

Draft

Module 1.1



**NATIONAL CURRICULUM
FRAMEWORK, SYLLABI ,TEXTBOOK
AND LEARNER-CENTRED TEACHING -
LEARNING**

National Curriculum Framework, Syllabi and Textbooks.

Overview- This module provides learners with a basic understanding of the Education and Curriculum Policies. It includes the concept, development and features of Curriculum, National Curriculum Framework, Syllabi and Textbooks and will also help learners to develop an understanding about the transaction of learner-centred pedagogies included in the textbooks developed by the NCERT.

Learning Objectives

- **Understanding curriculum and its development**
- **Understanding the linkages among intended, transacted and assessed curriculum**
- **Understanding features of the National Curriculum Framework, Syllabi and Textbooks developed by the NCERT**
- **Developing skills for the transaction of textbooks in the classroom focusing on learner-centred pedagogy taking care of inclusion, multilingualism, scientific temper, learning outcomes, assessment as learning, etc.**

Curriculum

Curriculum is the core of formal education system consisting of school education, teacher education and higher education. In this module, we shall focus on the curriculum in school education. We all have gone through the schooling process and we are aware that all the activities in the school revolve around a curriculum or one can say that a sum total of activities in the school which contributes for the holistic development of students may be termed as curriculum.

So, the scope of curriculum is very broad. It encompasses syllabus, textbooks, teaching-learning process and also assessment.

Now let us reflect -How do we decide the curriculum? What are those factors, which contribute in curriculum decisions? For this, we need to recapitulate the following:

- 1. Do we have National Policies on Education? If yes, then how many?**
- 2. Which is the latest one?**
- 3. Why do we follow 10+2+3 system of Education?**

Please visit the link and read the Policy documents- <http://www.ncert.nic.in/newpolicy.html>

National Policy on Education

India has two National Policies on Education, one was brought in 1968 and the other in 1986. We are still following National Policy on Education 1986.

This policy emphasising on the National System of Education states that “the concept of National System of Education implies that, up to a given level, all students, irrespective of caste, creed, location or sex, have access to education of a comparable quality”.

The policy envisages a common educational structure i.e., 10+2+3 under the National System of Education- 10 year general education, followed by 2 years of senior secondary and 3 years of higher education i.e., graduation. Regarding the further break-up of the first 10 years –it includes 5 years for primary, 3 years for upper primary and 2 years for secondary. The policy also stated that the National System of Education will be based on a national curricular framework, which contains a common core along with other components that are flexible. *The common core will include the*

history of India's freedom movement, the constitutional obligations and other content essential to nurture national identity. These elements will cut across subject areas and will be designed to promote value such as India's common cultural heritage, egalitarianism, democracy and secularism, equality of the sexes, protection of the environment, removal of social barriers, and observance of the small family norm and inculcation of the scientific temper. All educational programmes will be carried on in strict conformity with secular values.

Further Policy had mandated National Council of Educational Research and Training (NCERT) to develop the National Curriculum Framework in collaboration with various stakeholders.

National Curriculum Frameworks

As NCERT had been established in the year 1961 with one of the major mandates of developing curricular material in the area of school education, therefore, it had developed its first curriculum framework brought out in 1975, titled 'The Curriculum for the Ten year of School Education – A framework in, 1975' and provided adequate space to the recommendations of the National Education Commission 1964-66 (popularly known as Kothari Commission) and the National Policy on Education (NPE) 1968. However, as a follow up of the NPE 1986, NCERT brought out another curriculum framework titled 'The National Curriculum for Elementary and Secondary education-A framework' in the year 1988, which had placed much importance to the common core suggested by the NPE 1986. In the year 2000, another curriculum framework, titled, 'The National Curriculum Framework for School Education -2000' was brought out. The major thrust of this curriculum was on learning that leads to a kind of education that would fight against inequality and respond to social, cultural, emotional and economic needs of learners.

