Summary

The National Education Policy 2020 (NEP 2020) is an ambitious Policy document aiming to improve educational outcomes in the country for all children. It has been more than three decades since the publication of the previous National Policy on Education in 1986. A lot has transformed in this period — significant changes in demography and in educational access and attainments; an information revolution; the expansion of knowledge particularly in domains such as cognitive neuroscience, computer science, deep learning, and artificial intelligence; global economic and health shocks (2008, 20); and challenges of climate change and environmental degradation. NEP 2020 aims to respond positively to these changes and makes clear recommendations for education at all levels, starting with education for children of age 3 to higher education.

Some of the key highlights of the Policy in the context of school education are:

a. **A 5+3+3+4 stage design.** Schooling has been divided into four stages based on the styles of learning best suited for those age groups — Foundational Stage for ages 3-8, Preparatory Stage for ages 8-11, Middle Stage for ages 11-14, and Secondary Stage for ages 14-18.

b. **Early Childhood Care and Education (ECCE).** The Policy has laid significant emphasis on ECCE. It is now well recognised that early educational intervention, along with nutrition, is foundational for future positive outcomes. A holistic curriculum has been developed keeping in consideration all the relevant developmental domains of early childhood.

c. **Foundational Literacy and Numeracy.** The Policy gives the highest priority to achieving universal Foundational Literacy and Numeracy. The abilities to read and write, and perform basic operations with numbers, is seen as a necessary foundation and indispensable prerequisite for all future schooling and lifelong learning.

d. **Curricular Aims.** Emphasis on conceptual understanding rather than rote learning and development of capacities and values, such as critical thinking, decision making, and creativity, and ethical, human, and constitutional values.

e. **Multidisciplinary, Holistic, and Integrated Education.** Focus on this across the Sciences, Social Sciences, Art, Humanities, and Sports for a multidisciplinary world in order to ensure the unity and integrity of all knowledge.

f. **Reduced Curriculum Content.** The Policy makes clear recommendations to reduce the content load in each subject to its core essentials and thereby make space for critical thinking and holistic learning.

g. **Flexibility and Choice in the Secondary Stage.** The Policy recommends increased flexibility and choice of subjects of study, particularly in secondary school — including subjects in Physical Education, the Art and Crafts, and Vocational Skills — so that students can design their own paths of study and life plans.

h. **Integrating Vocational Education.** The Policy aims to overcome the social status hierarchy associated with Vocational Education and requires integration of Vocational Education programs into mainstream education.

i. **Multilingualism.** Given the multilingual heritage of India, and the cognitive benefits of learning multiple languages, the Policy gives strong emphasis towards learning multiple languages including languages native to India.

j. **Rootedness in India.** The vision of the Policy is to instil among the learners a deep-rooted pride in being Indian, not only in thought, but also in spirit, intellect, and deeds, as well as to develop knowledge, skills, values, and dispositions that support responsible commitment to human rights, sustainable development and living, and global well-being, thereby reflecting a truly global citizen.

The Policy recommends the formulation of a new and comprehensive National Curriculum Framework for School Education (NCF-SE) to realise the above vision for school education.

This NCF-SE thus aims to continue the transformative journey initiated by NEP 2020. **This chapter is a summary of the NCF-SE. It outlines the core principles adopted for the formulation of the NCF-SE and then summarises the key chapters.**

1.1 A Few Preliminary Points

To read this NCF-SE or in short, NCF, it is useful to have a common shared understanding of the most basic terms being used.

1.1.1 Curriculum

Curriculum refers to the entirety of the organised experience of students in any institutional setting towards educational aims and objectives.

The elements that constitute and bring to life a Curriculum are numerous, and include goals and objectives, syllabi, content to be taught and learnt, pedagogical practices and assessment, teaching-learning materials (TLMs), school and classroom practices, learning environment and culture of the institution, and more.

There are other matters that directly affect a Curriculum and its practice or are integrally related while not being within the Curriculum. These include the Teachers and their capacities, the involvement of parents and communities, issues of access to institutions, resources available, and administrative and support structures.

1.1.2 Curriculum Framework

The Curricula across our country must be informed by and be fully responsive to the glorious unity in diversity of India. The imagination of NEP 2020, where institutions and educators are highly empowered (including to develop Curricula), is energised by this unity in diversity and the nurturing of it.

States have the Constitutional mandate to provide high-quality education to all children, and their own unique State contexts inform their own approaches to Curricula.

This NCF must aim to support exactly that — it is a framework to help develop all the diverse Curricula in the country, while enabling consonances and harmony across the country, and providing a basis for quality and equity.

Thus this NCF aims to provide the guiding principles, goals, structure, and elements for the development of Curricula, informed by which the syllabi, TLMs including play materials, workbooks, textbooks, and assessment methods will be developed by the relevant functionaries including Teachers in the States, Boards, and schools.

1.1.3 What does this NCF aim to achieve?

The overarching objective of this NCF is to help in positively transforming the school education system of India, through positive changes in the curriculum including pedagogy. In particular, this NCF aims to help change practices in education and not just ideas; indeed, since the word 'curriculum' encapsulates the overall experiences that a student has in school, 'practices' do not just refer to curricular content and pedagogy, but also include school environment and culture. It is this holistic overall transformation of the curriculum that will enable us to positively transform overall learning experiences for students.

