

Once the curriculum and activities are finalized along with play/learning materials and activity books for children, these may be developed into guidebooks for the preschool teachers to guide them through the sequence planned in the syllabus as recommended by the SCF. For the Nali Kali these would form part of the teacher's cards and children's workbooks. However, play materials and picture story books for Activity corners may be required to be identified and procured.

Reform 3: The highest priority be accorded to achieving Foundational Literacy and Numeracy by all students by grade 2 along with a sound foundation for all round development.

This clear articulation of Foundational Literacy and Numeracy goals and outcomes are carried forward by the NIPUN Bharat (National Initiative for Proficiency in Reading with Understanding and Numeracy) and the NCF. Successive NAS and ASER studies have pointed to poor achievement levels in reading and numeracy. Though children's poor reading and computing levels have created serious concern, it has not led to any sense of urgency. The emphasis on attainment of Foundational literacy and numeracy should now bridge this gap and call for serious attempts to correct the situation.

Additionally, all the three documents have articulated the important role of *meaning making* in reading. Till date literacy curricula have worked on the assumption that children who can decode (i.e., join aksharas to decipher /write words) can read. Both NIPUN and the NCF/SCF have described the skills that go into efficient reading, articulating the role of speed and accuracy in decoding. They have further articulated the important role that “understanding what is read” plays in efficient reading with emphasis needed not only on fluency but also comprehension. In order to understand what is being read, children need a strong oral component to language education. The documents have also laid out specific pedagogical steps to achieve these goals.

Here it is important to look at the analysis of the Nali Kali curriculum done by the LiRIL study³⁵. The study has analysed problems in the arrangement of the MGML ladder, the classroom grouping structure and the nature of exercise that need to be rectified in the revision process. The implications of the study call for a) the need for the preschool curriculum to pay special attention to emergent literacy skills (phonemic awareness / syllabic awareness / print awareness) b) a thorough revision of the pedagogic practices for language and literacy learning with meaning c) teachers training in the skills to help children to approach decoding and reading successfully.

The immediate steps to be taken by the state include:

1. Constitute technical committee for revision of the Nali Kali curriculum and expose them to a training workshop on the teaching of akshara based languages including *oral language* and *meaning making* in line with the SCF (with interpreters who will make the technical points clear)³⁶.
2. Initiate the process of curriculum revision with the development of TLM and other support material including early readers, language games and other oral activities.
3. Trial parts of the curriculum over a 2-3 month period to ensure its feasibility and ease of classroom transaction.
4. Finalize training modules for face -to- face training, videos for online support and material for monthly CRC meeting.
5. Initiate other supportive policy and administrative actions including *effective and recurrent teacher training and mentoring* provisions to create favourable systemic conditions to achieve the goals.

³⁵ Section 3.7 of Chapter 5: the Karnataka context - The teaching of literacy skills in the Nali Kali.

³⁶ Most of technical experts on teaching akshara based languages may not know Kannada and curriculum developers need a thorough understanding of the nuances of literacy learning.

Reform 4: Mother tongue / home language of the child to be the medium of instruction along with inclusion of multilingualism in the early years

The NCF/SCF has followed up on this recommendation by defining the concepts of L1³⁷ in which the child should achieve reading and writing fluency and comprehension in addition to higher order oral communication skills and L2³⁸ as a second language in which children should achieve good communication skills and early reading and writing ability.

Language and medium of instruction have been contentious issues in Karnataka and fraught with contradictions. The most important challenge here is the mindset of parents who view English as “the language of opportunity” and wish their children to master it as early as possible. This has given rise to the proliferation of English Medium schools of dubious language instruction pedagogy and other academic quality. Even more than the absence of an academic curriculum, it is the absence of English in the state schools that have parents looking elsewhere. Though there is evidence from both research and ground reports, that English as a medium of instruction places children at a disadvantage, this has not made much headway with parents.

A uniform language policy has many other challenges in Karnataka.

Cosmopolitan cities like Bengaluru (accounting for 20% of the population of the state) have large migrant populations with children for whom the state language Kannada is a foreign language, as much as English is a foreign language to the large majority of children in the rural areas. In addition to this, there are significant populations that speak other languages at home such as Konkani, Marathi, Telugu Urdu etc. who will have to be taught in their home language, in addition to children who speak dialects like Tulu. In such situations, a “one size fits all” policy can be contentious and detrimental.

The NCF has paved the way for a more sensible language policy by allowing for *two languages* to be learnt to a level where children achieve oral communication skills in both languages, while reading with understanding at a fluent level in L1 and beginner’s level in L2. This ensures that

³⁷ L1 is defined as the language that the child is most familiar with – usually the home language /mother tongue which may or may not be the official state language.

³⁸ L2 is the less familiar language.

children will achieve a level of mastery over two languages (including an aspirational language) that they can build on over the school years. Keeping these in mind the SCF has suggested a number of alternate strategies that can be adopted in different situations. The state will need to take a call on the language policy and this needs to be done after wide consultation leaving some decision- making powers to the panchayats.

Immediate Steps to be taken by the state include:

1. A clear language/medium of instruction policy (with regard to L1 and L2) to be evolved for the state after wide ranging stakeholder discussions that take into account *geographical mapping* of the wide linguistic diversity, with a view to balance out research evidence on what is best for children and parental aspirations.
2. Take all preparatory steps to a) adapt ICDS / Nali Kali curriculum into dialects and other languages b) develop materials for the gradual shift to Kannada from dialects c) develop materials for introduction of oral English into preschools. This will include:
 - i. Constituting separate groups who will adapt the Chili Pili / Nali Kali content into different languages (Urdu, Telugu, Marathi, Tamil and Malayalam).
 - ii. Constitute groups that can develop a three -year bilingual curriculum to support a shift from the dialect to Kannada.
 - iii. Constitute groups and develop an English curriculum for preschools with an inbuilt audio-visual support system so that teachers can use the aids liberally in the classroom.
3. Review existing curriculum and timetables to ensure that children spend adequate time and get planned opportunity to help them acquire mastery of oral communication in L1 and L2; reading and writing fluency in L1 and beginner levels of literacy in L2, within the framework of all round age- appropriate development in all five domains.
4. Take steps to revise the existing English curriculum in Nali Kali and English curriculum in English medium schools to bring them in line with the balanced literacy approach including a mix of oral English, phonics instruction, a reading programme and writing support to ensure that children acquire mastery of communication in L1 and L2 and reading and writing fluency in L1 and beginner levels of literacy in L2. This will include:
 - i. Constitute the expert group (consisting of English teachers, Nali Kali teachers, DSERT and DIET staff, and experts from RIE) who will revise the existing Nali Kali and English curriculum of English medium schools in line with SCF pedagogical recommendations.

- ii. Provide expert support in audio/radio instruction from members of DSERT who part of erstwhile radio instruction programmes have been to simultaneously embed the audio support into the curriculum. Develop audio support material such as reciting of rhymes, TPR commands, reading of stories, conversations etc. so that children have access and can hear good quality spoken language as well as make it available as teacher support material in the classroom.
 - iii. Develop and design necessary print material with professional support - picture books, early readers, posters, cards, and picture charts etc. that helps in providing a print rich environment in the classroom.
5. Proceed with procurement of necessary equipment and material to support second language teaching.
 6. Develop training modules for online learning as well as face to face learning.
 7. The state / schools seriously examine the competence of the present teaching force to implement this curricular goal and take immediate and long- term steps to recruit language teachers, especially English language teachers, tying it in with a school rationalizing programme so that all schools have at least one English teacher.

Reform 5: Ensure a professional cadre of staff who are well qualified to teach in the Foundational Stage.

The NEP 2020 has, from a medium- term perspective, recommended professionalization of teacher education at all levels of education, including the Foundation stage, with provision of a four years' graduation degree or ITEP to be obtained from higher learning institutions, as the basic eligibility qualification to be a teacher. The Policy has further emphasised parity in service conditions across all stages of school education. This means that, *“as soon as possible and in the long term, pay and service conditions of all teachers have to be commensurate with their social and professional responsibilities, and must be set so as to attract and retain talented teachers in the profession. All Teachers - from Foundational Stage Teachers to Secondary Stage Teachers- will be recruited with standard service conditions as per their work requirements, and the same salary structure”*.

This reform, with its major financial implications, will be perhaps the most difficult and will probably take the longest to achieve. The problem is that to date the state has no official cadre of teachers for the 3-6 years age group and the field is plagued with an opinion that no special qualifications are needed for the job/ anyone can do it. This has resulted in a vicious cycle of poorly qualified, multi-purpose workers, who work to low wages. The low salaries, non - requirement of qualifications and limited career advancement opportunities result in a) poor

quality of early childhood education in schools /Anganwadis b) low motivation levels among job aspirants to acquire or improve qualifications and c) *low demand* for training, which results in a dearth of professionally well designed and well-run training institutes.

The lack of prescription of any special qualifications ensures that poorly qualified personnel are recruited to man both AWCs and preschools. This keeps salaries low, also making schooling a profitable activity resulting in a proliferation of a range of affordable private schools that have poor pedagogy and learning environments. The absence of good quality government programmes for this age group creates a vacuum that exacerbates this problem.

As a medium -term goal, the state needs to make a strong push to professionalize ICDS cadres by a) recruiting qualified personnel b) providing effective and rigorous training opportunities for serving AWWs to improve their qualifications and eligibility. It also needs to take the first steps to tackle the “supply issue”. This it can be done by supporting the NCTE to identify higher learning institutions in the state and establish the 4 year integrated courses for teacher education. It can take steps to resolve the demand issue by recruiting trained graduates to fill in vacancies in the early grades thus paving the way for bringing in more quality into the Foundational programmes in state schools.

Experience has shown that it is not enough to be good – programmes have to be seen as good. The present government schools with its poor infrastructure and tiny multigrade classes do not inspire confidence in parents.

The major reforms that are required in this context all lie in the policy and administrative sphere and include the following:

1. Pilot a rationalization exercise in selected blocks by holding wide ranging discussions at a cluster level to merge several tiny schools into larger schools to create better equipped, better staffed and better managed schools to make public education attractive to parents.
2. Work out SOPs (standard operating procedures) for effecting school rationalization exercises that can be implemented in other areas.
3. Ensuring essential outcomes and learning standards are implemented in preschools and schools so that the demand for qualified candidates increases.
4. Work with NCTE and University departments to set up ITEP courses so that in the next 6-8 years, a steady supply of qualified teachers are available.
5. Ensure all training material developed to help AWWs enhance their skills and competencies (material developed by UNICEF, Open Universities, Nishtha 4.0 etc.) are

made immediately available to them. Enable them to access the course and obtain certification with ease.

6. Change the nomenclature of AWWs who engage in 4 hours of preschool teaching and obtain the certificate to Anganwadi teacher, so that public perception of the ECE programme in the AWC changes.
7. Set up a cadre for Foundational education teachers with commensurate salary structures and career opportunities and minimum qualification requirements.
8. Gradually start a process of recruiting qualified persons from qualified TET candidates in preschools and early grades.

8.2 Roadmap for Immediate, Medium & Long-term Policy Decisions, Administrative Actions and Academic Interventions to Implement the SCF

This section provides the goals, indicators and major outcomes and outlines some of the steps needed in the immediate and medium term to achieve the planned outcomes.

SCF Goal: By 2030 all children aged 3-8 years in Karnataka have access to quality Foundational education programmes, so that they develop to their optimal potential and attain Foundational Literacy and Numeracy.

Indicators to measure progress:

1. Percentage of children entering grade 1 with adequate levels of school readiness skills.
2. Percentage of children completing grade 3 attaining required SCF specified competencies in oral /communication skills ³⁹ in L1&L2 as measured by national and state assessments.
3. Percentage of children completing grade 3 attaining SCF specified **competencies** in reading in L1 and L2 as measured by national and state assessments.
4. Percentage of children completing grade 3 acquiring SCF specified **competencies** in writing as measured by national and state assessments.
5. Percentage of children completing grade 3 attaining SCF specified **competencies** in numeracy as measured by national and state assessments.