Hence, the main focus of this curriculum framework was that education must play a role in building a Cohesive Society.

Let us reflect, What do we mean by cohesive society? How education can help in developing the same? For getting more acquaintance on the four curriculum frameworks please visit -

http://www.ncert.nic.in/rightside/links/focus_group.html

National Curriculum Framework-2005

Process of Development of the NCF-2005

Have we ever thought how these policy documents are developed? Here, we would discuss about the process of development of the National Curriculum Framework (NCF)- 2005 in brief to get an idea of factors affecting the development of these kind of documents. As we have already read in earlier paragraphs, the NPE 1986 has given the mandate to NCERT for the development of the National Curriculum Framework, in 2004, the NCERT had initiated this process when Ministry of HRD communicated to the Director of NCERT the need to review the National Curriculum Framework for School Education (NCFSE-2000) in the light of the report, *Learning without Burden (1993)*. Accordingly, five structures to undertake the NCF review with wide-ranging deliberation were set up. These structures are:

- National Steering Committee
- National Focus Groups (NFGs) (21)
- Committee for Consultation with states
- Research Unit
- Coordination Committee

21 NFGs were created on the following themes drawn from school education covering curricular areas, national concerns and systemic reforms to generate ideas and prepare position papers on the respective themes:

Curricular Areas

- Teaching of Science
- Teaching of Social Science
- Teaching of Mathematics
- Teaching of English

- Teaching of Indian Languages
- Habitat and Learning
- Heritage Crafts
- Art, Music, Dance and Theatre

National Concerns

- Problems of Scheduled Caste and Scheduled Tribe Children
- Gender Issues in the Curriculum
- Education of Groups with Special Needs
- Peace Education
- Early Childhood care and Education
- Health and Physical Education
- Work and Education

Systemic Reforms

- Aims of Education
- Systemic Reforms for Curriculum Change
- Curriculum, Syllabus and Textbooks
- Teacher Education for Curriculum renewal
- Examination Reforms
- Educational Technology

The National Steering Committee chaired by Prof. Yash Pal and National Focus Groups met a number of times and deliberated on various concerns related to school education. Besides, consultation with states, rural teachers' conference, meeting of principals of private schools, regional seminars were also organised by the NCERT. With a view to reaching out to public and seeking public views and opinions advertisements on the national curriculum framework review were placed in 28 national and regional newspapers and also on the NCERT website. The voices of different sections of society were then communicated to the National Focus Groups and National Steering Committee. Wide ranging deliberations and inputs from multiple sources involving different levels of stakeholders immensely helped in shaping the draft in both English and Hindi National Curriculum Framework document and 21 NFGs' position papers.

The draft NCF-2005 was translated into Punjabi, Urdu, Bengali, Assamese, Nepali, Manipuri, Dogri, Sindhi, Santhali, Bodo, Kashmiri, Telugu, Kannada, Malayalam, Tamil, Sanskrit, Gujarati, Marathi, Oriya, Maithili and Konkani. The revised document based on the suggestions from the state level deliberations, NCERT faculty and NFGs was presented to the General Body of the Council and the CABE on September 6 and 7, 2005. Both the General Body and the CABE, after detailed deliberations, approved the documents.

Salient Features of the National Curriculum Framework – 2005

I. Aims of Education

Broad aims of education as identified in the documents are

1. Independence of thought and action,
2. Sensitivity to others' well-being and feeling
3. Learning to respond to new situations in a flexible and creative manner
4. Pre-disposition towards participation in democratic processes

5. Ability to work towards and contribute to economic processes and social change.

II. Guiding Principles to achieve aforesaid aims of education:

In view reducing curriculum burden drawing insights from the Yash Pal Committee Report 'Learning without Burden', the present National Curriculum Framework proposes five guiding principles for curriculum development:

- **Connecting knowledge to life outside the school**
- **Ensuring that learning is shifted away from the rote method**
- **Enriching the curriculum to provide for overall development of children rather than remain textbook centric**
- **Making examination more flexible and integrated into classroom and**
- **Nurturing an over – riding informed by caring concerns within the democratic polity of the country.**

