A TO Z OF NCF - SE 2023

Compiled by Dr. Swati Popat Vats

A — AIMS OF SCHOOL EDUCATION- PAGE 24 - 1.2.2

a. Rational Thought and Autonomy:
Thus, achieving knowledge in depth and breadth, becomes one of the key goals in the NCF.

b. Health and Well-being:
Students, and they should acquire capacities and dispositions that keep their bodies and mind healthy.

c. Democratic Participation:
The knowledge, capacities, and values and dispositions developed are to be oriented towards sustaining and improving the democratic functioning of Indian society.

d. Economic Participation:
The exposure and preparation of vocational education in particular develops capacities and dispositions to enter the world of work.

e. Cultural and Social Participation:
The NEP 2020 expect students to have *'a rootedness and pride in India, and its rich, diverse, ancient and modern culture and knowledge systems and traditions'*. They should also acquire capacities and a disposition to contribute meaningfully to culture.

B — BROAD PRINCIPLES AND PROCESS OF TEXT BOOK DESIGN- PAGE 64-66 - 3.2.4 and 3. 2.5

a. Curriculum Principle:
The textbook should be designed specifically to achieve the Competencies for the Stage and the Learning Outcomes for the Grade and to bring in horizontal connections across the domains and curricular areas across the Stage.

b. Discipline Principle:
The content and sequence included in the textbook should be careful not to contradict some of the core principles of these disciplines.

c. Pedagogy Principle:
Textbook developers need to have a clear understanding of the pedagogy that is appropriate for the Competency and content.

d. Technology Principle:
Activities that involve digital technology and references to external material should be embedded appropriately in the textbook.

e. Context Principle:
The local context and environment, moving from the familiar to unfamiliar.

f. Presentation Principle:
The textbooks should grab the attention of students. The fonts and size of text material should be both visible and least confusing for young children to decode.

g. Diversity and Inclusion:
Even within States there are regional variations and these need to find adequate representation in textbooks. Balanced gender and community representation must be ensured.

C — CONCENTRATION- PAGE 76 COMPETENCIES/ CURRICULAR AREAS- PAGE 30-1.4.3

Box A-3.3-vi

Importance of Concentration

The Taittiriya Upanishad says that the secret of learning lies in the power of concentration in thought. The science of Yoga is based on the process of concentration and the methods by which concentration can be achieved on the object of knowledge in order that the contents, powers, and states of knowledge concerning that object can be realised by the seeker.

Sri Aurobindo also lays central importance on concentration and speaks of four principal methods by which concentration can be attained - meditation, contemplation, witnessing the passage of thoughts as they pass through the mind, and quietening and silencing the mind.

Concentration is a psychological process - it involves no rituals or ceremonies and is free from any doctrines. Hence, the cultivation of the powers of concentration is independent of

COMPETENCIES- PAGES- 181-187 EXAMPLES OF COMPETENCIES GIVEN ON THE ABOVE PAGES

These eight curricular areas have their own specific learning standards, and have specific recommendations for content selection, pedagogical approaches, and ways of assessments.

8 CURRICULAR AREAS-

01 **Languages:** Multilingualism and sensitivity to a diverse set of languages are desirable outcomes as articulated in the NEP 2020

02 **Mathematics:** Mathematics education also develops capacities for problem- solving and logical reasoning.

03 **Sciences:** Science is a form of understanding the natural world.

04 **Social Sciences:** Social Science is a form of understanding the social (human) world. Like the Sciences, Social Science too promotes rational thought and scientific temper.

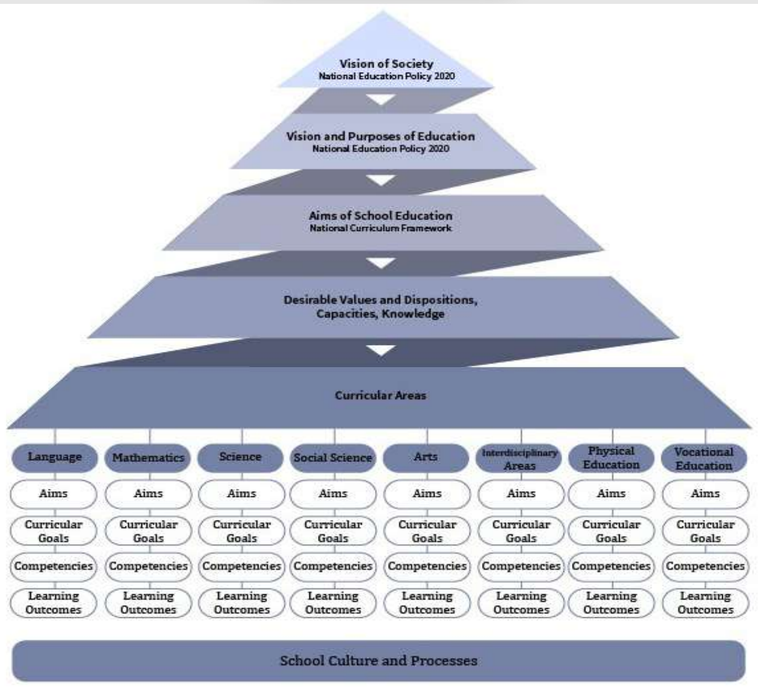
05 **Arts:** Engagement with arts also builds our capacities for being creative and develops cultural sensibilities.

06 **Interdisciplinary Areas:** Engagement in interdisciplinary areas develops capacities for interdisciplinary thinking and problem solving.

07 **Physical Education:** Through engagement in sports, important ethical and moral values and Constitutional and democratic values are developed.