³⁹ The specific components of oral language skills are mentioned with curricular goal CG-9: Children develop effective oral communication skills for day-to-day interactions and CG-9a Children develop effective communication skills for day-to-day interactions in two languages. All specific subskills are mentioned from competencies C- 9.1 to C-9.7 and C-9a.1 to C -9a.4.

6. Percentage of classrooms at Foundational Stage demonstrating time and opportunities for children to develop the 5 Cs (Critical thinking and problem solving, Cooperation, Citizenship, Communication and Creativity).

Main outcomes for reaching the goal have been derived from the main reform agenda (restructuring curriculum, language and literacy education with meaning, and professionalizing cadres) and includes a few other supporting strategies (institutional support, parent and community awareness, and improving school infrastructure).

8.2.1 Main Outcomes:

- **Outcome 1:** By 2023 all institutional arrangements for operationalizing the SCF recommendations are set up and functioning effectively.
- **Outcome 2:** By 2024- 2025 revised Chhili Pili and Nali Kali curriculum developed along the play -based principles and Foundational learning goals of the KSCF, staff appropriately trained, and curriculum implemented widely in preschools and classes 1 & 2 of all schools of Karnataka.
- **Outcome 3:** By 2024- 2025 all Foundational classes for children 3-8 years will follow the state policy on multilingual education offering L1 and L2 instruction at recommended levels with adequate TLM and trained teachers.
- **Outcome 4:** By 2024 a well -designed parent education and public awareness strategy to create awareness on good quality early education will be in place.
- **Outcome 5:** By 2028 the provision for 4year ITEP/ teacher Education programme for teachers in Foundational Stage and provisions for continuous in-service professional development for in-service teachers will be in place.
- **Outcome 6:** by 2028 reform for professionalizing the teaching cadre in Foundational Stage will be in place and quality public education available and accessible to all.

8.2.2 Tentative Road Map -2022-2030:

The table below shows the major milestones that need to be achieved along with tentative dates for completion. The table can be read with its annexure that provides more steps to achieve the milestone. The dates for both the milestones as well as the steps are tentative and will need to be reviewed and revised by programme planners.

Table of Immediate – Short Term Plans (2023-24)

Outcome 1: By 2023 all institutional arrangements for operationalizing the policy/SCF are set up and functioning effectively		
Target statements/ Milestones	Date of completion	Date of completion
KSCF launched	25th Dec. 2022	
Institutional arrangements in place for implementing KSCF recommendations (State coordinating council; District and block units; DSERT cell; ECE cell in DWCD Synchronized jurisdiction of ICDS circles and DOE clusters; maps of Foundational ECE institutions)		December 2023
Outcome 2: By 2024 -2025 revised Chili Pili and Nali Kali curriculum developed along the play -based principles and learning goals of the KSCF is functioning in all preschools and classes 1 & 2 of all schools of Karnataka		
Target statements/ Milestones	Date of completion	Date of completion
Identification of Learning Outcomes for each stage of Foundational education completed	March 2023	
Chili Pili curriculum revision completed	Sept. 2023	
Curriculum material procured and staff trained		March 2024
Revised Chili Pili curriculum implemented in all ICDS centres		June 2024
Chili Pili PLUS curriculum revision completed	Oct. 2023	
Chili Pili PLUS curriculum implemented in monograde LKG /UKG classes of government schools and available to all private schools		June 2024
Nali Kali curriculum and pedagogy revised in line with SCF recommendations and agreed LOs	September 2023	
Procurement of material and teachers trained		March 2024
Revised Nali Kali curriculum and pedagogy implemented in schools		June 2024
Outcome 3: By 2024- 2025 all Foundational classes for children 3-8 years will follow the state policy on multilingual education offering L1 and L2 instruction at recommended levels with adequate TLM and trained teachers		

Target statements/ Milestones	Date of completion	Date of completion
Language policy for Foundational Stage announced	Dec. 2023	
Chili Pili curriculum adapted to local languages and dialects	June 2023	
L2 Curriculum for 3-6 years implemented in all classrooms		June 2024
Revised L2 Curriculum implemented in Nali Kali classrooms		June 2024
Outcome 4: By 2024-25 a well -designed parent education and public awareness strategy to create awareness on good quality early education will be in place		
Target statements/ Milestones	Date of completion	Date of completion
Scientific information on public perceptions on good quality education available	December 2023	
Media campaign on education in mother tongue & good quality early education launched for parents and all stakeholders		December 2024

Medium Term Plans

Outcome 5: Between 2024- 29- the provision for ITEP/ teacher education programme for teachers in the Foundational Stage and provisions for continuous professional development of in-service teachers will be in place and used widely			
Target statements/ Milestones	Date of completion	Date of completion	Date of completion
Online certificate courses for Anganwadis workers launched and widely used	December 2023		
ECE training and resource material available on Diksha platform for all teachers		December 2024	
Online teacher training programmes for revised NK offered through Nishtha and best practice material available on Diksha			March 2025
Social Media platforms used widely for sharing best practices and trouble-shooting for both ICDS and Nali Kali			June 2025
ITEP teacher education programmes set up in select universities of the state			June 2025

First batch of students graduate from ITEP programme			April 2029
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Outcome 6: between 2026-2030 reform for professionalizing the teaching cadre in Foundational Stage in place and quality of public education available and accessible to all

Target statements/ Milestones	Date of completion	Date of completion	Date of completion
Piloting of rationalizing schools and formation of SOP	December 2023		
School rationalizing completed in state		December 2006	
Recruitment of language teachers completed		December 2006	
ICDS and Nali Kali fully staffed with qualified and trained professional teachers			December 2030

Annexure 1: Karnataka – A profile of situation and services for children 3-8 years

Section 1

Important Statistics for Karnataka

Population Statistics

- As per the 2011 census figures, Karnataka has a total population of 61,095,297 and accounts for 5.05% of the total population of India. The literacy level of the state is 75.3% (82.47% male and 68.08% female).
- 38.67 % of the state's population resides in urban areas.
- According to the National Family Health Survey (NFHS) the fertility rate for Karnataka is declining and now stands at 1.7 live births per woman in 2018 compared to 3.6 in 1981 (half of 1975 when ICDS was set up).
- Though Kannada is the major language of the state, Urdu, Konkani, Kodava and Tulu are also widely spoken. In addition, the state shares its borders with Maharashtra, Tamil Nadu, Telangana and Kerala. The border districts exhibit considerable linguistic diversity with speakers of Telugu (5.8%) Tamil (3.5%) Marathi (3.4%) and Malayalam (1.3%).
- Scheduled tribes represent 6.95% of the population. There are as many as 50 different notified tribes. The groups have their own languages (as many as 50) many of which are facing extinction.
- Bengaluru city, with a population of 13,193,000, accounts for almost 20% of the state's population. It has the second-largest migrant population in India (42.12%) and is one of the most multi-ethnic and multi-lingual cities in the country.

Child Population

The proportion of the child population in the age group of 0-6 years is 11.72% of the total population. As per the National Health Survey in 2018, fertility rate for Karnataka was 1.7 live births per woman. Between 2007 and 2018, fertility rate of Karnataka was declining at a moderate rate to shrink from 2.1 live births per woman in 2007 to 1.7 live births per woman in 2018. This has implications for the number of children who will be seeking admissions in early education centres in the future years.

Karnataka's position paper on Inclusive Education estimates that about 2 -4% of Karnataka's 6,855,801 children in 0-6 age group may experience some form of disability/impairment and would benefit from early identification and early education services. As per latest 2021 SATS data there are 14,049 children with visual impairments, 10,652 children with hearing impairments and 18,524 children with locomotor disabilities.

Health and Nutrition of Women and Children (0-6 years)

Karnataka has an infant mortality rate of 25.4 which is lower than the national average of 35.2 and under five mortality rates of 29.5 which is again lower than the national average. The state has under 5 stunting rates of 35.4 %, a wasting rate of 19.5 and 32.9 % of children underweight. Around 65.5% of children under 5 years are anemic.

Status of Pre -school Education in Karnataka

Karnataka has a number of institutions providing early childhood education to 3-6 year olds. The distribution of the centres are as follows:

- 65,911 sanctioned Anganwadis of which currently 61,884 are working.
- Of these 4,400 Anganwadis co-located with primary schools.
- There are at present about 61,884 Anganwadi teachers.
- Of the 61, 884 AW teachers, 40,782 are SSLC passed or less, and the remaining 14,303 have a +2 degree. 6017 are graduates and 732 are post graduates.
- 276 Pre-primary schools/sections covering ages 4-6 years co-located with existing primary schools under the Samagraha Shiksha Abhiyan. The state is also lending support to 908 SDMC run pre-primary classes in government schools. The SSK insists on the teachers having either a D. Ed degree or a preschool education degree.
- 10,109 private stand-alone pre-schools of which 404 are aided and 9705 are private fee-paying schools. There is no exact reliable data yet on the qualifications of teachers in the private aided and unaided schools.
- Outside of the ICDS here are 14,737 children in preschools run by DOE and 317 children in aided schools and 2,47,548 children in private fee- paying schools. This figure has fallen from 5,78,229 in 2019 showing a 57% decrease after the pandemic.

Status of School Education in Karnataka

As per 2021 SATS data of the Government of Karnataka, there is a total of 63,707 schools in the state, 43,498 elementary schools run by the state government, 3006 are state aided schools run

by private management, 15,781 private schools and 251 other schools.⁴⁰ 68% of the elementary schools in Karnataka are funded by the Dept. of Education.

- The state has a GER of 101.58 and an NER of 99.04. The low gap between GER and NER shows that most children in school are of the right age.
- The retention rate in the schools is 98.87 and a transition rate of 98.95.
- Enrolment for grades 1-10 show a total of 43,92,064 (22.61 lac girls and 21.31 lac boys) in government schools and 44,79,510 in private schools (20.01 lakh girls and 24.78 lakh boys).
- The total number of children attending grades 1 and 2 are 20,77,392 (10,01,736 in grade 1 and 10,75,656 in grade 2).
- Enrolment in primary classes I-V in government schools is 23,60,494 and 25,57,584 in private schools.
- The state has a gender parity index of .92 at primary level.
- There has been an overall decline of students enrolled at the primary level of 2% after the pandemic.
- The TPR ratio in Lower Primary schools, 1: 15, is clearly an advantageous position.

School Level Data⁴¹

Category	Government			Private		
	Total	Boys	Girls	Total	Boys	Girls
Number	43, 498			15, 781		
Number of LPS ⁴²	20,718					
Enrolment 1-10	43, 92, 064	21.31	22.61	44,79,510	24.78	20.01
Enrolment 1-V	23,60,494			25,57,584		
Enrolment class 1	4,68,661	228513	240148	4,62,505	252836	209669

⁴⁰ Tribal Welfare body, local bodies, other State Government managed schools, Social Welfare department Schools, Kendriya Vidyalaya, Jawahar Navodaya, Sainik school, Railway schools, Central Tibetan schools and Madrasa schools.

⁴¹ Annual report of DOE GOK.

⁴² TOI report 27 Oct 2021.

Enrolment in class II	4,50,779	2,16,809	2,33,970	5,42,391	2,98,382	2,44,009
General caste	86,393	45,046	48,012	9,26,248	5,38,254	4,59,549
SC	11,02,297	5,78,244	6,06,583	5,20,164	3,35,677	2,63,119
ST	5,03,110	2,62,768	2,71,514	1,70,632	1,14,918	84,402
Schools with enrolment less than 30	14,528					

43

The above statistics show that:

- Though private schools are a little more, 25% of total government and private schools they cater about 50% of the enrolment in these 2 kinds of institutions.
- Around 83% of the General category students go to private schools.
- Over 62% of the students from the SC, ST and OBC category go to government schools.
- 52% of students in the Dept. of Education run schools are girls as against 45% in the private unaided schools.
- The government schools cater to the weaker groups in society.

⁴³ As per TOI report of 29.10.2021 3,330 lower primary schools, the number of students is between 11 and 15. And, 3,262 schools have number of students between 16 and 20 and 4,465 schools have a student strength between 21 and 30.).