III. Curricular Concerns

i. Learner–centric Curriculum

It is emphasised that learner needs to be in the centre of every school activity. Learner's nature and environment need to be kept in view while making syllabus and textbooks and also planning any activity in the school. Classroom processes need to be organised in consonance with the child's nature and environment and providing opportunities for all children. Teachers need to invite learners to share their experiences in the classroom and link school knowledge with their life outside the school, this will help learners to understand concepts without rote memorising it. It is also required to place before learners the linkages and relations among different subjects which will lead them to appreciate integration and learn

Suggested Activity

Topic(from syllabus and textbook) : -Reflection: object distance and image distance

- ❖ Children like to look in the mirror and many a times enjoy making faces. Why can't this activity be linked with the school knowledge?
- ❖ Discuss with your students about their experience with the mirror and then ask them to see their face in a mirror and observe images of the face in the mirror. Then motivate them to reflect on the following questions:
 1. What happens if you move forward and backward
 2. What happens if your friends to see you from another point through the same mirror?
 3. What kind of images you find if you see your image on a spoon in the kitchen from front side and back side?
 4. Compare image of your face in a plane mirror and also in spoon?
 5. What kind of mirror is spoon?

ii. Teaching of Languages

The document-taking note of the multilingual nature of the Indian society aims to use it as instrument for learning. The multilingual character of the Indian society is seen as a resource to promote multilingual proficiency in every child. Reading and writing, listening and speech contribute to the child's progress in all curricular areas and must form the basis for curriculum planning.

iii. Teaching of Mathematics and Science,

Teaching of Mathematics should enhance the child's resources to think and reason, visualize and handle abstractions, to formulate and solve problems. Teaching of Science should be recast so that it enables children to examine and analyze everyday experiences. Concern for the environment should be emphasized in every subject and through a wide range of activities involving outdoor project work.

iv. Teaching of Social Science

Social science learning in the NCF proposes to recognize the disciplinary markers while emphasizing integration in Social Sciences from the perspective of marginalized groups. Gender, justice and sensitivity towards tribal and *dalit* issues and minority sensitivities must inform all areas of Social Sciences.

v. Other Curricular Areas

The NCF also draws attention to the four other curricular areas: work, arts and heritage crafts, health and physical education and peace. It is recommended to bring these areas in the curricular domain rather than treating these as co-scholastic areas. Certain radical steps to link learning with work from the primary stage onwards are suggested on the ground that work transforms knowledge into experience and generates important personal and social values such as self-reliance, creativity and co-operation. Art as a subject at all stages is recommended, covering all four major spheres, i.e., music, dance, visual arts and theatre with an emphasis on interactive approaches rather than instruction. The goal of art education is to promote aesthetics and personal awareness and the ability to express oneself in different forms. The importance of India's heritage crafts both in terms of their economic and aesthetic values should be recognized as being relevant to school education. The success of the child at school depends on the nutrition and a well-planned physical activity programme.

IV. National Concerns

The NCF-2005 recommends that resources and school time must be deployed for the strengthening of mid-day meal scheme and efforts to ensure that girls receive as much attention in health and physical education programmes from pre-school stage upto senior secondary stage as boys. Peace has been recognized as a pre-condition for national development and as a social temper. It is proposed that the potential of education for peace for socializing children into a democratic and just culture should be created through appropriate activities and judicious choices of topics in all subjects at all stages.

Further, the framework looks at school ethos as a dimension of the curriculum. The primacy of the child within the aims of education and strategies of learning is necessary for success at school. As a

Suggested Activity

Sub: Mathematics

Class: VIII

It is found that children are scared of mathematics, since lower classes they develop fear and phobia for mathematics. Why this happens? Often children complain, they are not able to understand how to solve a sum. In schools, mathematics classroom often not provide space to examples from day to day life.