1.2 Core Principles of this NCF Design

This NCF has adopted some core principles in designing the curriculum framework to realise the vision of NEP 2020.

a. **Guide for Practitioners.** The intent of this NCF is to be a valuable guide to practitioners of education, whether they are syllabus or content developers or school Teachers. The language used and style of articulation is such that it is easily comprehensible and relatable to practitioners.

b. **Specificity.** To be relatable to practitioners, this NCF has gone into specific, nonbinding suggestions and illustrations, wherever they may be useful, and used examples from ground experiences to illustrate concepts and the principles. There is often concern in the educational domain that being specific means being prescriptive, thus robbing the autonomy of the practitioners. However, this NCF is guided by the belief that being specific is a virtue, helping to provide a good starting point for practitioners. They can still always innovate, using the specifics provided only as a starting point or as an idea to be modified or replaced in a manner that is appropriate to their contexts and circumstances. The ground realities in the country indicate that practitioners are often left confused and directionless with only generalities and broad visionary statements on education.

c. **Pragmatic Considerations.** This NCF has considered ground realities, such as time available during the school day, resources available in most school contexts in India, and Teacher availability and preparation. While it is true that all educational endeavours are exercises of hope, this NCF has consciously maintained an appropriate balance between idealism and pragmatism, providing in many cases both short- and long-term solutions to problems being faced. Thus, the reforms suggested are expected to be within the Zone of Proximal Development (ZPD) of the current education system as a whole.

d. **Learning Standards.** This NCF has set clear and specific Learning Standards (see §1.4) in order to bring clarity to all stakeholders — policymakers, educational administrators and functionaries, syllabus and content developers, parents, Teachers, and students — on the

intended educational outcomes of the curriculum. Since school education is a public good, it is hoped that such clarity among all stakeholders will bring more accountability and effectiveness to the education system as a whole.

1.3 Learning Standards

Education, in a very fundamental sense, can be defined as the attainment of valuable Knowledge, Capacities, Values, and Dispositions. If that is so, one of the key questions for any curriculum framework is: which Knowledge, Capacities, Values, and Dispositions are valuable? In other words, what is worth teaching? This NCF responds to this question very specifically through a clear and precise set of 'Learning Standards.'

These 'Learning Standards' and the processes associated with them, for example the 'flow-down' from 'Aims of Education' to 'Learning Outcomes,' is central to this NCF — to ensure alignment and integration of the different components of the design and practice of curricula, such that our school education achieves what we want for our children.

All stakeholders of school education must give the greatest of attention to the 'Learning Standards.'

1.3.1 Broad Aims of School Education

The Learning Standards are guided by certain widely agreed upon broad Aims of School Education that are articulated in this NCF. These aims have been arrived at from the vision and purpose of education as envisaged by NEP 2020:

a. **Rational Thought and Autonomy.** Schools should aim to develop independent thinkers who make well-informed decisions based on a grounded understanding of the world around them.

b. **Health and Well-being.** School education should be a wholesome experience for students. Students should acquire Knowledge, Capacities, and Dispositions that promote mind-body wellness.

c. **Democratic and Community Participation.** Democracy is not just a form of governance; it is a 'mode of associated living,' a sense of collaborative community. School education should aim to develop such Knowledge, Capacities, and Values and Dispositions that enable students to participate and contribute to the democratic functioning of India.

d. **Economic Participation.** School education should aim to develop such Knowledge, Capacities, Values, and Dispositions that enable students to participate and contribute to the economy. Effective participation in the economy has a positive impact both for the individual and for society as a whole.

e. **Cultural Participation.** Understanding the culture and heritage embedded in the family and community is at the core of cultural participation. School education should promote cultural literacy and enable students to acquire knowledge, capacities, and values and dispositions to participate meaningfully and contribute positively to culture.

1.3.2 Values and Dispositions, Capacities, and Knowledge

The broad aims of education are best achieved through:

a. Developing appropriate values including traditional values of Indian heritage — ethical and moral values, democratic values, and epistemic values.

b. Acquiring positive dispositions — positive work ethic, curiosity and wonder, and pride and rootedness in India.

c. Developing capacities — for inquiry, effective communication, problem solving and logical reasoning, creativity and aesthetic expression, maintaining health, productive work, and effective social engagement.

d. Acquiring knowledge in breadth and depth. The seven Curricular Areas of Languages, Mathematics, Science, Social Science, Art Education, Physical Education and Well-being, and Vocational Education, along with Interdisciplinary Areas, develop multidisciplinary and interdisciplinary knowledge in students. Such knowledge allows students to develop a well-grounded understanding of the world.

These values and dispositions, capacities, and knowledge are often developed together, and the content, pedagogy, and assessments aim to weave them together seamlessly.

1.3.3 Curricular Aims, Goals, Competencies, and Learning Outcomes

The Learning Standards to achieve the above values and dispositions, capacities, and knowledge are articulated at four levels:

a. Curricular Aims — Curricular Aims have been articulated within each of the Curricular Areas. These aims are to be achieved by the ends of each of the four Stages of schooling. The aims of all the eight Curricular Areas put together should result in the achievement of the broad Aims of School Education as articulated above.

b. Curricular Goals — Curricular Goals are more specific statements that give direction to curriculum development and implementation in order to achieve the Curricular Aims. They are also specific to a School Stage (e.g., the Foundational Stage) and a Curricular Area (e.g., Mathematics).

c. Competencies — Competencies are specific learning achievements that are observable and can be assessed systematically. In this NCF, Competencies (which are only suggestive and may vary in different contexts) are directly derived from a Curricular Goal and are expected to be attained by the end of a Stage. Summative assessments at the end of each Stage of schooling should be based on these Competencies.

d. Learning Outcomes — Learning Outcomes (LOs) are granular milestones of learning and usually progress in a sequence leading to the attainment of a Competency. These LOs enable Teachers to plan their content, pedagogy, and assessments towards achieving specific Competencies. Syllabus and content developers would have to adapt these LOs based on the contexts in which they are applicable.

Thus, in this NCF, there is a clear flow of increasing specificity from the broader Aims of Education to specific LOs. Through these clear linkages, all stakeholders can observe and evaluate the educational achievements of students that should lead to meeting the broad Aims of School Education. An illustration of such a flow, in Language Education, is given below.