Section II

Government of Karnataka Programmes for Health, Nutrition and Education

This section describes the specific programmes of the Department of Women and Child Development that aim to improve the overall health and nutrition status of children aged 0-6 years which will have important benefits for children's access to schooling and learning levels.

Section 1: Health and Nutrition

Mathrupoorna

The Mathrupoorna Scheme was launched as a pilot in four blocks of the state in between February and March, 2017. All pregnant and lactating mothers in the jurisdiction of Anganwadi centres are eligible under the scheme. This was later extended to the entire state from October 2017. The primary objective of the scheme was to provide supplementary nutrition to pregnant and lactating women in order to reduce the maternal and infant mortality rates. The scheme entailed provision of one hot cooked meal at the Anganwadi Centre for 25 days a month for a period of 15 months which included nine months pregnancy and six months lactating period. The scheme caters to around 6.5 lakh pregnant and lactating women across the state of Karnataka. The food includes rice, tur dal, oil, milk, egg/sprouts, vegetables and peanut chikki (1342K cal, 41g protein and 578g calcium) accounting for 40-45% of the Recommended Dietary Allowance (RDA). Other services include antenatal and post-natal care, counselling on Maternal, Infant, Young Child Nutrition (MIYCN) and early childhood stimulation, Iron Folic Acid (IFA) supplementation, calcium supplements and deworming.

The objectives of the Mathrupoorna Scheme were to improve the nutrient intake of pregnant women and enhance the quality and acceptability of supplementary nutrition by the pregnant and lactating women through spot feeding by providing One Full Meal and 100+ IFA tablets, Calcium tablets, deworming in 2nd trimester and health check-ups and immunization. This is expected to bridge the gap between the Recommended Dietary Allowance (RDA) and the Average Daily Intake (ADI) of pregnant and lactating women and result in a reduction of the incidence of IMR and low birth babies and under-nutrition among women and children.

In addition, the programme is expected to ensure early registration of pregnancy and improve the enrolment of mothers at Anganwadi Centers (AWCs).

Enrollment of eligible beneficiaries has to be done by Anganwadi workers and helpers by visiting villages and co-ordinating with ASHA worker.

Ksheera Bhagya

Under the Ksheera Bhagya scheme, all Anganwadi and school children (6 months to 6 years at Anganwadis and children in class 1 to class 10 in government and government aided schools) are to be given milk at the centre and schools. As part of the scheme, children with normal weight are to be provided with 150ml of milk for five days a week while moderately and severely underweight children are to be provided with 200ml of milk for five days a week. The scheme was started in 2013 and approximately 50.3 lakh children are benefitting from the scheme.

Srusti

The scheme entails provision of eggs to the ECCE children, pregnant and lactating mothers (as a part of hot cooked meal) and as part of take-home ration for children. Eggs are provided twice a week to all children and thrice a week for severely underweight and moderately underweight children in 5 districts (Raichur, Bidar, Gulbarga, Yadgir and Koppal).

About 19 lakh children are provided with eggs in the state with an annual expenditure of Rs. 102.42 crore. For children who do not consume eggs due to religious reasons or because of their food habits, the Anganwadis are supposed to provide fruits as a substitute.

Matru Vandana

In Matru Vandana financial assistance is provided for pregnant and lactating mothers. On their first pregnancy, an amount of 5,000 rupees is transferred to them in three instalments. The first instalment is transferred immediately after the registration, second instalment is released in the sixth month when they get their TT injection, and the third instalment is transferred to their accounts when the child is three and half months old, after the completion of the first' schedule of immunization. This help is provided for both BPL and APP card holders, only Government women employees are excluded.

Section 2: Education⁴⁴

English Medium

The Department has planned to start English medium classes along with the existing Kannada medium in 1000 government schools. English-medium classes were introduced in class 1 in 2019-20. The expansion is to happen incrementally and in a phased manner. The bilingual textbooks, MRP training, module development for MRP training, teacher handbook and resource book, tools and processes for teacher needs analysis are complete. The teacher training by districts is conducted with support from the Regional Institute of English, Bengaluru. These schools place equal importance to the development of the student's language skills in their mother tongue.

Special Education.

In 2018-19, 77,851 students were identified as Children with Special Needs (CWSN) from grade 1 to 10. Out of these, 70,109 were regularly going to schools and School Readiness Program (SRP) Centers, and 7742 were covered through home-based education. The approach is to ensure inclusion of Children with Special Needs within the Schools. There are presently 4 teachers per block as Block Education Resource Teachers (BIERTS) and around 204 active SRP centers in the state. The plan is to reimagine the approach to Special Education in the state. For example, few of the areas that are being attempted are, increase in the number of teachers to 6 per block, a Teacher Training Curriculum to address the field level changes, working closely with various departments such as the Health Department for screening, the office of the State Commissioner for Persons with Disabilities and partner NGOs like the Fourth Wave Foundation etc.

Shaala Siddhi

In 2018 – 19, the 1st phase of Shaala Siddhi was implemented successfully in the 4826 schools that had been selected using a purposive random sampling method through SATS for school evaluation. 10% of these schools i.e. 494 schools were selected for external evaluation. The Shaala Siddhi materials published by NUEPA have also been translated into Kannada and Urdu for wider consumption among the stakeholders. Capacity building programs for various resource persons were undertaken. All the schools covered under Shaala Siddhi have created their account in the

⁴⁴ Source: School Education in Karnataka 2018-19. Department of Primary and Secondary Education.

Shaala Siddhi website with their DISE code. The findings from the Shaala Siddhi exercise is being used as an input for the planning and monitoring of the various schemes that are being undertaken by the Department. The Karnataka School Quality Assessment & Accreditation Council (KSQAAC) is the implementing agency for Shaala Siddhi.

Karnataka Public Schools (KPS)

KPS is an initiative introduced by the Department of Education, GoK to address the quality of education and the falling enrolment in government schools. These schools provide an integrated education from the pre-primary level to the pre-university level to students under the same institution. The objective of the KPS is to ensure that 75% students achieve 75% learning competencies and remaining 25% of students achieve at least 50% learning competencies in each class.

The programme was initiated with 176 schools as KPS with an addition of another 100 schools in 2019-20, taking the total number to 276 KPS Schools and a further 7 more were selected in the year 2022-23. Formation of 1000 Karnataka Public Schools in a phased manner over 4 years is planned.

The Department ensures that the KPS schools have adequate infrastructure, drinking water, electricity, toilet facilities, labs, teaching and non-teaching staff and other resources that will enable the imparting of quality education. The PTR is maintained at 1:30 for primary, 1:40 for secondary and 1:60 for higher secondary classes. The Technology Assisted Learning Programme (TALP) has ensured the students are being given technology-based education. All KPSs are provided with SMART TVs. Separate organizational rules and guidelines for these schools are available. An online portal has also been developed for the KPS schools.

The initiative has resulted in increased school enrollment.

Census-based State Achievement Survey

The Census - based State Achievement Survey (C-SAS) is conducted with an aim to assess the quality of education in all government and government aided schools. Covering nearly 40.7 lakh students, C-SAS assesses the learning levels in languages and core subjects (Languages, Mathematics, EVS / Science and Social Science) for the grades 4 to 10. The results are disseminated in the form of individual report cards to each student duly signed by the Head Teacher of the school. An appreciation letter from Honorable Chief Minister was sent to all parents. The survey indicates the learning levels of each student and school on the basis of

prescribed learning outcomes developed by NCERT. Through this effort, the teachers are able to identify and support students who would need additional support. The findings from C-SAS are also being used in the policy planning exercise undertaken by the Department. The C-SAS results have been in line with the NAS.

The Macro Analysis of Nali Kali Classroom Quality

Following the announcement of the Chief Minister's commitment in 2016 to strengthen the implementation of the multi grade activity- based Nali Kali in Karnataka, a series of measures were put in place to strengthen both the implementation and the monitoring of the programme. The consistent monitoring, assessment and follow up of classroom implementation was an important part of the strengthening efforts.

The macro study of the implementation of Nali Kali was an important milestone in the quality improvement process as it established the quality indicators against which districts could set goals and work towards substantial quality improvement.

A working committee was set up to prepare the tools and methods for monitoring the implementation of Nali Kali in the state. The committee developed two tools to measure program implementation. The first was a format for a quick dip stick survey to determine general implementation levels in schools. The second was a more in-depth tool to measure the quality of the curriculum implementation to give a more nuanced picture on curriculum and classroom processes that need further strengthening. Following two trial runs in 2016, the Nali Kali Macro Study was completed in March 2018 covering 53,221 Nali Kali units and provided baselines against quality indicators allowing for districts to make concrete plans to improve the quality of classroom transaction. The study has been conducted with the aim to a) identify gaps in implementation and b) to provide baselines for setting targets for the academic year 2018-19 for improving the quality of classroom implementation. The second study conducted in March 2019 covered 53,459 units to assess the changes in classroom quality due to the targeted planning.

The Macro Analysis or assessment made use of a binary check list to take stock of the situation in all schools. The formats assessed the quality of Nali Kali implementation in three important dimensions a) compliance to the three non- negotiable conditions of Nali Kali b) the quality of class room teaching and c) the quality of the support provided to schools and teachers. On each item on quality of classroom teaching and support provided, the study assessed each indicator on three dimensions - i.e. availability, accessibility and use of teaching and learning materials / teacher behaviour and support provided by supervisory staff. These responses were scored and

analysed to test the readiness of the system for more in-depth quality improvement interventions and the remedial action to be involved in strengthening the programme.

The 2019 study showed that across the state all divisions have registered an improvement and the concerted attempts of the state to push for target setting and monitoring has led to increased availability of integrated classes, trained teachers and material and a sizeable increase in student attendance rates.

Guru Chethana

This is a unique ground-up effort to revamp the teacher in-service system in Karnataka. It is based on globally accepted principles of good Teacher Professional Development – for e.g. that teachers should get to choose what is most relevant to them, the program responds to issues they face in their schools and is offered on a continuous basis. A curriculum framework of in-service teacher education has been developed along with 42 modules for the teacher training in English, Kannada, Marathi and Urdu. This also includes the Teacher Tracking and Management System (TTMS), a platform to enable teachers to make specific choices from a host of programs and courses. This system includes the availability of teacher training data, training calendars, training material, assessment by trainers and teacher feedback. Over 1,50,000 teachers have been covered under the Guru Chethana program since its inception in 2017. The Cluster Level Sharing meetings are also being used as a platform to engage the teachers as a follow up to the Guru Chethana Program.

Technology - Assisted Learning Programme

Technology - Assisted Learning Programme (TALP) was launched with an objective to complement the classroom teaching with ICT enabled teaching and learning in all subjects. To achieve this, the program aims to train all high school teachers in the use of ICT in schools. Based on the curriculum developed by NCERT, detailed content and modules contextualized to Karnataka were developed. A rich repository of e-content has also been created under Creative Commons and is uploaded on the DIKSHA portal. A Moodle platform has also been developed for self-learning and assessments under the TALP. One of the components of TALP is the training of teachers in ICT which has three levels of induction programs and two sets of refresher courses. The teacher training content focuses on learning tools useful to the classroom and for the teacher's own learning. Launched in 2016 with 11 State Resource persons training 136 MRP's, close to 13,076 teachers and 1944 schools have been covered under TALP so far. The IT infrastructure is also made available in the schools which have TALP trained teachers. A

repository of all e-contents will be made available on the servers located at State Data Centre and schools will be connected to SDC for updates.

Section III

Innovative ECCE Curriculum in Karnataka

Chili Pili Curriculum Resource

The Chili Pili is a theme-based resource package designed by educational experts for the Government of Karnataka in around 2001. The package consists of songs, stories, creative activities and games in the local language based around specific themes that is implemented for 2 hours in each day for six days of the week. Its major strength is that it is a child friendly package and pays attention to the child's developmental abilities. It also provides a rich repertoire of activities including stories, poems, games etc. which teachers can dip into easily. There are enough activities for an entire week and teachers can pick and choose the themes over the year. The package comes with a clear strategy of support for the teachers with the supervisor expected to detach the materials for a fortnight and go over it with the AWW so that she knows exactly what is expected of her.