Let us take one example-

Topic- Learning Outcome: Discount & GST

The teacher may initiate discussion on the use of Discount and GST in the purchase of good in market. Students, then may be asked to collect some of the cash memos and bills which their parents have. Now students need to

- ❖ Check GST calculation.
- ❖ And find the rate of discount getting the marked price and selling price.

resource, school-time needs to be planned in a flexible manner for which locally planned, flexible school calendars and time tables are required. The NCF, while emphasizing the multiplicity and fluidity of options at senior secondary stages, discourages the tendency to place children in fixed streams i.e., subjects, and limiting opportunities of children especially from the rural areas.

V. Systemic Concerns

Advocating reform in the system, the document calls for strengthening the Panchayati Raj institution through the adoption of a more streamlined approach to encourage community participation as a means of enhancing quality and accountability. Examination reform constitutes the most important systemic reform measure to be taken for curricular renewal and to find a remedy for the growing problem of psychological pressure that children and their parents feel, especially in classes X and XII. The stress on pre-board examination must be reversed and strategies to enable children to opt for different levels of attainment should be encouraged to overcome the present system of generalized classification into 'pass' and 'fail' categories. The NCF in its last part recommends partnership between the school system and other civil society groups, including non-governmental organization and teacher organizations.

Basics of Curriculum: Reading above paras, we need to now reflect upon the basic factors which decide the curriculum. Curriculum has four basics. These are:

1. Social forces
2. Knowledge of human development provided by the accepted theories
3. The nature of learning.
4. The nature of knowledge and cognition.

Needs and aspirations of the society decides the nature of the curriculum i.e., subject-dominated, learner-centric, etc., then the knowledge of human development as well as accepted theories decide the content of the curriculum- what would be the subjects? How would they be organised. The nature of learning and the nature of knowledge and cognition and many other factors such as how this would be transacted in the classroom, how it would be assessed, etc. decide the processes and the product. For more details please refer Second Chapter on the NCF-2005- 'Learning and Knowledge' on the link-

So, curriculum is understood as a set of planned activities which are designed to implement a particular educational aim – set of such aims – in terms of the content of what is to be taught and the knowledge, skills and attitudes which are to be developed in learners together with statements of criteria for selection of content, and choices in methods, materials and evaluation. **It includes syllabus, textbooks, pedagogy and assessment.**

For further reading please refer to 'Curriculum, Syllabus and Textbooks' – Position paper published by the NCERT.

Syllabus- How do we decide what to teach in which class? Do only textbooks guide us for the same? Do we have a list of topics/ themes available in our schools which guide us what to teach in which class?

Yes, Syllabus provides list of themes, topics- class wise and subject wise, It also provides us time duration within which we have to complete the topic and also the assessment criteria.

A syllabus or syllabi is an academic document that communicates course information and defines expectations and responsibilities. A syllabus is a requisite document for teaching in that it serves to

outline the basic elements of a course including what topic will be covered, a weekly schedule and a list of tests, assignments and their associated weightages. However, a syllabus has the power to do more than that, it can articulate connection between learning outcomes, assessments, content and pedagogical practices- that is, the way in which the course is constructively aligned- in guiding students through their learning. There are four (4) essential components to an academic syllabus, namely: 1. Themes and questions, 2. Objectives, 3. Suggested Activities, 4. Suggested Resources/ Note for a Teacher.

Textbooks – Textbooks provide contents on the topics/themes included in the syllabus. Textbook is a printed learning resource for students. This needs to be learner friendly and reflective of the perspective of NCF.

As a follow up of NCF, development of syllabi and textbook across subject areas and classes is undertaken. Syllabus committees and textbook development committee are constituted with scholars, subject experts, educationists and teachers.