08 **Vocational Education:** Intends to develop capacities for sustenance and work and economic participation.

Figure A-1.4-i



D — DEVELOPMENT ACROSS DOMAINS- PAGES 38-43, 2.1.1

Each domain is divided into the following stages- infancy, early childhood, middle childhood, adolescence

2.1.1.1- PHYSICAL DEVELOPMENT
a. sensory motor development
b. gross motor skills
c. fine motor skills

2.1.1.2- COGNITIVE DEVELOPMENT

2.1.1.3- LANGUAGE DEVELOPMENT

2.1.1.4- SOCIO-EMOTIONAL DEVELOPMENT
a. emotional and personality development
b. role of families
c. role of peers

2.1.1.5 – MORAL DEVELOPMENT

E — EIGHT VOLUMES- PAGE 13

a. The NCF- SE describes the NCF comprehensively.

b. To enable the objective of making the NCF as relatable to practitioners as possible, eight volumes will follow, of which seven would be on the specific Curricular Areas – Arts and Music, Languages, Math, Science, Social Science and Humanities, Sports, and Vocational Education, and one will be on School Culture and Processes.

c. The volumes that are to follow will have greater details on the specific matters, to enable the implementation of the NCF, and its use

F

FROM FEAR TO FOUNDATION IN MATHEMATICS- CHAPTER 3, SECTION 3.1- PAGES 175 ONWARDS

Box B-3.3-i

Fear of Mathematics

There are two major aspects that cause fear of mathematics; (a) the nature of the subject and how it is being taught and (b) how it is being perceived in the society.

a. **Nature of Mathematics and how it is taught:**

i. The concepts in Mathematics are cumulative in nature. If students struggle with place value, then certainly they will struggle with all four basic operations, decimal numbers and hence in word problems. So, as a teacher we need to prepare plan in such a way that we can work with students of different level in different methods by using teaching learning materials (TLMs) to engage student and learn the concepts so that the child can feel comfortable to learn the new concepts that are connected to the previously learnt concepts.

ii. When symbols – part of the 'language' of Mathematics – are manipulated without understanding, after a point, boredom and bewilderment dominate for many students, and dissociation develops. So, it is important for teacher to start teaching the concept connecting to the real-life using the local language (especially up to Preparatory Stage), provide exposure to explore using concrete objects or examples and gradually shift to the language of mathematics.

iii. Most of the assessment techniques and questions focus on facts, procedure, and memorisation of formulas. However, the assessment should focus on understanding, reasoning, when and how a mathematical technique is to be used in different context is important.

d. **Societal perceptions and expectations:**

i. Prevalent social attitudes which see girls as incapable of mathematics, or association of formal computational abilities with the upper castes. Such social discriminations also cause the fear and anxiety in students. We need to break that belief exist in the society.

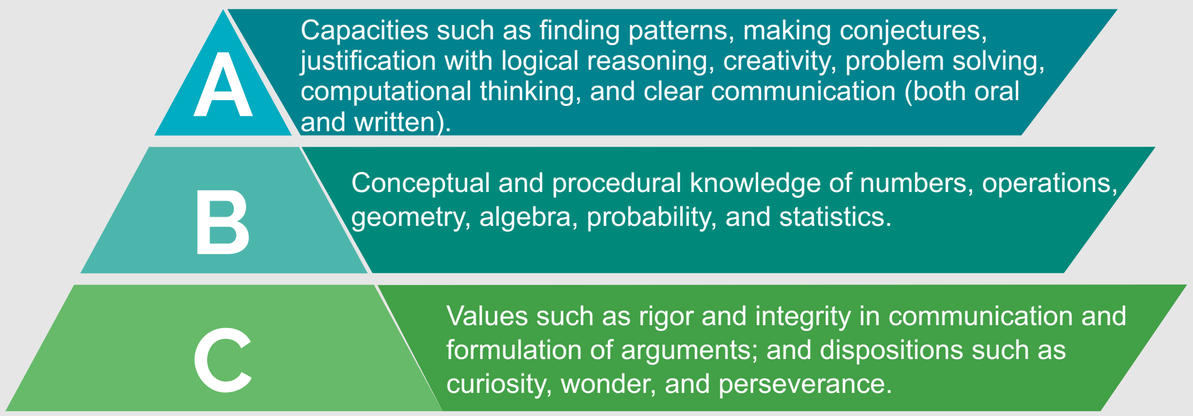
ii. Due to immense competition in the world to be a successful person, parents are burdening the students with immense pressure without considering the interest of students. Majorly it is observed that parents expect their child to choose career in science stream and that puts pressure on the children to learn Mathematics.

Hence, we must rethink the approach of teaching where students see mathematics as a part of their life, enjoy mathematics, with a greater focus on reasoning and creative problem solving. Also, at the same time we need to work with the society to understand the objective of education and some of the beliefs that cause harm to the learning of the students

Mathematics education involves learning creative and logical thinking through fundamental concepts such as numbers and operations, geometry, algebra, probability, and statistics. It also aims to nurture the fundamental mathematical capacities of finding patterns, making conjectures, providing explanations through logical reasoning, creativity, problem-solving, computational thinking, and logical communication (both oral and written).

In the **Foundational Stage,** attaining Foundational numeracy (i.e., understanding, and adding and subtracting with, Indian numerals) represents the key focus of Mathematics Education. In the **Preparatory Stage**, the focus shifts to the development of concepts such as numbers, basic operations (including multiplication and division), shapes, and measurement. In the **Middle Stage**, the emphasis moves towards abstracting some of the concepts learned in the Preparatory Stage in order to make them more widely applicable. The **Secondary Stage** focuses on developing the ability to justify claims and arguments through logical reasoning.