One of its weakness is that the material (contents and instructions) is not age graded, nor does it take into consideration the individual child's ability levels and so all children are expected to do the activities together. The theme -based curriculum focuses more on oral language and general knowledge but there is less focus on perceptual and cognitive skills as well as pre-numeracy and pre-reading work.

Chili Pili Plus Curriculum Resource:

The Chili Pili curriculum has been revised to suit the LKG and UKG classes of the Samagraha Shikshana Karnataka programme in the KPS schools. This has been developed in keeping with NCERT guidelines for ECE programmes and allowing for dovetailing with Nali Kali of grades 1-3. The curriculum is developed for a daily 4 hour ECCE programme run in a monograde setting with a DEd teacher who undergoes a further one- week training on implementing each of the curriculum for LKG and UKG curriculum.

The Chili Pili Plus curriculum has 3 main sections. A thematic curriculum with 9 themes which include the *Social World* (Me and My surroundings; My Community; Fairs and Festivals, Transport; and Communication) the *Natural World* (Animal Kingdom; and Plant Kingdom) and

the Physical World (Land, Water and Air; The Calendar). The themes focus on language and general awareness of the environment through activities that include conversations, games, stories and rhymes, creative movement and art and crafts which are conducted every day.

A second stream of cognitive, conceptual and pre-number skills that include concepts of size, shape, colour, weight, sound, time, quantity and number focus on important skills of understanding, classification, seriation, pattern making and connecting and application of the concepts in everyday life. Free play in corners and directed indoor and outdoor play makes up the rest of the curriculum.

Emergent literacy is introduced in UKG with a story- based curriculum that focuses on story-telling, listening, comprehension, vocabulary building and expression skills, visual discrimination and auditory and phonological development which includes, word recognition, phonological awareness, syllabic segmentation, and narration.

The SSK provided a one-time budget of Rs. 30,000 for the setting up of the play corners and TLM which ensures that classes are well supported with adequate play and learning material for free play and learning. The Chili Pili is implemented in 276 schools of the composite Samagraha Shikshana programme and is being further extended to 908 SDMC school programmes.

Learning outcomes of the thematic curriculum is prepared for the theme as well as for individual activities and are broadly divided into three categories. a) *conceptual knowledge* (understand at least 3 simple facts /concepts discussed and can answer questions on at least 2 facts discussed) b) *communication and vocabulary* (can explain at least 2 relevant facts related to topics discussed in short phrases or simple sentences and can answer questions on the topics discussed in simple phrases or sentences) and c) *life skills* (can apply some of the concepts to behaviour in everyday life which is necessary for self- image, personal safety and forming and maintaining social relationships).

Outcomes for cognitive, conceptual and pre-number skills include a) identify and label different properties (names of colors, shapes textures etc.) b) classify (sort and match) objects based on three dimensions, c) compare and distinguish objects based on their relative properties and place them in serial order d) copy and carry forward patterns of increasing complexity and spot and explain a mistake in a pattern sequence e) use the knowledge to spot odd man out, logically explain what is wrong with a picture, choose objects for actions based on relevant properties and explain reasons for choice.

In addition to the curriculum in government run programmes, a number of creative programmes are being run in the state with the support of national NGOs. Chief among these include:

The Kalike Curriculum

Kalike is an initiative of the Tata Trusts, working towards building a sustainable community primarily working in the north-east part of Karnataka where it is being implemented in 12,000 preschools in the northern Karnataka region since 2011, reaching out to 3,68,000 children. To date, it has trained 421 Supervisors and 12,985 AWWs across 6 districts of Kalyana Karnataka, and equipped them with much-needed ECE teaching and learning materials. Kalike will further partner with the state's Department of Women and Child Development to build the capacities of Anganwadi Supervisors, workers (AWWs) and helpers (AWHs) in multiple districts to cover at least 20,000 AWCs. It hopes to improve transaction of preschool activities in at least 50% of AWCs to impart age specific quality education to 80% children aged between 3-6 years.

The outcomes of the programme include a) improved capacity of AWWs to transact age - appropriate activity based ECE -achieved through intensive, activity-based capacity building in a phased manner, b) enhanced time spent in centers on preschool activities focusing on free play, art activities and spoken language development for at least 1.5 hours each day c) enhanced attendance and participation so that 75% of children are actively involved in the preschool programme d) improved classroom quality through increased availability of a variety of teaching and learning materials and e) improved parental engagement and understanding of ECD and other growth milestones.

The pedagogical approach of the *Kalike* curriculum is to build on the existing Chili Pili curriculum developed and implemented by the Government of Karnataka since 2000. Preliminary studies and observations conducted in the Anganwadi centers pointed to the need to support the worker with the understanding and tools to a) rearrange the time available to her more constructively so that she can provide a 4 hours program (including routine activities) b) improve the structure of curriculum to make it more age specific and c) improve transaction quality to make it more meaningful, fun and ensure effective learning. The original Chili Pili curriculum was adapted with the following specific interventions a) new inclusions were added to the existing Chili Pili curriculum to make it more holistic catering to all areas of development. These included free play activities that did not find a place in the existing Chili Pili curriculum. Language and Emergent Literacy activities were added to facilitate development of skills like listening, comprehension, expression, description, and vocabulary building. Special time slots are provided for emergent literacy skills like phonemic awareness and phonic letter sound awareness; early mathematics

which includes an understanding of quantity, meaningful counting and understanding numeral systems were added as additional elements to the existing curriculum.

The programme also supports strengthening existing activities of the Chili Pili through the provision of extra educational materials and rearranging of the theme organization to allow for more advanced concepts to build on simpler ones that are introduced earlier in the curriculum and ensuring improved delivery of existing activities that are regularly carried out in the AWC such as prayers, action songs and creative activities. It also ensures improved classroom organization and time management through effective classroom arrangement and time management.

The Kalike capacity building model follows “train-the-trainer” model, where supervisors first go through a training followed by a period of classroom implementation where they build their skills as well as set up model centres to be used for training. The supervisors along with other experienced teachers in turn train the AWWs. The defining feature of the training is that it is conducted in small sessions about 4 months apart with each session building only on a select set of skills. The AWWs trial the skills in the centre before they come for the next round of training. A worker takes an average of 81 days to be fully trained.

The Prajayatna Programme

Prajayatna, a national level organisation, has been working on issues of education, since 2000. It has worked in six states and touched the lives of more than 10,000,00 children through both direct and indirect interventions in schools and Anganwadis. Till date, 1500 Anganwadi centers and 20000 children have been reached through its Early Childhood Care and Education programme. The emphasis of the organization is to understand and bring about systemic changes in the functioning of the education system to ensure quality education to all children. Programme interventions span all levels of the system, including families, communities, local and state level governance bodies and programme administrators. Prajayatna builds the capacities of all the stakeholders (parents, BVS, GP) to ensure a conducive ecosystem for the development of young children.

The programme has a unique pedagogical approach to the curriculum that is flexible and child-centric and caters to the holistic development of the child in all areas of development. Activities progress from simple to complex, known to the unknown and concrete to representational. Learning outcomes are defined by the domains and areas of the curriculum and include a) socio-emotional skills (ability to perform tasks independently, work in a group, use material and tools,

identify and understand emotions and show self-control) b) general awareness that includes identifying, naming and understanding different concepts (colours and shapes, parts of the body, flora - vegetables and fruits, plants, flowers, fauna - animals and birds and other concepts such as vehicles, professions, etc. c) cognitive development and pre-numeracy (matching and classification, identification and comparison, seriation and patterning, identify and use numbers, addition and subtraction) and communication (listening and comprehension skills, vocabulary, oral expression, print awareness; reading and writing in the medium of instruction, reading and writing in English) and fine motor and self -help skills.

Children go through a learning cycle comprising of *Exposure* (setting the context) *Experience* (work with hands on materials and direct experience) *Practice* (practice activity through different means for reinforcement) and *Evaluation* (that serve as feedback mechanism and helps teacher and child to take necessary steps to learn further).

The programme caters to a multi-age and multi- level teaching process through a 4 stage sequentially arranged curriculum with each stage being the pre-requisite for the more advanced next level. These include a) **Evolving where** the child explores all the materials and experiences that are provided which may initially be tentative and without a stated or a conscious purpose b) **Interested where** the child follows simple instructions and completes the given tasks under adult supervision c) **Involved where** the child understands complex instructions and is able to appreciate the basic concepts presented with adult support and d) **Self- directed** where the child is able to appreciate the concepts presented and apply them to real-life problems and situations independently. The groups are made depending upon the ability level of a child which is assessed through close observation during classroom transactions. Children move from one group to the other depending on their ability. The children are grouped for sessions addressing pre literacy and numeracy skill development activities and creative activity. The activities range from simple to complex and as far as possible these activities are based on the theme being addressed currently.

The theme -based method along with the Learning Ability Framework guide the lesson planning for the teacher. This is done collectively at the Cluster Level through the Teacher Collectives -a method that ensures contextualization and scope for adaptation, that a fixed and rigid curriculum may not provide. Capacity building of Assistant Teachers (Anganwadi helpers) is emphasized to allow them to become an active resource for teaching children along with the AW teacher.

Vidya Bharathi

Vidya Bharathi has been imparting activity based integrated ECCE education in 385 Shishu Mandirs in Karnataka for the age groups 3-4 years (Aruna Varga), 4-5 years (Udaya Varga) and 5-6 years (Prabhath Varga). The philosophy of the programme believes that children learn through their own experience and it is the job of education to provide them an environment where they can learn by doing things themselves. Children also learn by imitating others and should live in a family atmosphere that allows them to learn good things by imitation.

All Shishu Mandiras follow a common curriculum which is based on 'Shishu Vatika', a complete work on child education, written by an educationist, Smt. Indumathi Katadhare in Gujarati language, which has been translated into many regional languages. The Vidya Bharathi Curriculum emphasizes outcomes that focus on the development of good physique, adequate muscular coordination and basic motor skills; good health habits and basic skills necessary for personal social adjustment; the ability to express their thoughts and feelings in fluent, correct, clear speech; independence and creativity by providing children with sufficient opportunities for self-expression; intellectual curiosity and understanding of the world around and fostering new interests by providing opportunities to explore, investigate experiments; social attitudes and manners, encourage healthy group participation.

Prepare Not Repair – The Akshara Foundation’s preschool intervention

Akshara was one of the first organizations that experimented with the concept of an extra AWW dedicated for the ECE component of the ICDS. The intervention trialled the addition of a paid instructor who delivered a preschool component for two hours a day in 200 ICDS Anganwadis in Bangalore in 2006-07.

In 2009 this programme was redesigned as the Preschool Education Programme. The main objective of Akshara’s preschool education programme “Prepare Not Repair” was to implement a ‘structured’ programme that included the 3 elements of a) supply of a well-designed, research based preschool kit for supporting development across multiple domains b) capacity building of teachers to deliver 90 minutes of daily preschool education and the training and activation of Bal Vikas Samitis and c) implementing a robust training and monitoring component.

1. The School Preparedness Kit: Taking a cue from ‘The NCF 2005’ which noted that TLM in the ICDS is often used more for purposes of display than actual play and learning, Akshara developed a cost -effective kit of around 40 items that supported a child-centric, activity-based programme that allowed children to work individually and in small groups. The Kit was designed in

consultation with the Karnataka State Council for Child Welfare, National Institute of Public Cooperation and Child Development (NIPCCD) and ICDS and augmented the resource book and ad hoc 'play materials' provided by the ICDS.

2. Capacity Building: Akshara's ECE training focused on both AWWs and supervisory staff. The training of the workers addressed a range of issues from segregation of children by age, classroom management, and usage of kit to child assessment. The 2 day orientation component for supervisory staff centred on building the capacity of workers around PSE and to make them understand the use of the kit/ play materials.

The training package for Bal Vika Samithi members focused on their role, how to identify issues at the Anganwadi level and find local solutions through collective efforts.