Figure 1.3i

Aim of Education

Rational Thought and Independent Thinking/Autonomy: Making choices based on rational analysis, creativity, and a grounded understanding of the world, and acting on those choices, is an exercise of autonomy. This indicates that the individual has gained the capacity for rational reasoning, critical thinking, knowledge with both breadth and depth, and discernment to understand and improve the world around them. Developing such independent thinkers who are curious, open to new ideas, think critically and creatively, and thereby form their own opinions and beliefs is thus a very important aim for school education.

⇩

Language Education

Curricular Aim

Effective communication skills: Students should develop their Language capacities to think critically, identify real-world problems, analyse them, make rational arguments, and work out solutions. The capacity to use language to think and communicate well in a variety of situations is critical for effective democratic, social, and cultural participation.

⇩

Curricular Goal

Language 1 (R1), Secondary Stage

CG-3: Uses Language to develop reasoning and argumentation skills by engaging with a variety of audio and written material

⇩

Competency

Language 1 (R1), Secondary Stage

C-3.2: Argues with proper rationale by carefully evaluating premises

⇩

Learning Outcomes

Language 1 (R1), Secondary Stage (Grades 9 and 10)

Grade 9	*Grade 10*
Evaluates the premises of an argument for its clarity, relevance, and reliability (of evidence)	Lists premises (reasons and evidences) that are useful for an argument
Recognises own emotional biases while reading and listening	Makes logical connections between premises and conclusion in speech and writing

1.4 Stage Design

This NCF has divided the school curriculum into four Stages as per the recommendation of NEP 2020.

1.4.1 Foundational Stage

a. This Stage is for students aged between 3 and 8.

b. The Learning Standards for this Stage have been set based on domains of development — **Physical Development, Socio-emotional and Ethical Development, Cognitive Development, Aesthetic and Cultural Development, and Language and Literacy Development.** In addition to these domains, it is important to set Learning Standards for developing **Positive Learning Habits** that serve as a foundation for all further school learning.

c. Developing Foundational Literacy and Numeracy finds adequate emphasis in this Stage. Children learn two languages (R1 and R2) and are expected to achieve Foundational Literacy in R1 by the end of this Stage.

d. The content to achieve these Learning Standards are predominantly concrete play materials, such as toys, puzzles, picture books, and manipulatives during the first three years. Textbooks/ playbooks/ workbooks are recommended only from Grade 1. Children's literature is a particularly important source of content for this Stage.

e. The pedagogy is largely play-based and emphasises nurturing, caring relationships between the Teacher and the children. There should be a balance between self-paced individual learning and group activities. Systematic guidance is required for developing Foundational Literacy and Numeracy.

f. Assessments are conducted largely in the form of qualitative observations by Teachers. In Grades 1 and 2, worksheets can be a source of information on children's learning for the Teacher. Explicit tests and examinations are deemed to be inappropriate for this Stage.

1.4.2 Preparatory Stage

a. This Stage is for students aged between 8 and 11.

b. The Learning Standards for this Stage have been set for two languages within Language Education (R1 and R2), Mathematics, Art Education, Physical Education, and The World Around Us (as an interdisciplinary area of study). Work and pre-vocational skills are included as part of The World Around Us curriculum.

c. Content can be presented slightly more through textbooks while concrete materials and experiences still form the core of content presentation. The World Around Us (TWAU), in particular, should rely more on activities and experiences, rather than presented as inert facts in textbooks. To take children well beyond Foundational Literacy and develop a genuine interest in independent reading, children's literature will need to play a major role in the content for Language Education in the Preparatory Stage.

d. Activity - and discovery-based pedagogy should continue to play a big role in the Preparatory Stage classroom. But students should be encouraged, gradually, to be active participants in more formal classroom settings. Practice and other activities to develop fluency should find a place during school hours and as homework.

e. Short formal written assessments are appropriate for this Stage. Teachers' observation of students' work continues to form an important assessment mechanism. Periodic summative assessments can be utilised to supplement the more regular formative assessments. Summative assessments at the end of this Stage should be based on the Competencies defined in the Learning Standards.

1.4.3 Middle Stage

a. This Stage is for students aged between 11 and 14

b. Students need to learn three languages (R1, R2, and R3) in this Stage. Learning Standards are set for these languages as well as for Mathematics, Art Education, and Physical Education. Science Education and Social Science Education have separate sets of Learning Standards, and Vocational Education finds its own curricular space and Learning Standards. These areas represent different forms of knowledge and students are expected to gain a more formal understanding of the nature of as well as of the methods of inquiry in each form.

c. The content in the Middle Stage needs to reflect the engagement with theoretical concepts and the introduction of theories and conceptual frameworks specific to each form of knowledge. There is a shift to more abstract ideas and the students are expected to engage with unfamiliar contexts and situations. The language used in the content should assist students in developing academic linguistic proficiency. Such expansion, both in the different forms as well as abstraction, can pose challenges to students. Well-designed textbooks that reflect the specific goals of the Learning Standards have a very significant role to play in presenting content in easy and comprehensible formats in this journey from concrete to abstract.

d. The pedagogy adopted in this Stage should be a judicious balance of direct instruction as well as opportunities for exploration and inquiry. Building on prior knowledge and opportunities to learn from errors become important considerations for instructional strategies. There should be a constant focus on the methods of inquiry within each Curricular Area.

e. Assessments can be more formal and explicit. Assessment design has a very important role to play in shifting the focus from content retention to conceptual understanding and fluency in the methods of inquiry. Students should be given opportunities to engage with higher-order capacities of analysis and synthesis through meaningful, yet challenging, assessments. Summative assessments at the end of this Stage should again be based on the Competencies defined in the Learning Standards.