The specific aims of Mathematics Education are to develop:



FOR MATHEMATICS LEARNING STANDARDS, OUTCOMES ETC. FROM PAGE 181

G

GRADE 10 (2.4.4.1- page 52,53, 54) and 12 CERTIFICATION- (2.4.4.2- page 54,55)

Grade 10

a. To complete Grade 10, students will complete two Essential Courses from each of the eight Curricular Areas available i.e., a total of 16 Essential Courses across two years of Grade 9 and 10.

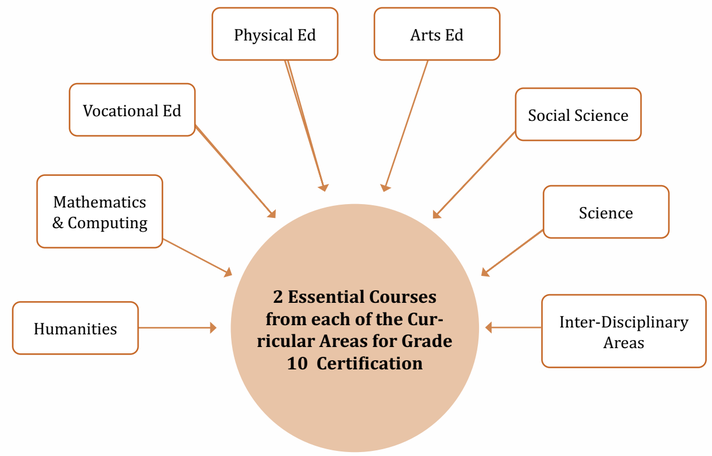
b. These either Curricular Areas – Humanities (that includes languages), Mathematics & Computing, Vocational Education, Physical Education, Arts, Social Science, Science, and Inter-disciplinary Areas gives the necessary breadth of understanding and capacities for the students.

c. Grades 9 and 10 will follow an annual structure.

d. Students must clear 8 Board examinations at end of Grade 10 - these assess each of the two Essential Courses in each Curricular Area learnt during Grades 9 and 10.

e. The final certification will be based on the cumulative result of each of the examinations.

Figure A-2.4-i



The final certification will be based on the cumulative result of each of the examinations.

Grade 12

a. The same set of eight Curricular Areas will continue to be on offer, but choice-based courses will be designed based on the Disciplines within the Curricular Areas

b. This phase of the Secondary Stage would be divided into semesters and each choice-based course would be for a semester.

c. Students must complete 16 choice-based courses to complete Grade 12.

d. To ensure that the students have adequate breadth, they have to choose Disciplines from at least three Curricular Areas.

e. To ensure depth, when they choose a Discipline, they have to complete four choice-based courses in that Discipline.

Table A-2.4-i

#	Curricular Areas	Disciplines (four courses within each discipline)
1	Humanities	Languages, Literature, Philosophy
2	Social Science	History, Geography, Political Science, Psychology, Economics, Sociology
3	Science	Physics, Chemistry, Biology
4	Mathematics & Computing	Mathematics, Computer Science, Business Mathematics
5	Arts	Music, Dance, Theatre, Sculpture, Painting, Film appreciation, Scriptwriting, Set design
6	Vocational education	Aligned to the National Skills Qualifications Framework (NSQF)
7	Sports	Courses on specific sports/games/yoga to include all aspects (e.g., coaching, financing)
8	Inter-disciplinary Areas	Commerce, Sustainability and Climate Change (Environmental Education), Health (Public, community health), Media and Journalism, Family and Community Sciences (the current form of home science), Knowledge of India/Indian Knowledge, Traditions and Practices/Indian Knowledge Systems, Legal studies. List may be enhanced continually.

H HANDBOOK FOR TEACHERS- Teacher at the heart of this NCF (page 12)

a This NCF is designed with the Teacher as the primary focus

b The reason being that the Teacher is at the heart of the practice of education.

c It is the Teacher who is ultimately the torchbearer for the changes we seek.

d As such, it is the perspective of the Teacher that must be carried by all, including syllabus and content developers, textbook writers, administrators, and others.

Box A-3.2-i

Teacher's Handbook

It has been a practice to include notes to Teachers in the textbook. This approach is limiting and not desirable. If notes are kept to their briefest minimum, it is not really useful for the Teacher. If they are elaborate and detailed, it unnecessarily increases the size of the textbook for the students and it perhaps would also be intimidating.

It is recommended that each textbook that is being published should be accompanied by a Teacher's version (textbook+) of the same textbook. The textbook+ should be organized in the same sequence of chapters as the students' textbook but can additional materials:

- Intended learning objectives of the chapter and how it is connected to the Learning Standards of the curriculum.
- Recommended pedagogical strategies relevant for that chapter.
- Alternative activities for students who are struggling to grasp the content.
- References (through QR-Codes) for digital materials, additional worksheets, formative assessments, pedagogical content knowledge packages etc. that provide both additional teaching aides and also develops a more profound understanding in the teacher of the topic under consideration.

Thus, the textbook+ would be valuable compendium for the teacher to go well beyond the textbook's content, without burdening or intimidating the students.

I ILLUSTRATIVE LEARNING OUTCOMES- (section 1.7, pages 117 onwards)

a Learning Outcomes are interim markers of learning achievement towards the attainment of Competencies.

b They are defined based on the specifics of the socio-cultural contexts, the materials and resources available, and contingencies of the classroom.

c A set of illustrative Learning Outcomes have been defined in this NCF, based on the broad understanding of the context of our education system.