3. Mentoring strategy: The intervention included a well-planned supervisory structure with field coordinators for 20 to 25 centers, who augmented the support provided by the ICDS supervisors, through monthly mentoring and supervision visits. The monitoring programme had 20 indicators that assessed quality of infrastructure, classroom process and use of supplied TLM and play materials and were used to map the status of Anganwadis and grade them from A to C. The grading of the school determined the frequency of visits by Akshara's field staff. During their visits Akshara staff observed, discussed and helped conduct activities, cross checked records and prepared case histories of children. Monthly meetings organised by ICDS where they also sometimes used to focus on the use of TLM, the concept of a good AW etc. A third-party evaluation by CECED revealed that the regular and focused two tier supervision and monitoring was effective and augmented the ICDS supervision.

School Readiness Program: Recognizing the need for school readiness, the Department of Education, Karnataka decided to design and implement the accelerated school readiness programme in selected 105 government schools during the academic year 2018-19. Sarva Shikshana Karnataka collaborated with Akshara Foundation (NGO) as a knowledge partner in designing a School Readiness Program. The objective of the programme was to smoothen the transition of students from Anganwadi / home to grade 1, equip teachers with the right set of mindsets, skills and knowledge to better impact 5 -6 -year-old kids and to focus on pre-literacy and pre-numeracy skills for students at the beginning of grade I.

Programmes for Parent Education

Hello Poshakare

The programme is a responsive caregiving and early learning program for caregivers. This is a collaborative effort of UNICEF India, Dost and Kalike with DWCD, Karnataka.

The programme aims to support caregivers in creating a stimulating and loving home environment for children of 0-6 years, through simple 1-to-2-minute audio messages delivered via phone calls. The telephonic messages span across four topics that are in line with the NCERT ECCE guidelines and curriculum and UNICEF's Nurturing Care framework: 1. Building awareness on the importance of early years and the role of caregivers 2. Using 'talk, touch and play' routines and activities to improve the child's development 3. Building an emotionally secure home environment to nurture the child's socio-emotional development 4. Creating awareness about responsive caregiving and providing ways to practice it.

The program roll out is routed through the system with orientation and perspective building of DWCD & ICDS functionaries- DDs, POs, CDPOs, supervisors and AWWs. Envisaged as an integration and extension of community awareness service of the ICDS, the parent meeting platforms are used to onboard parents and caregivers into the program, enthuse onboarded parents to stay with the programme and encourage practice of inputs delivered through a participatory approach.

CLAP programme

CLAP or Children Learning, Assisted by Parents is a free WhatsApp bot program developed by Key Education Foundation for parents with children in the age group of 3-6 years. CLAP aims to support parents in having more positive interactions with their children. There are currently 18,000 registered parents on CLAP whose children are enrolled in affordable private schools, government schools or Anganwadis in Karnataka and Madhya Pradesh. All the content on CLAP is currently available in 3 languages - English, Kannada and Hindi. Components of CLAP consist of Play and Learn worksheets, the Chatbot and ground support for parents.

The Play and Learn worksheets are a set of 36 worksheets with age-appropriate learning activities. The worksheets have activities that encourage parents to spend time with their children doing simple and fun activities in an attempt to improve parent-child relationships. Children can play and learn through these activities and joyful interactions with their parents. A set of 36 worksheets are provided to the school or Anganwadi for every child. The teacher

distributes one worksheet per week to the parents. The parents are expected to complete the worksheet at home with their child and return the completed worksheet to the teacher.

A Chatbot: Each worksheet has a unique code. When parents enter this code into the chatbot, it sends them a message with text and audio instructions on completing the worksheet. After completing the worksheet, parents get a simple question related to the worksheet that helps them connect the activities to their personal lives or their own parenting practices. In the end, they get a video which provides them with an answer key to the worksheet. The chatbot also has some videos for parents called 'Helping Hands' which parents can watch independently of the worksheet. Parents can also access 'report' on CLAP to check how many worksheets they have completed on CLAP and how many Helping Hands videos they have watched. There is also a support feature on the chatbot through which parents can request for a call back from the support team to resolve their queries.

On ground support and collaterals: CLAP also has on ground support material for the teachers and other officials in the form of digital training, physical trackers and posters to motivate parents to keep engaging regularly on CLAP.

AWWs training programmes

An online certificate training for ICDS workers has been developed by UNICEF. The course will be uploaded on UNILEARN platform and made available for all Anganwadi workers in Kannada. The course comprises 14 modules with teaching videos. All resources will be in the state language, Kannada. The 8 hr 15 min course is self-paced, and includes an assessment module. After successful completion of the course, participants will be able to download the digital certificate.

A 20-credit diploma course in ECCE /Foundational education developed by IGNOU will be available for all AWW. The 6 month diploma course will comprise 4 courses that include child development, play based early child education, methods and materials, curriculum development and evaluation and most importantly, field-based practical sessions.

Other ECE programmes in the state

The Montessori programme: Schools in Karnataka also offer the Montessori curriculum. The Montessori philosophy believes that education begins from birth and children experience periods of special sensitivity during which they are eager to learn, that children learn through movement, particularly the movement of the hand that is believed to enhance the development of intelligence

and enjoy learning in an environment designed to meet children's needs. The Montessori classroom accommodates children of mixed ages and impart a curriculum that focuses on **Practical life activities** (such as daily living skills, care for the environment, care for oneself and others in the community), **Sensorial learning** (that aims to develop skills for learning by observing, understanding and exploring the world through the senses, how to classify, discriminate evaluate and sequence) **Language development** (four aspects of language including Spoken language, Listening, Writing and Reading, self-expression and communication), **Number concepts** (a concrete understanding of the concept of number progressing to the structure and processes of the decimal system) **Science and exploration** (providing experiences of the natural world including the plant and animal kingdom, people, events and cultures), **Art, music, craft, drama, and dance** (enable children to develop their imaginative responses and their creative self-expression).

Kindergarten schools: Kindergarten education adopting "child centredness" as a core value. The core areas of the Kindergarten curriculum are activities geared towards **Physical fitness and health, Language, Social and emotional development** (a basic understanding of the expected etiquette and behaviour in different social groups and basic interpersonal skills), **Early Childhood Mathematics** (to develop children's interest and motivation in learning mathematics through solving practical problems in real-life situations) **Nature and Living** (understanding scientific concepts through observation of phenomena in nature; gaining a preliminary understanding of modern technology and the influence it brings to us through everyday life experiences), **Arts and Creativity** (through activities of creating, presenting and appreciating the arts, children's imagination and creativity).

Section IV

Government of Karnataka Programmes for Foundational Education

Nali Kali curriculum for multigrade and multi-level teaching

The literal meaning of Nali Kali is learning through playing.

The advantages of Activity Based Learning, (ABL) has been noticed by the policy makers in school education in the country. The most discussed about the ABL in the country is the Nali Kali programme of Karnataka. Though developed as a means to address the problem of multi-grade teaching this is an indigenous method of addressing many of the defects of the traditional teaching and curriculum. The method underlying Nali Kali was developed as part of the Rishi Valley RIVER project and has been adapted and carried forward first by practicing teachers of the HD Kote block of Mysore district and subsequently by teachers across the state.

The Nali Kali program is now used in government schools in Karnataka for the teaching of language, mathematics and EVS between grades 1-3. With its focus on activity-based, joyful learning it is seen as a better alternative to standard textbook based teaching. Periodic evaluation studies are carried to know the strengths and weaknesses in its implementation and review their own teaching, learning material and classroom transaction. After every review the changes are disseminated to all classroom practitioners through rigorous training. Based on the multi-grade, multi-level (MGML) teaching approach, the salient features of the program are as follows:

Nali Kali is essentially based on the activity- based learning process. It involves joyful learning which contains processes like songs, games, surveys, storytelling and use of a wide range of learning resources. Thus, it arouses interest among students and pushes them positively to participate in the transactions within the classroom. Subjects like mathematics and environmental studies, which are considered difficult, would be made easier to understand through this innovative method. Under Nali Kali, learning takes place systematically in accordance with age wise competency in an interactive situation.

Children in grades 1-3 are grouped in the same classroom with a teacher who has been trained to use this methodology. The curriculum has three main components a) language b) mathematics and c) environmental sciences. Each curricular session is about 90 minutes long.

Self-paced learning forms the foundation for the structure of the program. The students have to scale a learning-ladder driven curriculum. The learning unit is divided into meaningful chunks called milestones. For each milestone, activities are designed, and these activities are done in groups through specifically designed cards. These cards are designed for the usage of both for teacher and students. Workbooks are also provided in all the subjects for practice of writing and solving arithmetic problems. Number of supplementary readers are developed and made part of the programme. TLM kits which have dice activities and other games etc. are provided.

Given that the programme has to be managed by a single teacher, activities are divided into five types: preparatory activities, pre-learning activities, teaching-learning activities, practice activities and evaluation. Each phase of learning is completed through a combination of six varying levels of control for student and teacher. These are, whole class, complete teacher assistance, partial teacher assistance, peer assistance, partial peer assistance and self-evaluation.

Every child, even the youngest, is responsible for picking up the card they're currently working on and working through it. The teacher's role during the class is to a) facilitate the whole class

activity; b) assist the group whose work is completely or partially teacher led, and; c) evaluate the work of each and every learner in her classroom.

The English Curriculum in Nali Kali

Although English is an aspirational language among students and parents, most students of government schools are first generation learners and come from homes with no knowledge of English; therefore, they need more support in learning the language as compared to students from English-speaking homes who go to high end private English-medium schools. In addition, teachers too, need a lot of support as they are also not proficient in English and in most cases, they too learn or improve their English language skills along with the students by teaching the language in the classrooms.

It is necessary for students to have the opportunity to enrich their vocabulary by listening to the language and have access to reading material. The curriculum is designed so that students have an exposure of about 40 minutes of oral English (listening and speaking) and 40 minutes of reading and writing, every day for 6 days in a week.

The oral language methodology is based on an “across-the-curriculum” approach that breaks down the barriers between English and other subjects, and helps children learn the new language through concepts learnt in another language. The English curriculum loosely shadows the EVS curriculum in grades 1 and 2. Since early EVS curriculums are embedded in the child’s world, the vocabulary introduced has immediate relevance to the child’s environment. The listening and speaking curriculum include several exercises that are woven around an EVS theme /topic. This includes direct instruction to introduce essential vocabulary related to the theme and rules of grammar. The instruction is augmented by a series of activities such as rhymes, TPR exercises, conversation and language games that reinforce the vocabulary and grammar learnt. The oral curriculum in the grade 3 curriculum adopts a “project method” where children carry out simple projects (read a poster, interview a parent, analyse a weather chart, conduct an experiment etc.) and present it before the class.

Reading and Writing (R&W): A common failing of traditional literacy programmes is that words are taught in isolation without a context that results in students finding it difficult to comprehend the meaning of the text they have read. The curriculum attempted to overcome this by creating a bridge between oral and R&W curriculum. This is done through the story telling segment of the curriculum. The story introduces characters, objects, actions that begin with the letters to be introduced in the

R&W segment (e.g., the story titled “Toto and the Cap” introduces the words CAT/ CAP/ COT and is used to introduce the letter C in the first milestone). The stories are developed as a continuum, where each story is an end in itself as well as the beginning of the story for the next level.

The reading and writing curriculum adopt the ladder approach of Nali Kali. Initial phonics instruction is conducted with a relatively small set of consonants and short vowels (E.g., C, O, A, P & T). Once students become familiar with these, they are introduced to word families (AT/ OT/ AP) and joining of consonants with word families to form 3 letter words (CAT/COT/CAP). Short words of extremely high frequency, such as *the*, *of*, *are*, and *you*, are introduced from the first ladder that allows children to read simple sentences. In order to help children practice the phonics they have learned, the earliest sentences are composed almost entirely of decodable text. In Classes 1 and 2 of ENK, students are introduced to all the letters, common word families and sight words. In grade 2 students learn blends, long vowel sounds and Digraphs and can read simple sentences using all the above. The Class III curriculum revises concepts taught in level II and introduces a reading programme.