Figure 1.4i


Group 1
Languages
Languages native to India (Compulsory)
Other Languages (Compulsory)
Modern Indian Languages
Classical Languages
Foreign Languages
Group 2
Art Education
Indian Classical Music
Folk Music
Contemporary Music
Theatre
Puppetry
Sculpture
Fine Arts
Folk Painting
Graphic Design
Motion Pictures
Photography
Textile Designing
Physical Education & Well-being
Yoga & Lifestyle
Sports & Nutrition
Physical Education for Students with Disabilities
Biomechanics and Sports
Vocational Education
Agriculture - Cereal Production
Agriculture - Seed production
Agriculture - Gardening
Automobile Servicing
Machining
Electronics
Community Health
Accounting Services
Data Entry & Management
Banking Services
Retail Services
Textile & Garments
Group 3
Social Science
History
Geography
Political Science
Psychology
Psychology & Mental Health
Economics
Development Economics
Sociology
Philosophy
Anthropology
Archaeology
Interdisciplinary Areas
Business Studies
Accounting
Sustainability and Climate Change
Journalism
Indian Knowledge Systems
Legal studies
Group 4
Mathematics & Computational Thinking
Mathematics
Computer Science
Business Mathematics
Advanced Mathematics
Probability & Statistics
Science
Physics
Chemistry
Biology
Earth Sciences
Astronomy
Modern Physics
Biology

1.4.4 Secondary Stage

a. This Stage is for students aged between 14 and 18.

b. Phase 1 — Grades 9 and 10:

i. All students would continue to engage with all the Curricular Areas as in the Middle Stage.

In addition, students would study Environmental Education as an Interdisciplinary Area of study. They would develop capacities for reasoning and argumentation for issues in the public sphere along with ethical and moral reasoning. They would use these capacities in the context of Environment Education.

Learning Standards have been set for these areas of study.

c. Phase 2 — Grades 11 and 12:

i. Choice-based courses are to be offered to enable flexibility and choice for students and to remove hard separations between disciplines and academic areas.

ii. Students need to study two subjects from Language Education (called **Group 1,** *see Figure 1.4i*), at least one of which must be a language native to India. Literature subjects are also contained in Language Education at this level.

iii. Students need to choose four subjects (with an optional fifth subject) from at least two of the following three groups (*see Figure 1.4i*):

1) Group 2: Art Education, Physical Education, Vocational Education

2) Group 3: Social Science and Humanities, Interdisciplinary Areas

3) Group 4: Science, Mathematics and Computational Thinking

iv. This scheme allows for both breadth of study as well as gaining disciplinary depth. To allow for interesting combinations, there should be no further restrictions for students to choose specific streams.

v. An illustrative list of subjects that can be made available within each Group is given below.

vi. Some illustrative combinations possible with this scheme are given in *Figure 1.4ii.*

d. Textbooks play a significant role in organising content in Grades 9 and 10. In Grades 11 and 12, students should be encouraged to source content from multiple channels. Course compendiums can be utilised in Grades 11 and 12 to make the choice of content more dynamic and flexible.

e. Pedagogy at this Stage should expect more independent learning from the students. More opportunities for self-study and group work should be encouraged. Classroom interactions should also be diverse — didactic, Socratic, and inquiry-based methods are all appropriate for this Stage.

Figure 1.4ii

Combinations for Commerce	Combinations for Science	Combinations for Social Science	Multidisciplinary Combinations
Combination 1	**Combination 1**	**Combination 1**	**Combination 1**
Hindi, English Business Studies, Accounting, Economics from Group 3 Business Mathematics from Group 4	Classical Telugu, Sanskrit Mathematics, Physics, Chemistry from Group 4 Sustainability and Climate Change from Group 3	Marathi, French History, Economics, Psychology from Group 3 Contemporary Music from Group 2	Classical Tamil, Hindi Gardening from Group 2 History, Journalism from Group 3 Mathematics from Group 4
Combination 2	**Combination 2**	**Combination 2**	**Combination 2**
Bengali, English Business Studies, Accounting from Group 3 Business Mathematics from Group 4 Fine Arts from Group 2	Gujarati, English Biology, Physics, Chemistry from Group 4 Indian Classical Music from Group 2 [Optional] Mathematics from Group 4	Assamese, Sanskrit Geography, Political Science from Group 3 Indian Classical Music from Group 2 [Optional] Mathematics from Group 4	Pali, Malayalam Folk Music from Group 2 Automobile Servicing from Group 2 Business Studies from Group 3 [Optional] Business Mathematics from Group 4

f. Assessments and Board Examinations:
   i. Students should be given opportunities to engage with higher-order capacities of analysis and synthesis through meaningful yet challenging assessments.
   ii. Board examinations for Grade 10 should be based on the Competencies set for each of the Curricular Goals in that area. Art Education, Physical Education, and Vocation Education would have local assessments with Board certification.
   iii. To get a Grade 12 certificate, the students should pass the following Board examinations:
      1) 2 examinations in Languages
      2) 4 examinations from at least 2 Groups (with one additional optional exam)
      3) Subjects in Group 2 (Art Education, Physical Education, and Vocational Education) would have local assessments with Board certification.

g. Implications for Schools and Boards of Examinations:
   i. Schools and Examination Boards should be prepared to offer and assess subjects from all the ten Curricular Areas for Grade 10 right from the beginning of the implementation of this NCF.
   ii. Schools and Examinations Boards should be prepared to offer a minimum of two languages for Grades 11-12 from the beginning of the implementation of this NCF.
   iii. All Board examinations must move towards becoming 'easier' without any compromise on assessing genuine learning, by testing basic concepts and Competencies across subjects, rather than rote learning.
   iv. Schools should be prepared to offer subjects from at least two Groups amongst Groups 2, 3, and 4 immediately. Within 5 years, schools should be ready to offer subjects from all four Groups. Within 10 years, schools should offer many more subjects covering all Curricular Areas, and students should study subjects across all four Groups.
   v. The Secondary Stage has been divided into two Phases — Grades 9 and 10, and Grades 11 and 12. In 10 years, all school systems should move to a single Secondary Stage, where students have choice and flexibility right from Grade 9, following the current curricular structure of Grades 11 and 12. Thus, realising the NEP vision of the Secondary Stage as being 'four years of multidisciplinary study' across all Curricular Areas.
   vi. The current system of study in annual and two-year patterns should move to a semester and/or annual design. This would allow for greater flexibility in the design of courses as well as course options for students.
   vii. In ten years, Boards of Examination should be prepared to offer certification through modular examinations — 'that each test far less material and are taken immediately after the course is taken in school.' [NEP 2020, 4.38]

1.5 Few Thrust Areas of this NCF

In this section, highlights of few thrust areas of this NCF have been summarised. It must be noted that these are not the only 'thrust areas' in this NCF; however, these are being highlighted in the summary because often these are given inadequate importance.