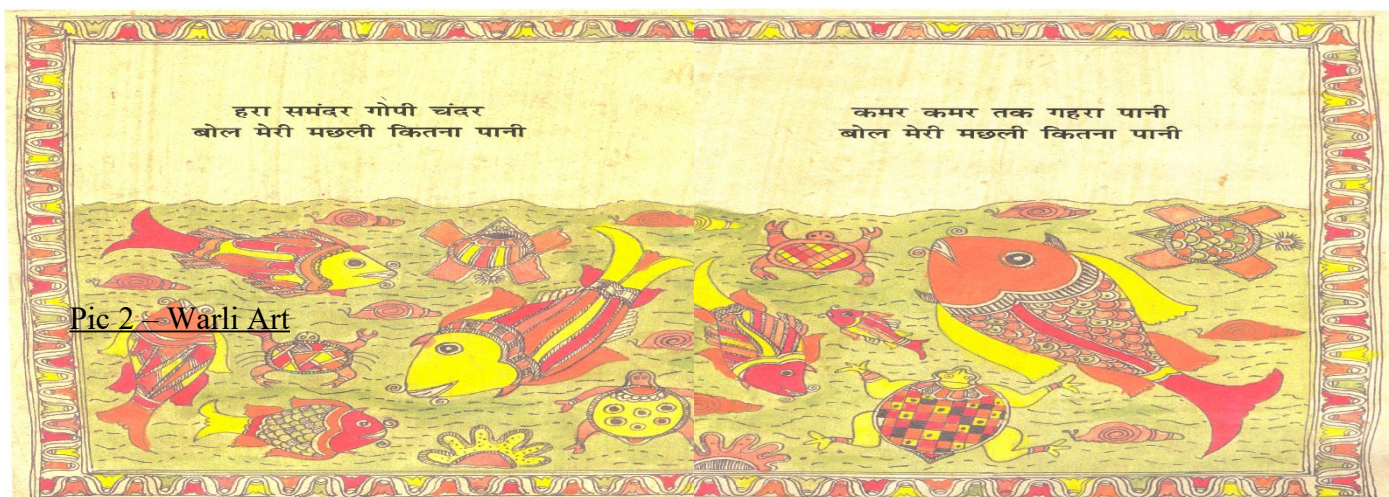
So, National Curriculum Framework and Syllabus work as intended Curriculum, whereas Textbooks and Classroom Teaching-learning work as a transacted curriculum, and assessment and examination processes work as an assessed curriculum.

Objectives of teaching of various subjects as elaborated in the Syllabus developed by the NCERT