The curriculum was piloted in classrooms during the period 2018-2020 and has been continuously revised and restructured to ensure that it is sufficiently strong, to serve as a springboard for the curricular leap in grade 3.

Bilingual Education in Karnataka

The Department of Education started English medium (Bilingual) sections along with the existing Kannada medium in 1000 government schools of the state in 2019-20 and subsequently in 1000 government schools in 2020-21. Apart from this, bilingual sections were started in 400 Urdu medium schools in the year 2020-21.

The Bilingual Medium Section sets itself the objective of offering a bilingual education, so that excellence is accompanied by a high level of innovation which is tied to an awareness of the cultural heritage and the values of the state. The aims of the Bilingual Medium Section are to provide boys and girls with the competitive advantage of fluency in both Kannada and English irrespective of their family environment. The outcome of the intervention is to help children gain mastery of written and spoken English on par with English Medium school students and the knowledge of written and spoken Kannada that is identical to that of their peers who attend Kannada Medium programmes.

The schools with Bilingual Medium Sections have been provided with necessary TLM which will help improve the capacity/proficiency of teachers and help them develop the skills of language

transaction to achieve the learning outcomes of the subjects in their classrooms. These include small story books, simple picture and reading material for level-1 and level-4 students.

Modules for training the teachers to transact successfully in English have been developed by experts from RIESI and Azim Premji University. All teachers selected for English Medium Sections are trained by the faculty from Regional Institute of English, South India, Bengaluru.

The pedagogy is based on the principle that children also can learn any language, if they have ample exposure, and a safe space for noticing and production of language. The pedagogical approach in bilingual schools provide ample opportunities and is created in the bilingual section classrooms to build the foundational skills of listening and speaking in English. However, the multilingual capability of children is used as a resource to facilitate learning of English, since adopting a monolingual (only English) approach will demotivate students due to their unfamiliarity with English and an 'English only' approach will make classrooms teacher-centred.

A gradual transition from the home language to the target language by using multiple activities, games and other resources is seen in the bilingual section classrooms. Children are encouraged to learn languages by communicating and thinking in them. Opportunities for communication and thinking is made a part of the classroom processes. A gradual shift from teacher talk to student talk is seen in these classrooms. Children are encouraged not to fear making mistakes.

The classrooms explore the rich experience of English language from the immediate environment. Poems and stories in the text book are often divorced from the small experiences of English e.g., songs, advertisements, signboards, etc. The prior knowledge and context of students are a part of classroom experience. Pedagogical practice in these sections is child-centric leading to their autonomy in learning. Activities are designed to connect the curricular knowledge in school to wider real-world contexts to make it meaningful to children. Rote learning by the passive acquisition of facts is discouraged, rather, the focus is on constructive, experiential, cooperative and collaborative learning involving the active participation of children.

To promote development of numeracy skills, teachers engage children in whole-class discussions, group activities, individual thinking time through story/toy/activity/play based pedagogies. Teachers manage, facilitate, and monitor student participation and they record students' solutions, emphasising efficient ways of doing this. While ensuring that discussion retains its focus, teachers invite students to explain their solutions to others; they also encourage students to listen to and respect one another, accept and evaluate different viewpoints, and engage in an exchange of thinking and perspectives.

Multisensory learning is promoted to make learning more joyful, effective and suited to different learning styles of learners. The use of educational technology and ICT technology is incorporated to make learning more engaging and effective. Sports and Arts are integrated with learning outcomes in subjects. Multiple and divergent exposures is provided to students to enrich their understanding. To provide a vibrant learning ambience for the children, the classrooms have been painted.

The curriculum followed in the Bilingual Sections is an integrated curriculum of the NCERT and KTBS books and includes a) Savi Kannada, a KTBS publication used for Kannada b) the Marigold textbook published by NCERT used for English c) Mathemagic, an NCERT publication which is available in bilingual form and d) the Environmental Science textbook that is available in a bilingual form published by the KTBS.

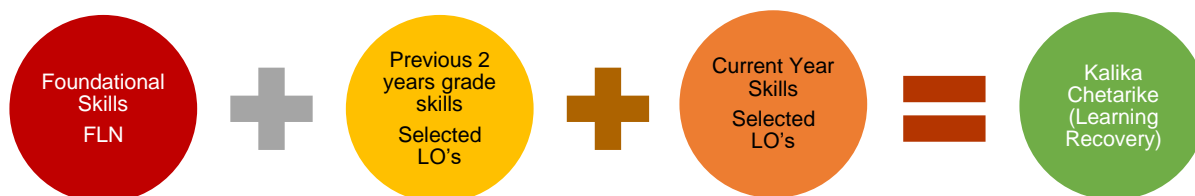
Kalika Chetarike (Learning Recovery)

Due to the pandemic, schools have been physically closed across the country for about 18 months, which amounts to over 300 working days and this physical closure has resulted in the loss of learning. The loss includes the curricular learning that would have happened if schools were open, as well as what children have forgotten due to the disconnect from learning. This includes foundational abilities such as reading with understanding, performing addition and multiplication, and so on. These foundational abilities are the basis of further learning, and their absence will affect the students across all subjects as they progress through school. The loss is estimated to be to the extent of one or two grades, with children performing at much lower levels than their current grade, when schools reopened.

The situation demanded a systematic learning recovery programme to bring children to grade-appropriate levels of learning. This requires building foundational skills, previous grade competencies as well as present grade-level competencies, through a sustained intervention for at least one academic year. **The Kalika Chetarike** is a NEP aligned Learning Recovery Program for the 2022-23 academic year.

Approach: NEP 2020 has given the highest priority to achieving universal Foundational Literacy and Numeracy in primary school and beyond. The NIPUN Bharat FLN goals have been adopted under the Kalika Chetarike program and are mandatory. The approach and focus on learning are on these areas a) Foundational Literacy and Numeracy, b) grade specific subject wise learning outcomes c) the socio-emotional-physical wellbeing of the students.

The Reconfigured syllabus with competencies from Foundational Literacy and Numeracy (FLN) along with Learning Outcomes (LOs) of the previous two grades and current grade was at the core of the program (as illustrated below). This shift toward competency-based learning also served as a step toward aligning with NEP 2020.



A reconfigured syllabus, teacher handbook and student learning sheets are provided and the textbooks were used only as supplementary material. Clear communication was sent to the schools through a government order which communicated that the priority of this academic year is to address the learning loss. The teachers begin teaching at the student's present level on the competencies and therefore, do not go through the regular syllabus.

Teacher Handbooks designed to handhold the teachers in their classrooms are provided. These are prepared per subject per grade (grades 1 to 9), and provide details on conducting activities aligned with selected LOs, along with information on conducting assessments. In addition, learning sheets prepared grade-wise and subject wise were provided for all the children along with other teaching-learning materials. These are designed in such a way as to provide flexibility for both practice and assessments. They also have tear away perforated sheets that can be used in building the student portfolio.

Special teacher training, focussing on the implementation of the Kalika Chetarike programme was provided for this purpose. A cascade mode training for State Level/ District Level and Block Level was adopted. The trainings were conducted by the DIETs and the Teacher Training Management System (TTMS) was used to ensure effective batch size and monitoring of the trainings. Over 1,90,000 teachers were trained before the schools opened for the academic year 2022-23. All teachers have been trained in the use of Teacher Handbooks and Student Learning sheets, linking and using the textbooks during the academic year, handling children at different learning levels and assessments. In addition, the cluster sharing meetings will be used as a platform to provide refresher training to the teachers.

Coordination is central to the success of the programme. A core committee headed by the Principal Secretary oversees the overall design and review of the programme. In addition, a Planning and Implementation Committee headed by the SPD SSK looks at the overall planning,

implementation and monitoring of the program, while a subject wise material review committee reviews the materials. Training is conducted by teacher practitioners, DIET faculty and other civil society organisations.

Communication and outreach efforts include IEC materials that are developed for different stakeholders such as the parents and other members of the community, functionaries of the education department and other civil society organisations. Specific outreach efforts have been undertaken by people right from the Hon. Minister of Education to the Members of the Legislative Assembly, and teacher unions to orient and seek support for the successful implementation of the program.

The Vidya Pravesh (School Readiness Module) : As part of Kalika Chetarike and NEP adoption, the Vidya Pravesh was administered to all the students studying in classes 1, 2 and 3 in the first three months of the academic year 2022-23. Children of government Primary Schools studying in Kannada, English, Urdu, Tamil, Telugu and Marathi Mediums were covered under the said programme. The pedagogical process of the Vidya Pravesh Programme aimed to ensure acquisition of the pre-requisite learning needs, and ready children in the mental, physical, emotional and social domains to prepare them for school. The programme provides wide opportunities for the child's all-round development based on the three Developmental Goals. Handbooks for teachers and workbooks for students have also been specifically prepared for Vidya Pravesh.

FLN Initiatives under the NIPUN Bharat Mission : In Karnataka, the Foundational Stage classrooms are multi-grade, multi-level classrooms and so majority of the initiatives within the ambit of FLN mission is focused towards addressing that. This mission will focus on providing access and retaining children in the Foundational Stage, teacher capacity building, and development of high quality and diversified student and teacher resources, learning material and tracking the progress of each child in achieving learning outcomes. Special initiatives include:

The Government Order to launch the FLN Mission and constitute the various committees for implementation is issued.

Preparation of a learning package where the existing curriculum has been reviewed and the learning outcomes in Nali Kali and the Bilingual Sections Curriculum have been mapped to the suggested learning outcomes listed in the NIPUN Bharat and have been designed to achieve the goals of the FLN Mission. The State Resource Team has developed necessary worksheets for children to foster attaining the expected learning outcomes. The package has components of

activities that the students can engage themselves in and the teacher can continuously administer formative assessments for appropriate classroom transactions.

Concept Videos for Children that include customized e-learning content for FLN (Mathematics and Reading Literacy) is developed in the form of videos and audios which focus on all the concepts under the FLN curriculum. This is also embedded in the learning material/workbooks through QR codes for the children to access directly and, act as teaching resources for teachers.

Teacher Mobile App for Assessments have been developed with a dashboard to capture the progress of learning among students of classes 1 and 2. The App will be managed by the teachers and this app will help the teachers to analyse the performance of the students.

The NISHTA 3.0 FLN training has been very effectively executed in Karnataka by the DSERT. All modules as and when released by the NCERT were translated to Kannada on priority and is administered. The state has seen 6,56,086 FLN teachers registered and 5,32,903 teachers have completed all modules released so far and 4,32,042 certificates have been issued till date.



Annexure 2 : TLM & Activities list for the foundational stage

SEGMENTS /ACTIVITIES	3-6 YEARS	6-9 YEARS
OUTDOOR FREE PLAY		
Outdoor play equipment	Swings, (An old tyre and rope can be tied to a tree to substitute a swing)/ slides, see-saw, jungle gym/tricycles	Swings, (An old tyre and rope can be tied to a tree to substitute a swing) slides, see-saw, jungle gym, basketball hoop cycles with stoppers, scooters ,
Sand play	Sand play- sand box or sand, Plastic tools like shovels, spades, cups, spoons, small buckets, sieves	Games to be played in a sand pit Long jump or high jump in the sand pit
Water play	Basins with water, Mugs, cups and glasses for filling and pouring, paper boats, sinkers and floaters	
Rope games	Go /crawl under the rope, Jump over the rope, Walk on the rope/ walk alongside the rope	Skipping over rope, crawling under rope, Individual skipping and group skipping ⁴⁵ , Skipping race
Ball games	Big and small balls in cloth and rubber to play Throw and catch/ bounce the ball/ kick the ball to the largest distance, / kick the ball into a goal/ kick and stop	Rubber balls -big and small to play Throw and catch/ bounce/ kick the ball to the longest distance/ kick the ball into a goal/ kick and stop/ dodge the ball/throw into basket. Basketball and cricket
Racing	Running race, jumping race frog race, race with cup of water, land &water, avoid the bear, racing cars	Running race/ jumping race/ hopping race/ frog race/ race with cup of water/ lemon and spoon race/ 3legged race/ sack race/ tyre and stick race/ land &water or avoid the bear ⁴⁶
Balancing games	Walk on straight line, hop between lines,	Walk on straight line, hop between lines, walk with a book on head hop scotch, seven tiles (lagori)
Catching games	Run and catch, tag games ⁴⁷ , Gate game ⁴⁸ ,	Run and catch, hop and catch (langdi taang) tag games, gate game, Musical chairs, l

⁴⁵ Two children take the rope at either end and swing it allowing for groups of children to skip together.