J JOY OF PLANNING FOR TEACHING- SECTION 3.3.4 - PAGE 74 ONWARDS

Good planning requires understanding of Aims of Education, Curricular Goals, Competencies and Learning Outcomes to be achieved along with prior learning of the children for whom the plan is being made, and available teaching learning materials and content to be used.

The major components of a teaching plan are:

1. Competencies, Learning Outcomes and intended lesson objectives
2. Teacher-directed, Teacher-guided and/or Student-led activities to achieve objectives.
3. Prior understanding of the student on which choice of pedagogy is based
4. Content and material to be used
5. Duration and sequence of activities
6. Classroom arrangements e.g., seating, displays, arrangement of material
7. Specific strategies for students who need extra help
8. Methods of assessment

K KEY CHARACTERISTICS OF THIS NCF- PAGE 15 KNOWLEDGE – PRAMANAS -PAGE 23

Few key characteristics of this NCF to keep in mind as you read

1. Goal directed:	The entire approach is driven by the curricular goals which are derived from the aims; these tie everything together and are center stage.
2. Practice enabling:	It attempts to convert and distill mattes to practice which is where education happens or doesn't.
3. Educationally valid:	It's based on sound research, experience, and accumulated knowledge in India and across the world.
4. Engaging:	Education must be made interesting and exciting both to the children and teachers.
5. Improvement driving:	Must be able to change things on-the-ground within practical constraints and limitations and keep moving forward.
6. Diversity embracing:	India's diversity in all its forms must not only be addressed but should also become a resource for learning.
7. Mutually reinforcing elements:	All dimensions mentioned above are mutually reinforcing; as are the curricular goals, content, pedagogy, school culture and practices, assessment and evaluation.

Box A-1.2-i

Pramanas

Thinking about knowledge, on how does one know, and what are the true sources of knowledge has been a philosophical preoccupation for Ancient Indians. The following six pramanas were considered as valid means through which one can gain knowledge about the world:

1. *Pratyaksa:* This is usually interpreted as direct perception through the five senses. It can be further divided into anubhava (direct perception) or smriti (remembered perception).
2. *Anumana*: Using inferences to come to new conclusions from observations is one another way of coming to know.
3. *Upamana*: Knowing through analogy and comparison is upamana. Relating to existing knowledge and identifying the similarities and differences and thus coming to know new things or experiences is another valid way of knowing.
4. *Arthapatti*: Knowing through circumstantial implication is arthapatti.
5. *Anupalabdi*: Perception of non-existence is considered a valid form of knowledge. To observe that the well is empty of water is knowing something about the well. People have come to significant conclusions because "the dogs did not bark that night"!
6. *Sabda*: In some systems of knowledge the testimony of an expert is admissible as true knowledge. That an individual can only directly know a fraction of all reality through direct experience and inferences but must rely on other experts was acknowledged thousands of years ago!

These different *pramanas* were recognized as valid or invalid sources of knowledge by different philosophical systems of Ancient India. These ancient investigations of the nature of knowledge are still relevant for education. By having a deeper grasp of the nature of knowledge teachers are better equipped to select appropriate content, pedagogy, and assessments to achieve the aims of education.

L LANGAUGE LEARNING- THREE LANGUAGES- PAGE 138 ONWARDS

Language development plays a very important role in the development of perceptual and practical concepts. Language enables us to check our experiences with others and to ensure we have a shared meaning emerging from these experiences. Thus, making sure that we grasp the socially accepted use of the practical concept or the socially accepted vocabulary that represents the perceptual concept.

Box B-2.4-i

Learning three languages

Students will learn at least three languages in their school years, denoted R1, R2, and R3 in this document.

R1: This is the language used as medium of instruction (MoI), and in which literacy is first attained. Preferably it should be the most familiar language of the students, which is usually the mother tongue/home language. With India's linguistic diversity, even within a classroom, it may not be possible to have the home language as the R1 for all students; in such circumstances a language which is familiar to the students should be chosen as R1 -- which is often the most commonly used local language.

R2: This could be any other language, including English.

R3: This is any other language that is not R1 or R2.

The state or the relevant bodies need to decide upon R1, R2, or R3.

"All efforts will be made early on to ensure that any gaps that exist between the language spoken by the child and the medium of teaching are bridged. In cases where home language/mother tongue textbook material is not available, the language of transaction between teachers and students will still remain the home language/mother tongue wherever possible...." [NEP 2020, 4.11].

The approach to literacy in R1 is taken up in detail in the chapter on the Foundational Stage – Chapter 3, section 3.2

The aim is to be an independent reader and writer in R1 by age 8 (Grade 3). A student will demonstrate similar level of literacy in R2 by age 11 (Grade 6), and in R3 by age 14 (Grade 9). Schools will develop in students the capacity for basic communication for social purposes and linguistic proficiency for academic use in the classrooms in R1 and R2, and only the capacity for basic communication for social purposes in R3.

FROM PAGES 138 ONWARDS- This section lays out the Curricular Goals, Competencies, and a few illustrative Learning Out- comes for R1, R2, and R3 for Preparatory, Middle, and Secondary Stages.