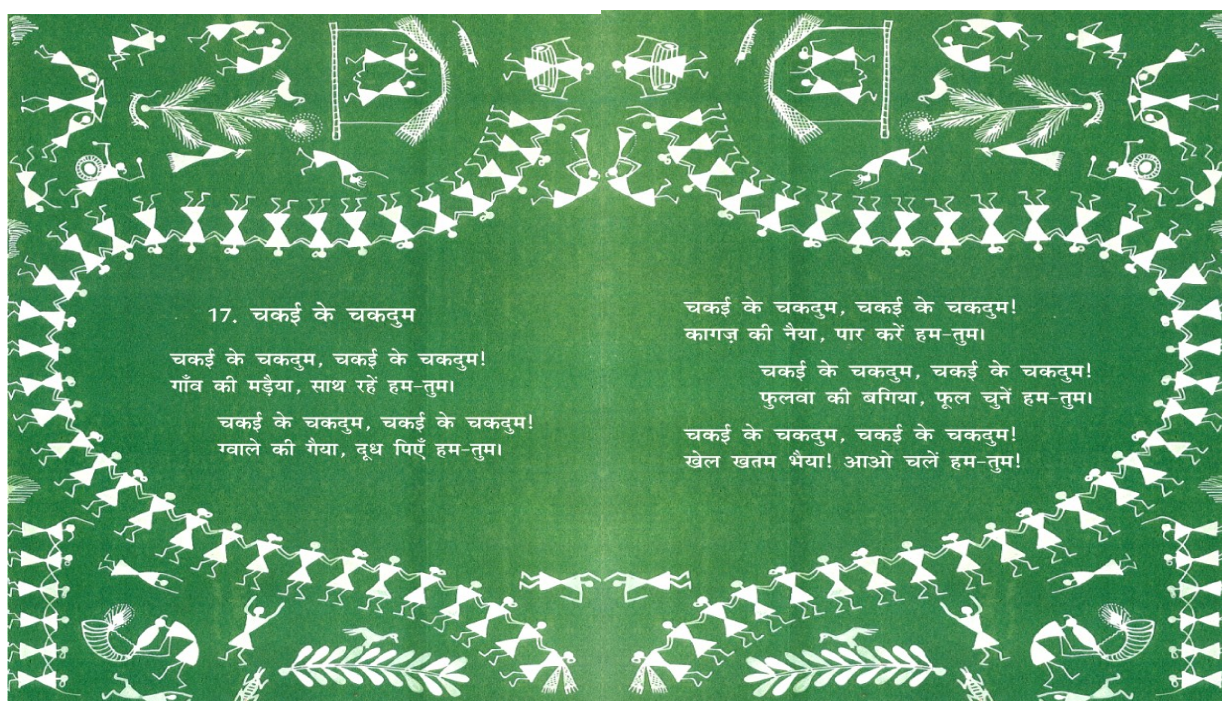
Language

- ☞ Syllabi aims at creating meaningful contexts for language acquisition
- ☞ Arousing the curiosity and interest of children to share their ideas and experiences
- ☞ Also uses the multi-lingual character of our society as a resource.
- ☞ Syllabus integrates concerns of environment, gender, peace, health, work and arts.

Following are some pages drawn from NCERT's Textbooks in Hindi language for primary classes, in these pages the content drawn from child's own experiences has been integrated with some art forms: Pic 1(hara samandar ,gopichandar- a poem)



Pic 2 – Warli Art



Please visit <http://epathshala.nic.in> for more details

Mathematics

1. Mathematisation (ability to think logically, formulate and handle abstractions) rather than 'knowledge' of mathematics (formal and mechanical procedures) is the main goal of teaching mathematics.
2. The teaching of mathematics should enhance children's ability to think and reason, to visualise and handle abstractions, to formulate and solve problems. Access to quality mathematics education is the right of every child
3. Syllabus developed through the following themes:

- 📌 Shapes, space and patterns
- 📌 Numbers and operations
- 📌 Measurement and estimation - including length, weight, time, volume,
- 📌 Data handling

Environmental Studies

- 📌 Syllabus designed to forge an integrated perspective for the primary stage that draws upon insights from sciences, social studies and environmental education
- 📌 Syllabus for Classes III – V is woven around six common themes:

Subject: Mathematics, Class: III,

Topic: Shapes and Patterns

Themes and Questions:

- i) Have you noticed the number of curves and angles an object has?
- ii) Can you name objects that have curves?
- iii) Which, among the objects that you see everyday have angles and edges?
- iv) Have you seen different patterns being used to make flooring beautiful?

- ढुल Family and Friends: Relationship; Work and Play; Animals; Plants
- ढुल Food
- ढुल Shelter
- ढुल Water
- ढुल Travel
- ढुल Things we make and do

Science

- ढुल Based on a pedagogy that is hands-on and inquiry based. Therefore:
- ढुल Begins with things that are directly related to the child's experience and are therefore 'specific'.
- ढुल Proceeds from 'specific' to 'general'

Social science

- Content needs to focus on conceptual understanding rather than lining up facts to be memorised for examination, and should equip children with the ability to think independently and reflect critically on social issues.
- Interdisciplinary approaches, promoting key national concerns such as gender, justice, human rights, and sensitivity to marginalised groups and minorities.
- Civics to be recast as political science, and the significance of history as a shaping influence on the children's conception of the past and civic identity should be recognised.