This NCF renews the focus on Art Education, Physical Education and Well-being, and Vocational Education and brings them into the core curriculum. The need for Environmental Education has been systematically addressed. These focus areas also aim to be rooted in India and in Knowledge of India (including Indian Knowledge Systems).

1.5.1 Art and Physical Education

Art and Physical Education are given their due emphasis in this NCF. Specific Curricular Aims and Learning Standards have been set in these Curricular Areas too, so that education in these domains is carried out with the same rigour and expectations as other school subjects. To give a holistic education to students, it is important to see these areas as part of the main curriculum and not just as 'co-curricular' or 'extra-curricular' activities.

a. The aim of Art Education is to promote joy in exploring and creating artwork; develop imagination and creativity; and develop empathy and sensitivity and a sense of belonging to our culture. The processes of creating as well as appreciating art are given equal emphasis.

b. The aim of Physical Education is to promote a love for physical activity and sports; develop capacities for skilful engagement in physical activity and sports; and develop resilience, empathy, and cooperation. India has a wonderful tradition of Yoga which is a wholesome experience for maintaining mind and body wellness. Physical Education gives Yoga and overall mind-body wellness its due place.

c. The Learning Standards for Art and Physical Education have been set as 'Nested Learning Standards.' It is recognised that schools and school systems would need time to get prepared to achieve the complete learning expectations in these domains. The first set of Learning Standards, called Learning Standards — 1, details the full range of Curricular Goals and Competencies for this Curricular Area. All schools should accomplish these as soon as they are able to add the required resources for Art/Physical Education. Nested within Learning Standards — 1 is a subset called Learning Standards — 2, which can and should be accomplished by all schools from the very initiation of the implementation of this NCF.

d. Art Education introduces Visual Arts, Music, Dance and Movement, and Theatre. In the Foundational Stage, the Arts contribute towards the sensorial, physical, socio-emotional, aesthetic, and cultural development of young children. In the Preparatory Stage, students develop the skills for making art and also develop a curiosity towards local art forms and artists. The objective of Art in the Middle Stage is to help students develop an appreciation for the artistic and cultural diversity of their region and other parts of India. In the Secondary Stage, students should develop an awareness of the wide scope of applications in the Visual and Performing Arts.

e. In Physical Education, at the Foundational Stage, the focus is on the development of gross and fine motor skills through free play. In the Preparatory Stage, local games are introduced but maintain fluidity and not specific rules of play. The Middle Stage contains more structured sessions and skill development. The Secondary Stage provides opportunities and choices for gaining depth in specific sports. Throughout all Stages, mind-body wellness is promoted through activities and practices such as Yoga as well as through education in healthy lifestyles and good nutrition.

f. Assessments are more performance-based in these domains. Thus, a wider variety of assessment tools need to be employed including detailed observation reports and student portfolios.

g. The last period in the Secondary Stage timetable is recommended to be an optional extra time for students to engage in their preferred art or sports activities. Local artists, artisans, and sportspersons can engage with the students in schools to give a wider exposure, including leading to participation in interschool sports competitions and other clubs or interschool activities.

1.5.2 Vocational Education

School education should prepare students not just to understand the world around them, but also to do productive work. These capacities for work would enable students to be productive members of their households as well as participate in the economy. Thus, this NCF sees Vocational Education as an integral part of the curriculum.

a. Through the Curricular Area of Vocational Education, students would be exposed to and develop basic skills in three forms of work — work with life forms, work with machines and materials, and work in human services.

b. The school curriculum at the Preparatory and Middle Stages would endeavour to build relevant capacities in the abovementioned three forms of work. As we can easily observe, these forms of work not only provide the necessary breadth in capacities for productive work, but they also become the foundation for developing capacities in vocations in primary, secondary, and tertiary sectors of the economy, thus meaningfully contributing to the aim of economic participation.

c. In the Secondary Stage of four years, the first two years would work towards consolidating these capacities to develop transferable skills that serve students well in any vocation. In the last two years of schooling in the Secondary Stage, students will be given opportunities to specialise in specific vocations of their choice.

d. The content of Vocational Education should be locally relevant as far as possible and, at the same time, respond to the aspirations of students. In the Secondary Stage, the Learning Standards should align with the National Skills and Qualifications Framework (NSQF) levels.

e. The content must instil respect for the dignity of labour.

f. The pedagogy should balance 'making and thinking' in a manner that is relevant for vocations. Workshops and projects are effective ways of teaching vocational capacities. Internships and apprenticeships are encouraged while taking safety considerations into account.

g. Assessments should be based on observations, portfolios, and projects and should not just focus on capacities and skills, but also values and dispositions.

1.5.3 Environmental Education

One of the biggest challenges in the 21st century is the conservation of the natural environment. Even when looked at purely from a human point of view, environmental degradation becomes a justice and equity issue. NEP 2020 recognises this challenge and the need for a meaningful educational response. This NCF gives the required emphasis to developing Knowledge, Capacities, Values, and Dispositions that would develop both awareness and abilities to act responsibly in environmentally sustainable practices.