M MEMORY MODES OF INQUIRY- SECTION 2.3- PAGE 47

MEMORY

Box A-3.3-i

Importance of memory

*The ancient Indian emphasis on **Smriti (memory)** is critical to learning and development. It has often been misunderstood as an emphasis on rote learning, which in principle and when practised with fidelity, it was not.*

*Current cognitive science research indicates that **Smriti (memory)** - both working memory and long-term memory - plays an important role in cognition and comprehension. Insufficient emphasis on memory often results in inadequate outcomes in the classroom. When we use memory inappropriately, we are ignoring its powers and capacities.*

Using memory for learning in the classroom encompasses a variety of activities - deliberate and regular practice, deep processing, generating cues, making connections, and forming associations.

MODES OF INQUIRY

Beyond the nature of knowledge and growth in capacities for literacy, the modes of inquiry used by children to develop conceptual understanding play a very important role in the selection of content, pedagogy, and assessment. The progression of these modes of inquiry also has implications for the stages of schooling.

- 2.3.1.1 Play and Exploration
- 2.3.1.2 Capacities for Inquiry
- 2.3.1.3 Methods for Inquiry

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N NOTE THE PRINCIPLES OF PEDAGOGY ACROSS STAGES NECESSARY AND NON NEGOTIABLES PRINCIPLES OF PEDAGOGY- SECTION 3.3.8- PAGE 82

1. Every child is capable of learning. Children are natural learners.
2. Learning is an active process that involves both understanding and doing.
3. Children learn best when they are respected, valued, and involved in the learning process.
4. Children learn in a variety of ways, illustratively, through making something, discussion, listening, speaking, reading, writing, questioning, exploring, discovering, experimenting.
5. Learning happens best when classroom processes make connections with the life of students and their prior experiences, focus on conceptual clarity, and provide variety and challenge to students.
6. Practice is a critical and integral part of the learning process.

Non Negotiables of Pedagogy-

1. Punishment and fear are detrimental to learning and must not be used in the classroom
2. Inequity in the classroom on the basis of caste, gender, religion, socio-economic conditions, student performance or any other factor is unacceptable
3. Rote memorization must not be the primary form of learning or of assessment
4. Students must not be treated as passive receivers of information - this makes classroom processes lead to boredom and monotonous routines

O ORGANIZING EFFECTIVE PEDAGOGY FOR THE CLASSROOM- SECTION 3.3.3-PAGE 72-74

1. Ensuring respect and care
2. Building positive Teacher-student relationships
   a. Getting to know each student individually
   b. Listening carefully to students
   c. Observing students
   d. Encouraging student responses
   e. Encouraging questioning
   f. Recognizing and responding to the emotions and moods of students
3. Providing scaffolding
4. Using differentiated instruction
5. Providing opportunities for independent and collaborative work
6. Using varied resources
7. Helping students develop appropriate work habits and responsibility
8. Giving prompt and meaningful feedback

P PRINCIPLES OF CONTENT SELECTION- SECTION 4.5 -PAGE 229

1. Curricular Goals, Competencies and Learning Outcomes give clear direction as to what content is to be used for creating learning experiences for students
2. Content in the Foundational and Preparatory Stages should be derived from children's life experiences and reflect the cultural, geographical, and social context in which the child is developing and growing. As students move through the Middle and Secondary Stages, content should move away from the familiar and include ideas and theories not necessarily represented in the immediate environment.
3. Content should be tied to capacities and values that students need to develop through Stages of schooling. Special care should be taken to avoid promotion of stereotypes.

Process for Textbook Development

1. Creation of a syllabus document –
2. Textbook writers and reviewers – Teachers must be part of this group – others could include subject experts, university faculty and research scholars.
3. Designers/Illustrators –
4. Technical Expert – It is important for the technical expert to be part of the textbook development team from the start - media content should not be an afterthought.
5. Choice of content, pedagogy, and assessment – The content at each Grade should be a precursor to the next.
6. Structure of the textbook – This NCF recommends that each textbook released for students should be accompanied by a Teacher's version of the same textbook.
7. Presentation and Design
8. Writing, review, and pilot run
9. Teacher orientation to the textbooks

Q QUESTIONING AND ITS IMPORTANCE – PAGE 71

Box A-3.3-iii

Importance of Questioning

We have a long and ancient tradition of questioning in India. Debate and discussion have always been held as a critical part of the Indian knowledge tradition.

The Upanishads were written in response to the questions of shishyas. The literal meaning of the word Upanishad is the sitting down (of the shishya) near (the guru). The usual method of argument utilized reason and went from simple to complex, from concrete to abstract, from known to unknown.

In the Katha Upanishad, is the powerful story of Nachiketa, a young boy, who dared to ask Yama, the lord of death, a very simple but fundamental question: 'Is there life after death, or is death the end?'

At different periods in time, India has produced exceptional scholars who were unconditional masters in their respective schools of thought. It was often the custom among learned men to debate the merits and demerits of these various systems of philosophy. The debates between Adi Shankara and Mandana Misra, for example, are legendary. Thousands of scholars gathered every day to watch and learn from them.

This debate between two luminaries throws light on the healthy competition that existed among followers of different philosophies. They had open minds and the immense courage to test their faith, to question their beliefs, and to change their philosophies, if reason demanded the change. Through this process, it was always important to remain accepting towards new concepts, experiments, or questionings.

R REMEDIAL TEACHING- MULTILEVEL AND REMEDIAL TEACHING/ INDIVIDUAL LEARNING NEEDS- SECTION 3.3.6- PAGE 76 ONWARDS

Some of the ways in which this additional support could be provided or children could be offered varying levels of challenge are listed below.