Please refer to syllabus developed by the NCERT more details-
link-<http://www.ncert.nic.in/rightside/links/syllabus.html>

Features of Textbooks Developed by the NCERT:

Textbooks developed by the NCERT are in consonance with the perspectives of the NCF-2005. These textbooks had been developed through an intense process of discussion and had been approved by the National Monitoring Committee set up by the MHRD in the year 2005. Major features of these textbooks are:

- ढुल Learner –centred and inclusive



Pic 3

Interactive

Less information more activities

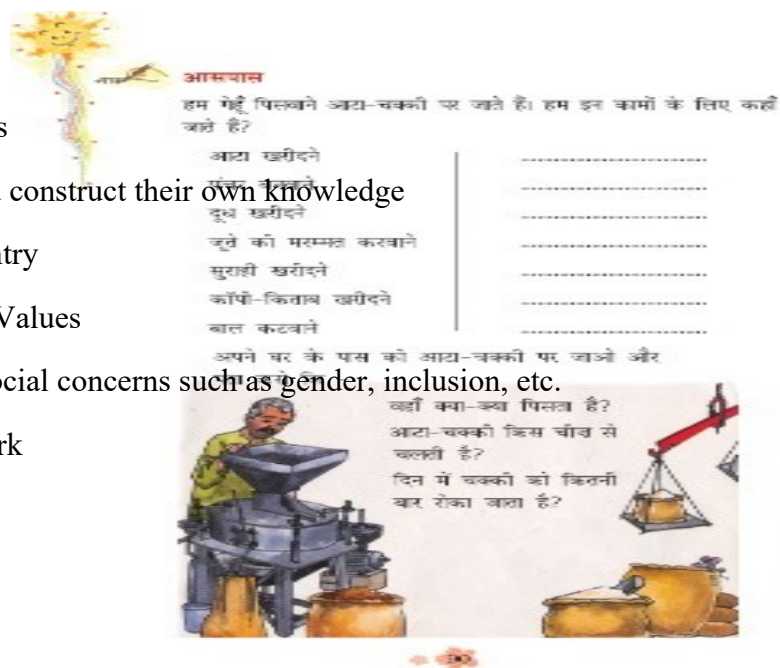
Space for learners to reflect and construct their own knowledge

Covers the diversity of the country

Commitment to Constitutional Values

Space for sensibilities for the social concerns such as gender, inclusion, etc.

Attempt to provide space to work

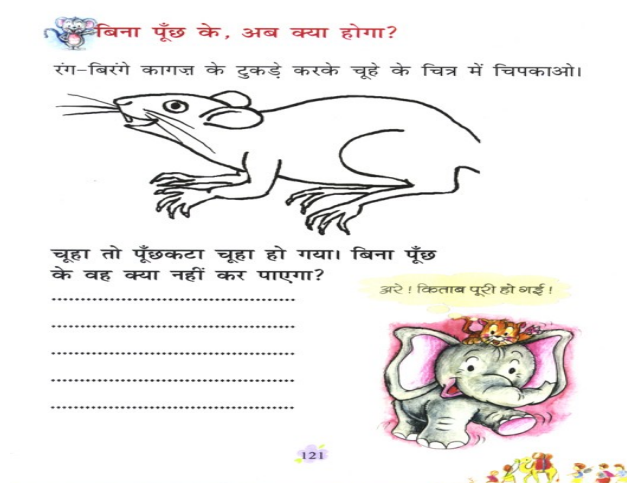


Pic 4

Attempt to provide space to ICT

Have in-built evaluation

Simple Language



Pic 6



Pic 5

We need to keep in view that every child has ability to learn however it depends on the environment, situation and relevance of the material which make learning interesting and fast. Therefore, while

transacting any textbook, we need to reflect upon the objectives behind the development of the textbook, how this is to be used in with children?