Students also need to develop capacities for interdisciplinary thinking, since most real-life problems need interdisciplinary solutions. Understanding and responding to the problem of environmental degradation and climate change needs interdisciplinary thinking too. Thus, this NCF focusses on Environmental Education as part of the Education in Interdisciplinary Areas in Grades 9 and 10.

a. India has had a long tradition of understanding the intimate connection between nature and human life. However, the pressures of modern life have fractured the bonds between the natural environment and human beings. Ideally, knowledge from ancient times to the modern should converge towards sustainable solutions to the growing environmental challenges. Environmental education constitutes an important step in this direction. By incorporating topics from various subject areas, students will learn to appreciate the nuances and complexity of the human-nature equilibrium and the impact and trade-offs of different decisions taken at a societal or even individual level.

b. The main aims of Environmental Education are to:

   i. Create a strong foundation of environmental literacy, which includes understanding the interlinkages between ecological, social, economic, and political factors.

   ii. Develop a more compassionate attitude towards the natural environment, drawing upon teachings from ancient Indian traditions and practices, the Indian Constitution, as well as scientific research on the effects of modern human activity on the environment.

   iii. Develop an action-oriented mindset and skillset so as to promote environmental causes, with a solid understanding of how individual, societal, national, and global actions can help us restore the balance between humans and nature and thereby save our planet and ourselves.

c. In the Foundational Stage, spending time in nature is an integral part of pedagogy, encouraging children to observe and interact sensitively with plants, animals, insects, and birds. Stories, poems, and songs should have elements of the environment and appreciation of nature.

d. In the Preparatory Stage, through the study of The World Around Us, students begin to appreciate the interdependence between human society and the natural environment.

e. In the Middle Stage, concepts related to the environment are integrated into Science and Social Science. The interactions between the natural world and the human world are understood through both scientific and social scientific models of inquiry.

f. In Grades 9 and 10 of the Secondary Stage, Environmental Education is part of Interdisciplinary Areas. Students will view Environmental Education from a social-ecological perspective, as opposed to a perspective informed primarily by either Science or Social Science. They would develop capacities for reasoning and argumentation including ethical and moral considerations. They would use these capacities in the context of debates around environmental conservation and protection that integrate understanding from the sciences on ecological and climate processes and understanding from the social sciences on ideas of justice, equity, and human well-being.

1.5.4 Rootedness and Pride in India

Our country possesses a rich cultural and civilisational heritage with varied traditions within and across local communities. Contemporary India is equally vibrant, taking its place in the modern world. Our country is home to deep knowledge and extensive practice in a variety of disciplines and fields from Literature to Mathematics, Philosophy to Art, Grammar to Astronomy, Ecology to Medicine, Architecture to Agriculture, Ethics to Governance, Crafts to Technologies, Psychology to Politics, Literature to Music, and Economics to Education.

As recommended by NEP 2020, this NCF is strongly rooted in India's context, Indian thought, and Indian Knowledge and Knowledge Systems.

This rootedness of this NCF is manifested in the following ways:

a. The holistic vision of education and its aims, from our ancient heritage to our modern thinkers, informs the overall approach of this NCF.

b. The vibrant epistemic approach of Indian schools of thought towards knowledge and how we know.

c. The core of the *guru-shishya* tradition as a base for the centrality of the Teacher-student relationship for effective learning; correspondingly, the tradition of dialogue and debate as a tool towards the discovery of the truth.

d. The use of local resources of learning, including language, practices, experts, histories, environment, and more, as rich sources of illustrations or case studies.

e. The rich history of Indian contributions to various fields not only develops pride and self-confidence, but also enriches learning in those areas. For example, the approach to Environmental Education is deeply enriched by the range of nature-conservation traditions across India, the approach to Values and Ethics is rooted in Indian concepts and practices of respect and compassion for fellow humans and all creatures.

f. The importance of the involvement of parents and communities in education.

1.6 Other Curricular Areas

While the curriculum is divided into eight Curricular Areas, the approach of this NCF ensures that there is no hard separation between 'science' and 'art,' between 'streams,' of 'vocational' and 'academic,' between 'curricular' and 'co-curricular,' etc. The previous section highlighted the summary of Art Education, Physical Education, Vocational Education, and Education in

Interdisciplinary Areas (including Environmental Education). These have found the necessary focus as part of the curriculum. In this section, key highlights of the other Curricular Areas are summarised.

1.6.1 Language Education

a. The rich multilingual heritage of India is given its due place in the Language Education curriculum. The curriculum aims at developing linguistic proficiency for academic use in three languages by age 15 (Grade 10). At least two out of these three languages should be languages native to India. At least one language native to India will be studied at the 'literature level.'

b. At least one language native to India will be offered as an option for the medium of instruction to all students up to Grade 12.

c. The language in which literacy is first learnt in school (R1) should be a language that is most familiar to the student. Usually, this is the mother tongue of the student or the language that is prevalently used in the neighbourhood.

d. Since it is in R1 that literacy is first attained, it must be used as the Medium of Instruction (MoI) for other subjects, at least until literacy in another language is attained.

e. In Grades 11 and 12, at least two languages will be studied, at least one of which is a language native to India.

f. Language Education in all these languages would not just aim for oracy and literacy. Students should develop effective communication, discussion, and writing skills in these languages along with capacities for literary appreciation and creative use of language.

g. Learning a language is learning a culture. Language Education aims to enable the student to immerse and participate in the linguistic heritage and culture of India, including through participatory engagement with the rich written and oral literature of India such as stories, poems, songs, epics, plays, films, and more.

h. Developing a lifelong interest in reading is an important Curricular Goal in Language Education. The use of library resources plays an important role in achieving this goal.

i. The pedagogic strategies pay attention to developing digital reading skills. 'Deep reading' instead of 'shallow reading' is emphasised in the context of an attention economy where there are strong incentives for constant shifts in attention.