1. A "bridge" course for a month or so at the beginning of the year.
2. Specific work on designated days to supplement what has been done in class.
3. Differentiated assignments - the teacher could provide assignments/ lass tests of varying levels of difficulty using the same content.
4. Making specific resources available to students who need them; extra worksheets for those who need additional practice; "extra-challenging" worksheets for those who need it.
5. Set up a buddy system wherever appropriate - pair a child who needs help with another child who can provide it informally.
6. Setting up a conference time once a month or so with every student in class.
7. Communicate regularly with all parents but particularly those parents whose students may need special help and support so that parents are also able to provide support when required.

In cases where the school is not equipped to help or support a student with an identified disability adequately, it may rely on external resources or resource persons. Schools will understand and opt for all exemptions provided by Boards of Education in specific situations. All such decisions should be made in partnership with families.

S SUGGESTED METHODS OF TEACHING- SECTION 3.6.2 - PAGE 199,200

SCHOOL CULTURE AND PROCESSES

1. Play-way (activity based) method
2. Discovery/Inquiry-based method
3. Problem solving method
4. Inductive method
5. Deductive method

All of the above methods are suggestive and have their appropriateness at different Stages and with students of different age groups. It is also true that one method does not work for all students and Teacher has to intelligently choose a combination of methods to ensure the learning of every individual. The matrix below has suggestive methods in rows and Stages in three columns.

Table B-3.6-I

Suggestive Methods	Stages		
	Preparatory	Middle	Secondary
Play-way	✓✓✓	✓✓	✓
Discovery/ Inquiry	✓✓	✓✓✓	✓✓
Problem solving	✓✓	✓✓✓	✓✓✓
Inductive	✓✓✓	✓✓	✓
Deductive	✓	✓✓	✓✓✓
Recommendation on Use: ✓✓✓ - *More Often,* ✓✓ - *Often &* ✓ - *Less Often*			

SCHOOL CULTURE- SECTION 1.1- PAGE 547 ONWARDS

What is School Culture?

School culture can be understood in terms of values, norms, and beliefs or their manifestation in action in the form of relationships, behaviours, and practices.

a. **Relationships:** This refers to how the school staff, students and the other stakeholders relate with each-other.

b. **Symbols:** These are about various kinds of visual displays that we find in schools.

c. **Arrangements and Practices:** These are about arrangements – for example seating - and practices – for example, who participates in which sports – related to various classroom and school processes which signals the kind of culture the school stands for.

School culture practices should be-

a.Inclusive
b.Fear free
c.Encouraging good habits of learning
d.Caring
e.Responsibility

Compiled by Dr. Swati Popat Vats

T TIME TABLE - SECTION 2.1.1- PAGE 563 AND TIME ALLOCATION- SECTION 3.5-PAGES 90 ONWARDS

A timetable provides structure to the daily routines and activities carried out in the school. It must be decided very imaginatively so that it allows for different engagements without compromising the requisite time for different curricular subjects and whole/mixed group activities.

1. School assembly, last period of the day, and Saturdays could be seen serving multiple purposes.
2. On alternate days, in place of school assembly, a common sports/ activity period for the entire school can be imagined.
3. Similarly, last period of the day could be dedicated for club activities (music, theatre, art, literature, sports etc.) where students can participate or even lead various creative engagements.
4. This slot can be used for preparing for various events too without disturbing the flow and consistency which is required for learning improvement.
5. The idea of a block period for allowing extra time to certain topics would be ideal. For example, lab activity or project work require more time.

Saturdays can provide greater flexibility and scope for doing a variety of engagements such as short field trips, interaction with local community, dialogue around adolescent issues etc

Illustrative daily routine- age 3-6 years

Table A-3.5-i

From	To	Duration	Activity
Morning Routine/Free Play/Corners Time			
09:30	10:15	45 minutes	Circle time/Conversation
10:15	10:30	15 minutes	Snack Break
10:30	10:45	15 minutes	Rhyme/Song/Music/Movement
11:45	11:45	1 hour	Concept Time/Pre-numeracy
11:45	12:15	30 minutes	Arts/Craft/Free Play
12:15	13:00	45 minutes	Corners Time
13:00	13:45	45 minutes	Lunch Break (ages 3-4 go home)
13:45	14:30	45 minutes	Emergent Literacy/Story Time
14:30	15:00	30 minutes	Outdoor Play and Wind Up

Table A-3.5-ii

From	To	Duration	Activity
Morning Routine + Silent Game			
09:30	10:15	45 minutes	Circle Time (Conversation, Songs, Poems)
10:15	10:30	15 minutes	Snack Break
10:30	12:15	1 hour, 45 minutes	Work Time
12:15	13:00	45 minutes	Arts/Craft/Sports/Free Play
13:00	13:45	45 minutes	Lunch Break (ages 3-4 go home)
13:45	15:00	1 hour, 15 minutes	Language and Emergent Literacy (ages 4-6)

Both the illustrations have a five-and-a-half-hour school day with about four-and-a-half hours of active instructional time for children of ages 4-6.