⁴⁶ A designated area is marked as water/ bear land with a guard. Children race across the area avoiding the guard who tries to catch them.

⁴⁷ One child begins the game as a catcher. The first child caught joins hands and the pair chase others. As each child is caught become part of the catcher team and they join hands to form a chain and till all the players are caught.

⁴⁸ 2 children join hands and raise it to form a gate. The rest of the children pass through the "gate" singing a rhyme. When the rhyme finishes the gate comes down and encloses the player passing through it.

Other ⁴⁹ traditional games		Spinning a Top with a rope, flying kites, playing with marbles / seven stones (gitte)/ Posham Pa / Kho -Kho /
SEGMENTS /ACTIVITIES	3-6 YEARS	6-9 YEARS
INDOOR FREE PLAY IN PLAY CORNERS		
Construction corner	Lego blocks/ Wooden blocks, Stacking tower with rings, 3-6piece Jigsaw Puzzles, Large and small beads with strings, Plastic pipe pieces to string Colour tiles in assorted shapes to join and form pictures or designs, play Dough or clay with rolling pin to mould or roll out.	Lego blocks/ Wooden blocks, Mechanic set 6sided block puzzles / 30-100piece Jigsaw Puzzles, Tangrams Jodo beads
Finger motor activities	Lacing board/ buttoning board (big and small buttons)/ tich button strips/ hooks and eyes strips/ buckling strips/ tooth paste caps to screw/ wooden nuts and bolts/ clothes pins / large blunt safety pins / paper punch socks /socks with toes/ mittens and gloves Wipe-clean pattern strips for tracing, joining dots	
Art Corner	<u>Material for drawing and colouring:</u> Drawing paper/ pencils/ crayons and colour pencils/ felt pens/ large paint brushes/ printing blocks/ ink pad / Stamping with cut vegetables like bhindi or potatoes <u>Material for collage and other work</u> Newspaper and scissors and glue for tearing, cutting and pasting glaze paper/ sand paper/ felt paper pebbles/beads/ bindis of different sizes/	<u>Material for drawing and colouring:</u> Drawing paper/ A4 sheets / pencils/ crayons and colour pencils/ felt pens/ large paint brushes/ printing blocks/ ink pad / Stamping with cut vegetables like bhindi or potatoes / stencils <u>Material for collage and other work</u> Newspaper & chart paper, scissors and glue for tearing, cutting and pasting/paper mâché work/ glaze paper/ sand paper/ felt paper/ pebbles/ beads/ bindis of different sizes/ paper punches
Reading Corner	Picture books with short stories - for child to listen, recall and recount CLR booklets - small stories with rhyme and repetition Books with life cycle of frog, butterfly Books on day-night, rhythm of the day, seasons	Picture story books without print 150 Nali kali readers (already available) 50 English Nali kali story books (already available) 50 popular titles from Pratham or NBT etc (to be chosen)/ Jharna: a set of 100 story cards/ Amar Chitra Katha comics/ Katha / Karadi tales - link audio stories to written books
Toy /Dolls corner	Cars and other vehicles Dolls/ kitchen set/ doctors set/	Carrom, Board games: Ludo/ snakes and Ladders / dice/ trade (monopoly)

⁴⁹ Seven stones game requires good eye hand coordination and involves throwing scooping of 7 stones /pebblesetc. "Posham Pa" is the Indian variation of "I sent a letter to my father"

/Tinkering corner	Fruit and vegetable models/paper money Masks/puppets and screens	Letter scabble/ maths scrabble/ Pallanguzhi/ Asha atta cards / paper money
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SEGMENTS /ACTIVITIES	3-6 YEARS	6-9 YEARS
SENSORY AND EMERGENT NUMERACY MATERIAL FOR 3-6 -YEAR -OLDS		
Visual discrimination	Classification and labelling and seriation based on shapes, sizes and colours: Beads, blocks, buttons, tiles in 3 different sizes, four different colours (red, blue, yellow green) and 4 shapes (circle, triangle, square, rectangle) / straws/ leaves/ /pebbles/ spoons etc Children to label, sort, match and place in order based on properties Cue cards with patterns (ABC/ AB, AB/ AAA, BBB/ etc) for children to copy and extend/ Kaleidoscope for fun experiences Association cards – what is wrong / odd man out / facial expressions/	
Sound discrimination	Labelling, Classification, & seriation based on volume, frequency and source Sound boxes/ whistles / drums and sticks/ use of mobiles (volume and ring tones / Different children’s voices / Whispering to shouting / recorded animal sounds / Children recognize and label/ or place in order, or reproduce sounds based on volume or reproduce patterns based on volume or frequency [how far/near did the sound come from, determine the direction, gauge the importance of sound] Association cards: what is wrong with this picture?	
Texture	Texture cards: velvet, felt, ordinary and sand paper Texture bottles: Water, sugar syrup, honey and glue, Temperature bottles – hot water, warm water, cold water and ice water Children label and place in order	
Weight	Weight boxes/bags, floaters and sinkers, water basin, weighing balance, tamarind seeds / cotton balls/ teacher collected items For children to estimate, compare, sort and match as well as weigh and experiment with sinkers and floaters	
Quantity	Small bottles, plastic see through cups, measuring spoons, coloured water sand etc. Students compare, place in order, equalize and measure and use math words like more-less, half-full, whole-part, empty-full	
Time	Posters, Time keeping instruments: Hour glass, clock, calendar, weather charts/ time tables : To be used to explain concepts of day and night, morning afternoon evening night/ hours and minutes/ weeks and months/ seasons and weather Association cards – time of day and activities Sequencing cards for placing in sequence, reversing sequence etc	
Number	Stones, tamarind seeds, beads, buttons, sticks for counting Abacus: (Set of Abacus Stand-1, with beads) Number and numeral matching tiles Rubber /wooden /plastic numbers from 1-10 Simple games on cloth with Dice to aid one to one correspondence /Pallanguzhi	
Thinking Skills	Observation: what is different/ what is missing cards / Memory: end of day conversation -what did we do today? Analytical thinking: what is wrong with this picture? Which 2 things go together cards (bat-ball/cup saucer)? Divide into groups (why have you divided like this?) Problem solving: riddles / application questions	

SEGMENTS /ACTIVITIES	3-6 YEARS	6-9 YEARS
EARLY NUMERACY MATERIAL FOR 6-8 -YEAR -OLDS		
Counting ⁵⁰	<p>Stones, tamarind seeds, beads, buttons, bundles of 10, abacus, numeral cards, for counting</p> <p>Abacus (Board, Rings & Rods) consisting of Abacus Stand-1, Yellow spirals -20, Blue spirals -20 Green spirals-20, Red spirals-20, White spirals -10, Additional Rods-2</p> <p>Base Ten Blocks consisting of yellow cubes-100, Blue rods -20, Green Plates-20, and Red square cube-1</p> <p>Cloth pin: 12 Clips of different colours</p> <p>Dice: Yellow-2, Blue-2, Green-2, Red-2, White-2</p> <p>Number beads-1 set of 50 white beads and 50 numbered red beads on a string</p> <p>Place Value Mat with Place Value Strips: 1 set consists of Yellow - 10 pcs. (0 to 9), Blue - 10 pcs. (00 to 90), Green - 10 pcs. (000 to 900) and Red - 10 pcs. (0000 to 9000)</p> <p>Play Money and Coins: 1 set consists of -Rupees 10,20,100,1000 – 150 Nos. in each denomination and -Rupees/coins- 2, 5, 50, 500, 2000 – 50 Nos. in each denomination.</p> <p>Square Counters: 1 set consists of 50 Nos (10 Nos. each in Red, Green, Blue, Yellow, Orange)</p> <p>Math concept cards -10</p> <p>1 No Weighing Balance with Volume Measure</p>	
Maths operations	<p>Addition and subtraction: everyday objects / beads /buttons etc, Nali Kali teacher cards/ Nali Kali student workbooks</p> <p>Board games to support counting with one- to- one correspondence, addition and subtraction and buying and selling.</p>	
Activities to support Thinking skills	<p>Observation: draw what you see/ describe what you see/ what looks more?</p> <p>Memory: describe this day last week/ narrate story in 5 sentences/ quizzing games on general knowledge</p> <p>Analytical thinking :10 questions games -what am I? where is it hidden? 10 things wrong in this picture/ cross word puzzles / story questions that require inferring.</p> <p>Creative Thinking: draw many objects (with 2 circles/2 squares). Play shop - I have Rs 5- what can I buy from this shop? Complete the sentence/ complete the story / games like I went to the market and bought some— (children cannot repeat an item)</p> <p>⁵¹Problem solving : project- based learning exercises</p>	

⁵⁰ This set is a part of the Ganitha Kalika Andolana kit that has been already supplied to grades 3-5 in a large number of schools in Karnataka and can be borrowed and used in the early grades.

⁵¹ Project-based learning (PBL) or project-based instruction is an instructional approach designed to give students the opportunity to develop knowledge and skills through engaging projects set around challenges and problems they may face in the real world.

SEGMENTS /ACTIVITIES	3-6 YEARS	6-9 YEARS
EMERGENT & EARLY LITERACY MATERIAL FOR 3-8 -YEAR -OLDS		
Listening activities	<ul style="list-style-type: none"> • Model rich talking using nouns, verbs, adjectives. • Go for a listening walk 	Model rich talking using nouns, verbs, adjectives.
Following instructions	<ul style="list-style-type: none"> • Give the child 2-step instructions to execute • Give children tasks to follow – e.g., put away things in centre 	<ul style="list-style-type: none"> • Give 3-4 step instructions in L1 • Give 1-2 step instructions in L2
Use of circle time	<ul style="list-style-type: none"> • At circle time, ask child to narrate an event that happened to them or story • Use Conversation charts where children name, describe, reason, predict based on the scene • Use conversation charts to ask "what, who, where, why, when, how" Qs of graded difficulty • Make time for show-and-tell about any object. • Look at pictures/ books with different facial emotions. Name feelings, talk about them/ Non-verbal communication: child makes different expressions - sad happy, surprised, angry etc. • Children's experiences are recorded as stories for others to listen to 	<ul style="list-style-type: none"> • Use circle time for open conversation on children's experiences conversation with children around topics /themes with "who what how when" questions. • Encourage conversations requiring use of "because /but/ so / " • Show and tell activities with posters / objects • Acting out stories, sequences based on known story /
Rhymes	<ul style="list-style-type: none"> • Sing action and rhyming songs • Sing folk and grandma's songs and rhymes 	<ul style="list-style-type: none"> • Sing Rhymes and songs
Stories	<ul style="list-style-type: none"> • Storytelling followed by children narrating in their own words • Story narration of unknown story based on Story-sequence cards 	<ul style="list-style-type: none"> • Story narration of known story • Story narration of unknown story based on Story-sequence cards
Language games	<ul style="list-style-type: none"> • Pretend play - verbal and non-verbal, ideas - doctor, teacher, shopkeeper, police, chef etc / being an animal, playing dress up, cooking • Phonemic awareness games first and last sound - big /small, /silly sentences • Play games like "Ready, Steady, Go" where child knocks down blocks at 'Go' / like "Simon Says" where child has to listen to and follow an instruction/ child 	<ul style="list-style-type: none"> • Passing the parcel: games for vocabulary building / reading / following instructions • Simon says or variation do what I say - not what I do where child has to listen to and follow an instruction that Simon or teacher says • I spy and dog and the bone: for vocabulary, letters, sounds (teacher calls out word/sound and children race to find it) • Dumb Charades