1.6.2 Mathematics Education

a. Mathematics Education has never been more important globally for students and for society. The close connection between Mathematics and artificial intelligence, machine learning, data science, climate modelling, infrastructure development, and the numerous other related scientific issues faced by India and all nations today makes Mathematics a particularly crucial area of school education.

b. The Mathematics Education curriculum not just aims for capacities in foundational numeracy, mathematical thinking, and problem solving in students, but also intends to nurture joy, wonder, and curiosity and the ability to see patterns and appreciate the

elegance and aesthetics of mathematical concepts and ideas, while at the same time eliminating the fear of Mathematics that is widely prevalent today.

c. In the Foundational Stage, attaining foundational numeracy (i.e., understanding, and adding and subtracting with Indian numerals, a sense of basic shapes and measurement using non-standard tools, and early mathematical thinking through play) represents the key focus of Mathematics Education.

d. In the Preparatory Stage, while the focus is on building a conceptual understanding of numbers, the four basic operations, shapes and spatial sense, measurement (standard tools and units), and data handling, the objective is to develop capacities in procedural fluency and mathematical and computational thinking to solve problems from daily life.

e. In the Middle Stage, the emphasis moves towards abstracting some of the concepts learnt in the Preparatory Stage in order to make them more widely applicable. Algebra, in particular, is introduced at this Stage through which students are able to, for example, form rules to understand, extend, and generalise patterns. More abstract geometric ideas are also introduced at this Stage and relations with algebra are explored to solve problems and puzzles.

f. Finally, the Secondary Stage focusses on further developing the ability to justify claims and arguments through logical reasoning. Students become comfortable in working with abstractions and other core techniques of Mathematics and Computational Thinking, such as the mathematical modelling of phenomena and the development of algorithms to solve problems.

g. Mathematics has an extremely rich history in India, spanning thousands of years from Vedic times to the modern era. By learning about the development of Mathematics in India as well as throughout the world, a rootedness in India can be enhanced along with a more general appreciation of the history of Mathematics and of the remarkable evolution and development of mathematical concepts through time, and India's critical role in these developments.

1.6.3 Science Education

a. Science Education gives equal emphasis to acquiring capacities for scientific inquiry and conceptual understanding of theories, laws, and principles in science. Through these capacities and concepts, students are expected to develop a scientific understanding of how the physical natural world functions.

b. While scientific knowledge has exploded, expecting to include all this knowledge in the school curriculum, where time and space are limited, results in unnecessary burden on students. Content for Science Education is chosen to be limited to its essential core to give adequate space and time for developing important capacities for scientific inquiry, such as the ability to put forth questions, observations, hypotheses, experiments, arguments, predictions, and data analysis.

c. In the Foundational Stage, Science Education begins as part of the cognitive development of the child. Making sense of the world through observation and logical thinking is an important Curricular Goal at this Stage.

d. In the Preparatory Stage, the understanding of the physical world is acquired in an interdisciplinary manner through the study of the school subject The World Around Us.

Students will be encouraged to ask questions, observe, experiment, make connections, analyse, and make explanations of phenomena in their immediate environment (both social and physical) — thereby discovering for themselves the basics of the scientific method.

e. In the Middle Stage, Science Education focusses on the scientific exploration of concrete experiences of the students. They begin to use mathematical and schematic representations to model and analyse phenomena. By engaging with the evolution of scientific theories, students begin to appreciate the nature of scientific knowledge and methods of scientific inquiry. Students also develop the ability to communicate their understanding effectively.

f. In Grades 9 and 10 of the Secondary Stage, more abstract scientific theories and conceptual structures are introduced with increasing methodological sophistication in the disciplines of Biology, Chemistry, Physics, and Earth Science, and their interrelations with each other and with other subjects.

g. In Grades 11 and 12, students can choose specific disciplines within Science such as Biology, Chemistry, Physics, and Earth Science. They can thereby delve further into these disciplines and engage with theories, laws, principles, concepts, and methods of inquiry specific to these disciplines.

h. In the Middle and Secondary Stages, students also explore the relationship between Science, technology, and society. They understand and appreciate the history of Science and the contributions of India to the overall field of Science from ancient to modern times.

1.6.4 Social Science Education

a. Social Science is the systematic and scientific study of human societies that explores the relationship between the individual and society, social institutions, and organisations. In this NCF, the term Social Science is also used to include those branches of the Humanities that involve the more qualitative study of human society, culture, thoughts, creations, development, and actions in the past and present.

b. The purpose of Social Science Education is to help students learn about the society in which they live, e.g., how members of their society live, interact, behave, eat, speak (and in what languages), express themselves through art, the traditions they follow, what they wear, and their aspirations.

c. Social Science Education also helps students develop pride in their culture and their country, with a forward-looking spirit to continuously improve — as individuals, as a society, and as a nation.

d. The approach to the study of Social Science aims to develop an interdisciplinary perspective rooted in disciplinary knowledge that enhances the students' capacities to understand social processes in a holistic manner.

e. In the Preparatory Stage, the students study society as part of their local environment through the interdisciplinary subject of The World Around Us.

f. In the Middle Stage, Social Science becomes a separate school subject, and the content is organised in a thematic manner. Each theme would be studied through an integrated view

of History, Geography, Political Science, Economics, and other relevant disciplines, such as Psychology, Philosophy, Anthropology, and Sociology. Additionally, each theme will be studied at the local, regional, national, and global levels.

g. While students study History, Geography, Political Science, and Economics as separate subjects in Grades 9 and 10 of the Secondary Stage, a complete picture is attempted by ensuring that the same concept is also considered through the lenses of other disciplines in an integrated manner. This approach builds disciplinary depth while ensuring a holistic interdisciplinary perspective.