Illustrative daily routine- age 6-8 years

Table A-3.5-iii

From	To	Duration	Activity
09:00	09:30	30 minutes	Circle Time - Song/Movement
09:30	10:00	30 minutes	L1 - Oral Language
10:00	10:30	30 minutes	L1 - Word Recognition
10:20	10:35	15 minutes	Snack Time
10:35	11:35	1 hour	Mathematics
11:35	12:05	30 minutes	Arts and Craft
12:05	12:45	30 minutes	L1 - Reading/Writing
12:45	13:30	45 minutes	Lunch Break
13:30	14:30	1 hour	L2 - Oral Language, Word Recognition
14:30	15:00	30 minutes	Play

Table A-3.5-iv

From	To	Monday	Tuesday	Wednesday	Thursday	Friday
9:00	10:00	Math	Math	L2	Math	L2
10:00	10:45	L1	L1	L1	L1	L1
10:45	11:00	Snacks				
11:00	12:00	L1	L1	L1	L1	L1
12:00	13:00	L2	L2	Math	L2	Art
13:00	13:45	Lunch				
13:45	14:45	Art	Math	Art	Art	Math
14:45	15:30	Library	Gardening	Sports	Gardening	Sports

Preparatory stage time allocation and routine

Table A-3.5-v

Preparatory	Annual Hours	Annual Periods
R1+Library	183	275
R2	194	291
Math	183	275
WAU	206	309
Art	103	155
PE	103	155
VE	0	0

Table A-3.5-vi

Illustrative timetable for the Preparatory Stage (Two Working Saturdays)							
Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
830-855	Assembly	Assembly	Assembly	Assembly	Assembly	830-910	PE
900-940	R1	Art	R1	Math	Math	915-955	Art
945-1025	R1	Art	R1	Math	Math	955-1015	Snack break
1030-1045	Snack break	Snack break	Snack break	Snack break	Snack break	1020-1100	WAU
1050-1130	Math	R1	R2	R2	R2	1105-1145	WAU
1135-1205	Math	Library	R2	R2	R2	1150-1230	R2
1205-1250	Lunch	Lunch	Lunch	Lunch	Lunch	1230-1300	Lunch
1250-1330	WAU	Math	WAU	R1	WAU		
1335-1415	WAU	Math	WAU	Library	WAU		
1420-1500	PE	R2	Art	WAU	PE		
1505-1545	PE	R2	Art	WAU	PE		

Middle stage time allocation and routine

Table A-3.5-vii

Middle	Annual Hours	Annual Periods
R1+Library	80	120
R2	91	136.5
R3	46	69
Math	114	171
SS	160	240
Science	160	240
Art	103	154.5
PT	103	154.5
VE	114	171

Table A-3.5-viii

Illustrative timetable for the Preparatory Stage (Two Working Saturdays)							
Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
830-855	*Assembly*	*Assembly*	*Assembly*	*Assembly*	*Assembly*	830-910	VE
900-940	SS	Math	Math	SS	R2	915-955	VE
945-1025	SS	R2	R1	Science	Math	955-1015	*Snack break*
1030-1045	*Snack break*	*Snack break*	*Snack break*	*Snack break*	*Snack break*	1020-1100	Library
1050-1130	R2	Science	R3	Math	Science	1105-1145	Art
1135-1205	R1	SS	R2	Math	R1	1150-1230	PE
1205-1250	*Lunch*	*Lunch*	*Lunch*	*Lunch*	*Lunch*	1230-1300	*Lunch*
1250-1330	Science	Art	Science	Art	R3		
1335-1415	Science	Art	Science	Art	SS		
1420-1500	PE	VE	SS	PE	VE		
1505-1545	PE	VE	SS	PE	VE		

Secondary stage time allocation and routine

Table A-3.5-ix

Secondary	Annual Hours	Annual Periods
R1	86	103.2
R2	71	85.2
Math	143	171.6
Arts	114	136.8
PE	100	120
Science	129	154.8
SS	143	171.6
IDA	143	171.6
VE	143	171.6

Table A-3.5-x

Illustrative timetable for the Secondary Stage (Grades 9 & 10)							
Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
0800-0825	*Assembly*	*Assembly*	*Assembly*	*Assembly*	*Assembly*	800-850	R2
0830-0920	R1	R2	R1	R2	R1	855-945	Science
0925-1015	Math	Math	Math	Math	Math	950-1040	VE
1020-1110	Arts	Science	Science	Science	Arts	1045-1135	VE
1115-1205	Arts	PE	Science	PE	Arts	1140-1230	PE
1135-1205	R1	SS	R2	Math	R1	1150-1230	PE
1205-1300	*Lunch*	*Lunch*	*Lunch*	*Lunch*	*Lunch*	1230-1300	*Lunch*
1300-1350	SS	SS	SS	SS	SS	1305-1355	AEP*
1355-1445	IDA	VE	IDA	VE	IDA		
1450-1540	IDA	VE	PE	VE	IDA		
1545-1635	AEP*	AEP*	AEP*	AEP*	AEP*		

*AEP = Additional Enrichment Period

U UNDERSTANDING THE STAGE DESIGN- SECTION 2.4 - PAGE 49 ONWARDS

The NEP 2020 recommends that schooling should be imagined in four stages in a new 5+3+3+4 design covering ages 3-18.

DESIGNING OF ALL STAGES IS BASED ON

1. Curricular Structure
2. Content
3. Pedagogy
3. Assessments
4. Classroom Arrangements
4. Teachers

V VALUES AND DISPOSITIONS- SECTION 1.3.1- PAGE 25 ONWARDS

VOCATIONAL EDUCATION

VALUES AND DISPOSTIONS- India has been a great contributor to the discourse of values from the ancient times till today

a. Ethical and moral values. These values include among others: the *"values of seva, ahimsa, swacchata, satya, nishkam karma, tolerance, honest hard work, respect for women, respect for elders, respect for all people*

***b.* Democratic values.** These values include *"democratic outlook and commitment to liberty and freedom; equality, justice, and fairness; embracing diversity, plurality, and inclusion; humaneness and fraternal spirit; social responsibility and the spirit of service; ... commitment to rational and public dialogue; peace; social action through Constitutional means; unity and integrity of the nation..." [DNEP 2019, 4.6.8.3]*

c. Epistemic values. These are values that we hold about knowledge. "*Inculcate scientific temper and encourage evidence-based thinking throughout the curriculum" [DNEP 2019, 4.6.1.1]*

Along with the above values, the NCF would intend to develop the following dispositions in students:

a. A positive work ethic
b. Curiosity and wonder
c. Pride and rootedness in India

VOCATIONAL EDUCATION- PAGE 425 OWARDS

In the Middle Stage, exposure to a wide range of work will be given to students. This will equip them to achieve skills in a vocation of their choice in the Secondary Stage and help them progress into gainful employment.