	<p>hides something and has to provide verbal cues to others.</p>	<ul style="list-style-type: none"> • Memory trays (20 items /word cards placed and shown for 20 seconds after which with children list items they remember) • "Guess what I see" games (children play in pairs where one describes picture - the other one draws) • Traditional games like "Name play animal thing" / antakshri / Spell fast:
Language and Reading	<ul style="list-style-type: none"> • Letter-sound, Sound-word, sound-picture flash cards • Sight words in centre with children's names, objects and meaningful words • Verb cards • Alphabet stencils or tiles • Attendance tree • Picture reading cards • Alphabet / akshara cards 	<ul style="list-style-type: none"> • Bilingual posters on themes • Bilingual picture cards for themes /topics • Vocabulary expansion cards - synonyms and antonyms, singular and plural • Nali Kali teacher cards /student workbooks • Picture dictionary and word dictionary • Early readers in Kannada and English
Writing readiness and writing	<ul style="list-style-type: none"> • Scribbling and drawing • Drawing and labelling with invented spelling • Tracing sandpaper letters • Shape Stencils and pattern stencils- for guided movement with pencil • Join the dot and wipe-clean pattern cards • Slate and chalk 	<ul style="list-style-type: none"> • Scribbling • Writing with invented spelling • Tracing sandpaper/ rubber letters • Making lists (shopping, recipes) • Nali Kali cards • Nali kali workbooks • Lined notebooks

SEGMENTS /ACTIVITIES	3-6 YEARS	6-9 YEARS
EVS MATERIAL FOR 3-8-YEAR -OLDS		
Environment and science	<ul style="list-style-type: none"> • Bring seasonal fruit and vegetables to center and talk about them. • Flash Cards: self, family, friends, neighborhood, occupations, animals, fruits and vegetables, flowers transport, festivals etc • Field visits • Visitors 	<ul style="list-style-type: none"> • Magnifying lens, magnet, mirror • Tools - mortar and pestle, hammer, spanner, punch, stapler • Flash Cards: self, family, friends, birds, animals, fruits and vegetables, flowers, land, water, air, transport, festivals, occupations • Weather charts • Field visits / science fairs • Visitors and Interactions with community helpers and parents with skills
Fixtures	<ul style="list-style-type: none"> • Running black board • Children's portfolios • Timetables 	<ul style="list-style-type: none"> • Running blackboard • Space for timetable / Pragati Nota / children attendance trays / portfolios

Annexure 3 - The Road Map for operationalizing the KSCF.

The table gives the main outcomes and targets with the estimated completion dates. Some of the main milestones along the way are listed. These may be expanded, and dates added as detailed plans are put in place by programme planners.

Outcome 1: By 2023 all institutional arrangements for operationalizing the policy are set up and functioning effectively	
Target statements	Date: completed by
1 KSCF and POA draft discussed agreed and signed passed by Karnataka cabinet and formally launched	
2. KSCF translated and widely available	
Institutional arrangements in place for implementing SCF recommendations	December 2023
1: State coordinating council along with District and block level units set up with clear TOR and budget	
2. Cell for Foundational education set up in DSERT with TOR and annual targets	
3. Setting up of ECE coordination cell in the WCD	
4. Synchronizing the jurisdiction of ICDS circles and DOE clusters, online registration and cluster/Circle wise mapping of all foundational ECE institutions completed	
5. School mapping and rationalization programme completed in selected blocks in consultation with panchayats	

Outcome 2: By 2024 revised Chili Pili and Nali Kali curriculum developed along the play -based principles and learning goals of the KSCF is functioning in all preschools and classes 1&2 of all schools of Karnataka	
Target statements	Date: completed by
Chili Pili curriculum revision completed	August 2023
1. SCF Document translated, training module developed and made available as training course on the NISHTHA and discussions held with private schools for coming on board with SCF	
2. Joint curriculum resource teams ⁵² trained on the SCF provisions and finalize learning outcomes statements for 3-8 years based on Curricular goals and competencies of SCF.	

⁵² Team members to include representatives of SSA/DSERT/ Nali Kali RPs, ECE technical group, ICDS supervisors and private school

3. GO mandating a minimum 4 hour of teaching time for ECE centres with final list of LOs published and shared widely by DWCD	
4. Chili Pili curriculum review in line with agreed SCF learning outcomes and pedagogy and synchronized with Nali Kali completed by ECE curriculum team ⁵³	
5. ECE revised curriculum, teacher's modules, and TLM specifications finalized for ICDS by ECE curricular resource team	
Revised Chili Pili Curriculum implemented in ICDS	June 2024
1. Procurement of revised manual and TLM for revised curriculum and distributed to all schools	
2. Setting up and training of all joint state resource and district and block resource teams in sandwich mode (15 +15+15 days)	
3. Initial Training of Anganwadi workers on revised Curriculum completed and monthly mentoring training commenced	
Chili Pili PLUS curriculum revised and implemented in monograde LKG /UKG classes of government and private schools	June 2024
1. Chili Pili PLUS curriculum review in line with agreed learning outcomes, pedagogy and synchronization with Nali Kali completed by curricular team ⁵⁴	
2. Teacher's modules and TLM lists for multi age ECE centres finalized and made widely available to all private schools	

⁵³ ECE curricular resource team to consist of ICDS staff, tata trust, ECE technical group members and Nali Kali experts

⁵⁴ Team to consist of ECE experts, KPS school teachers, private school teachers and Nali Kali experts

3. finalizing of norms for on- the- job training of private school teachers; and training of teachers from LKG/UKG sections ⁵⁵	
4. Training of all teachers in Monograde preschools on revised Chili Pili PLUS curriculum	
5. Macro survey of ECE institutions for quality with sharing of results and setting of improvement targets completed	April 2025

Target statements	Date: completed by
Nali Kali curriculum and pedagogy revised in line with recommendations of SCF and agreed LOs	September 2023
1. Decision on delinking class 3 from Nali Kali	
2. Nali Kali curriculum review in line with agreed SCF pedagogies and outcomes by Nali Kali experts; Development of TLM (teacher cards workbooks and other materials)	
Revised Nali Kali curriculum and pedagogy implemented in grades 1 &2	June 2024
3. Production of materials and delivered to all Nali Kali Units	
4. training completed on revised curriculum -SRP/MRPs/ BRPs/ Teachers	

Outcome 3: By 2024- 2025 all foundational classes for children 3-8 years will follow the state policy on multilingual education offering L1 and L2 instruction at recommended levels with adequate TLM and trained teachers	
Target statements	Date: completed by
Language policy for foundational stage announced	December 2023
1. language mapping process completed	

⁵⁵ LKG/UKG sections run in KPS schools, SDMC run preschools in Government primary schools and private schools.

2. Language policy announced after wide ranging discussions with stakeholders on finalizing a language policy for the foundational stage with school managements, parents and experts by state resource group and expert teams	
L2 Curriculum for 3-6 years implemented in all classrooms	December 2024
1. Chili Pili curriculum adapted to local languages and dialects	
2. L2 curriculum for ICDS and Chili Pili Plus curriculum finalized	
3. L2 curriculum for ICDS and Chili Pili Plus finalized with TLM ⁵⁶ and training modules	
4. TLM and material supplied to ICDS / shared with private schools for procurement	
5. Training of resource teams completed	
6. Training of teachers completed	
Revised L2 Curriculum for grades 1-2 implemented in all Nali Kali classrooms	June 2024
1. Nali kali curriculum for border districts finalized based on SCF recommendations and LOs	
2. Review and revision of ENK curriculum based on NK policy and one year experience, SCF recommendations and agreed LOs with Development of TLM (teacher cards workbooks and other materials)	
3. Production of materials and supply to NK units and making material available for procurement to private schools	
4. Training of trainers and Teacher training completed to implement revised L 2 curriculum in Nali Kali and Interested private schools	
5. Macro and micro evaluations of classroom quality implemented annually	March 2025

⁵⁶ TLM will include activity books, audio visual and audio materials, story books

Outcome 4: By 2024- 2025 a well -designed parent education and public awareness strategy to create awareness on good quality early education will be in place	
Target statements	Date: completed by
Scientific information on public perceptions on good quality education available	December 2023
1. Studies commissioned and reports available on existing set of beliefs and aspirations among parents	
2. Discussion and widespread consultation with stakeholders on parental aspirations and perceptions on L1, L2 & L3	
Media campaign on education in mother tongue & good quality early education launched	December 2024
1. Media modes, messages finalized and launched	
2. and mechanisms for feedback available and used for review and correction	

Outcome 5: By 2026 the provision for ITEP/ teacher education programme for teachers in the foundational stage and provisions for continuous professional development of in-service teachers will be in place and used widely	
Target statements	Date: completed by
ITEP teacher education programmes set up in select universities of the state	June 2025
1. Complete school rationalization process and teacher registration to assess teacher education needs	
2. Support provided to NCTE to identify colleges and provide facilities for practicum and internship	
3. Support scholarship and leave of absence schemes for teachers wishing to attend ITEP	
ECCE Online certificate courses for anganwadi workers launched and widely used	December 2023
1. The 8hour UNICEF Training course translated into Kannada and uploaded on Diksha	
2. The 6month 20 credit diploma course in ECCE /Foundational education developed by National open university courses made available to teachers	
3. The Nishtha 4.0 training programme for ICDS teachers will be available to all ICDS and private school teachers	

Social Media platforms used widely for sharing best practices and trouble shooting	June 2025
1. Cluster wise social media groups of all ECE and foundational teachers set up	
2. Expert teams to support groups with problem questions set up in BRCs/DIETs & DSERT	

Outcome 6: by 2028 reform for professionalizing the teaching cadre in foundational stage in place and quality of public education available and accessible to all	
Target statements	Date completed by
ICDS and Nali Kali fully staffed with qualified and trained professional workers	December 2028
1. Project management and Supervisory vacancies in ICDS filled	
2. Adequate government funded ECE programmes to meet demand in Urban areas	
3. School rationalization completed with smaller schools with adequate teacher pupil ratios	
4. Vacancies for foundational classes filled with ITEP graduates	December 2028
5. Classrooms and amenities made available through government programmes, CSI initiatives and crowd funding	

Acronyms

KSCF	Karnataka State Curriculum Framework
NCF	National Curriculum Framework
ECD	Early Childhood Development
ECCE	Early Childhood Care and Education
IECEI	India Early Childhood Education Impact Study
ICDS	Integrated Child Development Services
NEP	National Education Policy
UNICEF	United Nations International Children's Emergency Fund.
BPL	Below Poverty Line
RTE	Right to Education Act
NCERT	National Council for Education Research and Training
NIPUN	National Initiative for Proficiency in reading with Understanding and Numeracy.
ASER	Annual Status of Education Report
NGO	Non-Governmental Organizations.
NAS	National Achievement Survey
C-SAS	Census based – State Achievement Survey
AWC	Anganawadi Center
AWW	Anganwadi Worker
AWH	Anganwadi Helper
SSA	Sarva Sikshana Abhiyan
SDMC	School Development and Monitoring Committee
FLN	Foundational Literacy and Numeracy
TLM	Teaching Learning Material
NHFS	National Family Health Survey
WCD/DWCD	Women and Child Development
CDPO	Child Development Project Officer
CLAP	Children Learning Assisted by Parents
SATS	Student Achievement Tracking System
HPC	Holistic Progress Card
DSERT	Department of State Education Research and Training
CRP	Cluster Resource Person
ITEP	Integrated Teacher Education Programme
LiRIL	Literacy Research in Indian Languages
CG	Curricular Goals
DIET	District Institute of Education and Training
DIKSHA	Digital Infrastructure for Knowledge Sharing
DISE	District Information System for Education
GER	Gross Enrolment Ratio
NCTE	National Council for Teacher Education

NER	Net Enrolment Ratio
PTR	Pupil Teacher Ratio
QR	Quick Response
TET	Teacher Eligibility Test



Karnataka Curricular Framework for the foundational stage

Department of School Education and Literacy

&

Department of Women and Child Development