h. In Grades 11 and 12 of the Secondary Stage, Social Science is a choice-based option for students where they can choose to do an in-depth study from a range of disciplines that constitute the Social Sciences, such as History, Geography, Political Science, Philosophy, Economics, Psychology, Sociology, and Anthropology.

i. Social Science Education aims to enable students to:

   i. Understand how societies function by developing awareness of how there is continuity and change in human civilisations; the interaction between nature, natural resources, and human beings; the commonness and unity in diversity among people and their practices; and the transformations over time of various social, political, and economic institutions.

   ii. Develop capacities for inquiry in Social Science — sourcing, verifying, and cross-validating evidence through multiple sources; creative and critical thinking; forming coherent narratives based on available evidence; forming informed opinions and demonstrating logical thinking; and proposing meaningful responses to contemporary concerns of society based on these methods of inquiry.

j. While the entire Social Science curriculum would be strongly rooted in India from the local to the national level, students would also learn and understand the significant contributions of India to the concepts and methods in the disciplines within Social Science from ancient to modern times.

1.7 School Culture and Processes

School Culture and Processes have a direct and significant influence on learning of students. Thus, these must be nurtured and shaped systematically and carefully to enable achieving the Aims of Education.

1.7.1 School Culture

School Culture influences learning in two significant ways. First, it enables an effective learning environment for all students. Second, it has a significant influence on the development of Values and Dispositions.

a. School Culture has two aspects. The first aspect is values, norms, and beliefs — which form the school culture; and the second aspect is behaviours, relationships, and practices — in which the culture is manifested and experienced. The elements that form the culture and its manifestation are deeply integrated. The students learn from and are influenced by the manifestations.

b. These manifestations can be seen in three categories — relationships amongst the people in the school, symbols that are displayed and celebrated, and arrangements and practices of the school.

   Systematic and deliberate effort must shape these manifestations to develop an enabling learning environment and the development of desirable values and dispositions amongst students.

c. To achieve the Aims of Education, the constituent elements of School Culture must have certain characteristics.

   i. Relationships must have mutual trust and be respectful, with openness, communication, and collaboration, as well as care and responsibility.

   ii. Symbols must thoughtfully highlight and celebrate the desired values and dispositions.

   iii. School arrangement and practices must manifest these desired values, including in classroom practices, school assembly, mealtime arrangements, distribution of work, sports activities, and in the engagement with parents, family, and the community.

1.7.2 School Processes

School processes must ensure two things — the smooth functioning of day-to-day activities and enabling progress towards the achievement of the Curricular Goals. School processes can be broadly divided into the following categories:

a. Curricular processes, which includes school timetable, assembly, library related, student committees, and forums, events, and celebrations.

b. Curriculum-associated processes, which include those related to Teacher collaboration and professional development; engaging with parents, families, and communities;. and mealtime, health, and hygiene.

c. Organisational processes, which includes school development plans, time and resource allocation, student safety, resolving differences and disciplinary issues, and data management and reporting.

1.8 Creating a Supportive Ecosystem

This NCF only touches briefly upon the kind of ecosystem required for its implementation; these matters would be detailed in other relevant documents and forums.

1.8.1 Capacity Building for Implementation

Speedy and systematic capacity development of all stakeholders must occur to enable implementation of this NCF. This includes Teachers, Head Teachers, Principals, syllabus and TLM developers, Teacher Educators, and other Functionaries of the Education system. Parents and community members must also be familiarised with this NCF.

Relevant programmes must be designed and implemented by institutions, such as the SCERTs. Particularly for Teachers, rigorous programmes would be required to help them bring this NCF to life in the classroom.

1.8.2 Ensuring an Appropriate Environment for Learning

Schools must be welcoming spaces that attract students. These must be safe and secure. They must also be supportive of and address the needs of the Teachers. Quality, adequacy, and maintenance of infrastructure are often the differentiators between a good school and a not-so-good one, especially in the eyes of parents and the community.

a. Outdoor infrastructure must be ensured, which includes boundary/compound wall; basic school structure; open space for play and assembly; trees and plants; and accessibility for the inclusion of all.

b. Indoor infrastructure must include clean, spacious, well-ventilated classrooms; libraries and laboratories; dining area and drinking water facilities; toilets; semi-open and partially shaded areas; and uninterrupted supply of water and electricity.

c. Infrastructure must ensure safety and inclusion.

1.8.3 Enabling and Empowering Teachers

Teachers must be the torchbearers of all educational improvement. Thus, teachers must be enabled and motivated in every way possible. Some key points for Teachers' engagement and motivation are:

a. Teachers must have autonomy to respond to the reality of the classroom in the best possible manner to achieve the Aims of Education. For this, they must be enabled with the right teaching-learning resources, physical environment, and professional development. Along with this autonomy, Teachers must have accountability, fully recognising that accountability is a complex matter in education.

b. Appropriate PTR must be maintained to enable student engagement and achievement.

c. TPD is a very important aspect of the education system, ensuring continuous improvement, and will be important in implementing this NCF.

d. Pre-service Teacher Education will be transformed to achieve the objectives of this NCF, as mentioned in NEP 2020. The National Curriculum Framework for Teacher Education (NCF-TE) associated with this NCF will be released shortly.

e. Head Teachers and School Principals have a central role in ensuring the ethos and educational practices in their school that can ensure high-quality implementation of this NCF.

f. Academic and administrative functionaries of the education system would have to fully own the spirit of this NCF for its implementation.

1.9 Community and Family Engagement

For more holistic learning and upbringing of children, parental and community participation is necessary. Parents and the community must be deliberately and systematically engaged, including through orientation meetings, regular Parent-Teacher meetings, and continuing dialogues to build perspective. Parents and members of the community can also act as resource persons. School Management Committees (SMCs) are formal structures, and these must be nurtured to play a vibrant role.