The Draft National Education Policy (DNEP) 2019 states that "Vocational education is extremely vital for our country to run efficiently and properly, and thus it is beneficial to increasingly incorporate elements of vocational education into the school curriculum. Indeed, some exposure to practical vocational-style training is always fun for young students, and for many students it may offer a glimpse of future professions while for others it would at the very least help teach and reinforce the dignity of all labour." [DNEP 2019, Para 4.6.6]

With this background, the following aims of Vocational Education will be achieved by all students:

a. Developing an understanding and basic capacities for different forms of work:

b. Preparation for specific vocations

c. Respect for dignity of labour and all vocations

d. Developing values and dispositions related to work:

Some important considerations

1. Age-appropriate:
2. As localised as possible
3. Aspirational
4. Exposure to different kinds of work
5. Equity considerations
6. Value for working with hands

W WAYS OF THE GURU

Box A-3.3-iv

Ways of the Guru

According to Shri Aurobindo, the three instruments of the Guru are teaching, example and influence.

Wise teachers do not seek to impose themselves or their opinions on the passive acceptance of receptive minds. They seek to awaken much more than to instruct, they aim at the growth of faculties and experience by a natural process and free expansion. They prescribe a method as an aid, as a utilizable device, not as imperative formula, or a fixed routine.

As the Taittiriya Upanishad tells us, the Teacher is the first letter, the student is the last letter, knowledge is the meeting place and instruction is the link.

Compiled by Dr. Swati Popat Vats

X XENIAL RELATIONSHIP OF CURRICULAR INTEGRATION OF ESSENTIAL SUBJECTS AND SKILLS- PAGE 32,33

The DNEP 2019, recognizes the limitation of the current educational practice in the Indian context. It attempts to shift the focus of the vision of schooling from an excessive emphasis on remembering facts, to developing capacities and skills for thinking and acting. The following ten capacities and skills are highlighted as important goals of school education, which need to be paid adequate attention, along with other critical goals:

1. Develop a scientific temper
2. Develop creativity and innovation through arts
3. Develop excellent verbal and written communication capacities
4. Develop appropriate practices and habits to maintain a healthy body and mind.
5. Develop effective problem-solving and logical reasoning capacities.
6. Develop useful vocational skills and sensibilities
7. Develop digital literacy and computational thinking
8. Develop capacities for moral reasoning and ethical action
9. Develop an in-depth understanding of Indian knowledge systems.
10. Develop capacities and dispositions to be engaged with current affairs

Y YOUNG CHILDREN AND HOW THEY GROW AND LEARN - SECTION 3.3.1- PAGE 68 ONWARDS

Research from across the world has provided us with a set of ideas about how children learn that have practical implications for teaching, most importantly:

a. The brain plays an important role in learning

b. Learning is based on the associations and connections children make

c. Emotions are deeply connected to learning

d. The learning environment matters: The word environment refers to both the physical space and the 'atmosphere' or psychological environment in the classroom.

e. Learning occurs in particular social and cultural environments: Learning in school becomes meaningful when it connects to students' lives and experiences

Z ZOOMING IN ON ASSESSMENT- SECTION 3.4-PAGES 83-89

The aim of assessment in the culture of our schooling system will shift from one that is summative and primarily tests rote memorization skills to one that is more regular and formative, is more competency-based, promotes learning and development for our students, and tests higher-order skills, such as analysis, critical thinking, and conceptual clarity.

Assessment of Learning; Assessment for Learning; Assessment as Learning

a. *Assessment of learning refers to. the measurement of achievement of student learning.*

b. *Assessment for learning* refers to evidence of student learning gathered by the Teacher that provides inputs to guide the teaching-learning processes.

c. Recent studies have shown that students can play an active role in taking charge of their own learning. When assessments are introduced as non-threatening tools for self-reflection and introspection, they become developmental and constructive in nature. This is referred to as *assessments as learning*.

Holistic Progress Cards

a. *will be a holistic, 360-degree, multidimensional report that reflects in great de- tail the progress as well as the uniqueness of each learner in the cognitive, affective, and psychomotor domains.*

b. *It will include self-assessment and peer assessment, and progress of the child in project based and inquiry-based learning, quizzes, role plays, group work, portfolios, etc., along with teach- er assessment.*

c. *will form an important link between home and school and will be accompanied by parent-teacher meetings*

d. *also provide teachers and parents with valuable information on how to support each student in and out of the classroom.*

e. *AI- based software could be developed*

3.4.4 Key Principles of Good Assessment

Key principles that could guide our thinking on effective use of assessments to aid better teaching and learning are listed below:

a. Assessment should measure achievement of Competencies and Learning Outcomes leading to attainment of Curricular Goals

b. Assessments should be constructive, developmental, and learning focused

c. Assessments should be Stage-appropriate

d. Assessments should accommodate student diversity

e. Assessments should be supported by timely, credible, and constructive feedback to students

f. Assessments should support in meaningful aggregation/summation of student learning

Compiled by Dr. Swati Popat Vats