Assessment

Teaching-learning of a topic/theme/course is often followed up by either a written test or oral examination or observation of the achievement. What do we do taking a test or examination? Yes we want to know what a child has achieved during the process of teaching –learning? Is there any change in understanding of the child about the concept? However, we need to understand while attempting to know child's achievement, we not to scare child about his/her weaknesses. As assessment is not for finding out weaknesses and criticising learning style of a child, rather it is for supporting child to reduce the learning gap if it is identified in the assessment process.

As per the NCF-2005, the purpose of evaluation is not

- to force children to study under threat.
- to identify or label children as 'slow learners', or 'bright students', or 'problem children'. Such categories segregate children, placing the onus for learning solely on them, and detract from the role and purpose of pedagogy.

Therefore, as per the guiding principle of the NCF-2005, we need in-built assessment/evaluation into the classroom process and it need to be continuous (regular observation of children's learning strengths and also gaps in subject areas) and comprehensive (regular observation of children's children social personal behaviours and attitudes) so that the purpose education for holistic development is fulfilled.

All the textbooks developed by the NCERT provide ample space for the variety of questions and exercises so that assessment can support and enhance child's learning (Pic 4 and 6 given earlier in this module). Textbooks do not provide questions only at the end of the chapter, but assessment is in-built across the chapter.

Learning Outcomes:

Further to helps teachers to understand what children will achieve after going through a process of learning across year in a particular class in terms of knowledge, skills and change in social-personal qualities and attitudes, the NCERT has come out with Learning Outcomes. Learning Outcomes are statements that tells about the knowledge or skills children need to gain by the end of a particular class or course and these are supported by the pedagogies which teachers need to implement for enhancing learning. They are the statements which are process based which provide the check points that are measurable in a qualitative or quantitative manner to assess the progress of a child on the scale of holistic development. Some examples of leaning outcomes are given below-

- Describe need of food for people of different age groups: animals and birds, availability of food and water and use of water at home and surroundings
- Describe roles of family members, family influences (traits / features / habits / practices), need for living together through oral /written/other ways

In order to attain the above learning outcomes, the learners have to be provided with opportunities to work in pairs, groups, individually and are to be encouraged to observe and explore the immediate surroundings; record and express them in oral/written/drawings/gestures. Children need to be allowed to discuss with elders & visit different places, collect information from them on the topic of their choice and discuss the findings in the groups.

Appendix- I

Suggested Activity: Subject: Mathematics Class: III	More Suggestive Activities in Different Subjects Areas Linking School Knowledge with Students' Life outside the School
<p>Topic: Shapes & Patterns Suggested Activity:</p> <p>1) Take a white paper 2) By cutting the paper prepare different shapes 3) Take one by one shape and ask students say name of that shapes 4) Ask them whether they see these shapes in their daily life Observe and count total no of water taps in your school with service of water. Among them how many taps are not working. How many taps have leakage and this wastage water through them? By this activity students will be aware regarding different shapes surrounding them. Observe how much water is being wastage daily through them. Children may be motivated to resolve the problem of tap by arranging its repair replacing it with new fit to the pipe for conservation of water in their own best way.</p> <p>Learning Outcomes: Students realize about wastage of drinking water and learn how to conserve water</p>	<p>Suggested Activity: Science Book- Class-VI, Page-72</p> <p>Name of topic: Motion and Measurement of Distance</p> <p>Expected Learning Outcomes: - Measurement of Physical quantity and its units</p> <p>Activity no-1</p> <p>i) Students need to be asked to measure the length of their Math Book by using measuring scale in cm.</p> <p>ii) A table showing the measurement will be displayed on writing board.</p> <p>iii) A student will stand in front of the wall and his friend will be asked to mark the top point of his head using chalk.</p>
<p>Module Development Team Sri. Arjun Sarma Sri. Swapan Majumdar Sri. Malay Bhowmik Smt. Sumita Dutta Sri Dwija Lal Debnath Sri. Banamali Debbarma Sri. Debamalyahattacharya</p>	<p>tap</p> <p>or</p> <p>iv) Then students will measure the height that marked point from ground. v) Finally students will be able to measure the height.</p>

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