Section — I
Cross-cutting Concerns (Generic)

Module 1 — Curriculum, Learner-centred Pedagogy, Learning Outcomes and Inclusive Education

Module 2 — Developing Personal-social Qualities for Creating a Safe and Healthy School Environment

Module 3 — Art Integrated Learning

Module 4 — School Based Assessment

Module 5 — Health and Well-being in Schools

Module 6 — Integration of ICT in Teaching, Learning and Assessment

Module 7 — Initiatives in School Education

A teacher can never truly teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn its own flame. The teacher who has come to the end of his subject, who has no living traffic with his knowledge but merely repeats his lesson to his students, can only load their minds, he cannot quicken them.

Rabindranath Tagore (1994), " The English writing of Rabindranath Tagore: A miscellany". p. 64, Sahitya Academy

Module 1

Curriculum, Learner-centred Pedagogy, Learning Outcomes and Inclusive Education

Overview

Over the years as an outcome of the Right to Education Act (RTE), 2009, and our education policies, the composition of our classrooms has changed dramatically. As teachers and teacher educators you must have observed this learners' diversity, which also must have made you realise that *you cannot and should not teach all children in the same manner*. The need to adopt teaching-learning practices, that provide challenging opportunities to all learners and let them experience success, stands out now more than ever before.

> *"if some children can't learn the way we teach maybe we should teach the way they learn....."*
>
> *— Ignacio Estrada*[1]

The purpose of this module is to help teachers and teacher educators like you, to relook at the diversity existing in the classrooms and consider the pedagogies that are most suitable to make teaching-learning inclusive. The suggestions given are gathered from research and experiences and would help you develop more inclusive learning environments to meet the different learning needs in the same class. The content also provides an opportunity to look closely at National Education Policies, the curriculum, syllabus, textbooks, the National Curriculum Frameworks (in particular NCF-2005), and the recently developed Learning Outcomes (establishing linkage with curricular expectations and pedagogical processes).

***Important Note**: Teacher educators and key resources persons are expected to engage the participants during the training, in discussions while working in pairs and groups, brain storming and using other suitable forms of interaction and reflection. The 'Discussion Points' interspersed in the text can be used.*

India is a multicultural society made up of numerous regional and local cultures. People's religious beliefs, ways of life and their understanding of social relationships are quite distinct from one another. All the groups have equal rights to co-exist and flourish, and the education system needs to respond to the cultural pluralism inherent in our society.
— National Curriculum Framework (NCF) 2005

Learning Objectives

This module will help teachers:

- Describe the educational policies, the National Curriculum Frameworks development, functions and the linkages among intended, transacted and assessed curriculum

[1] Ignacio Estrada, *Director* for Grants Administration at Gordon and Betty Moore Foundation; httpp://www.aids.org.

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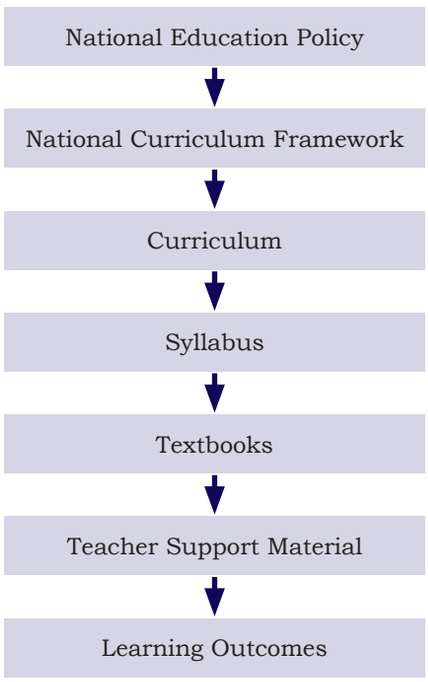
- Explain perspectives of the National Curriculum Framework-2005 and its translation into syllabi and textbooks
- Develop a richer understanding of diversity and acquire the attitudes for promoting inclusive education
- Strengthen existing skills to improve children's learning outcomes using appropriate pedagogies
- Use and adopt learning activities that foster gender sensitive classroom environment

About the Theme

Unpacking Terminologies, Policies and Frameworks

In order to achieve the above stated objectives at the outset, let us take a closer look at the *National Education Policies* and the *National Curriculum Frameworks* and improve our understanding about—curriculum, syllabus, textbooks, and learning outcomes.



National Education Policy

India has recently placed in the public domain the draft National Education Policy (NEP), 2019, covering various aspects of our large educational scenario. Discussions n the recommendations are taking place across the country (www.mygov.in). Among the various stakeholders, teachers' opinion hold great value. Prior to this two National Policies on Education were brought out in 1968 and 1986. The National Policy on Education of 1986, emphasises a national system of education implying 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 had mandated the National Council of Educational Research and Training (NCERT) to develop the National Curriculum Framework in collaboration with concerned institutions. Visit the link http://www.ncert nic.in/newpolicy.html to read the Policy documents.

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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 values such as India's common cultural heritage, egalitarianism, democracy and secularism, equality of the sexes, protection of the environment, removal of social barriers, 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 (National Policy on Education, 1986).

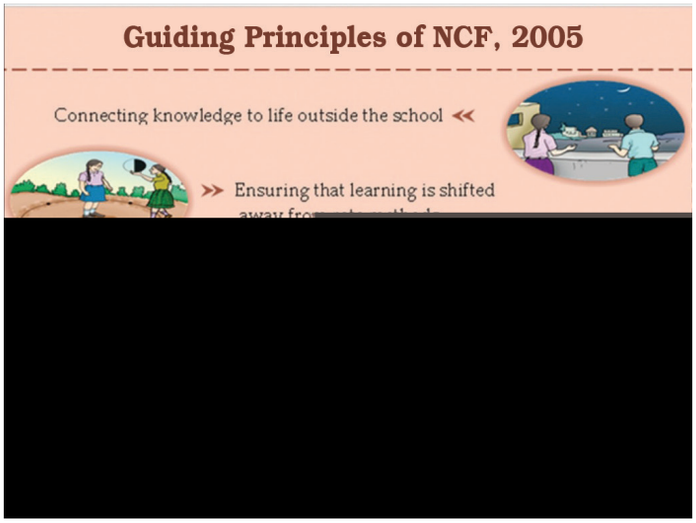
Discussion Points

Policies change with time and this change is evident as we move from NEP 1986 to draft NEP 2019.

For example, the schooling structure which was proposed in NEP 1986 is 10+2+3 while in draft NEP 2019 the suggested structure is 5+3+3+4. Discuss with your partner what is your understanding of the new schooling structure. Also, share one other point of difference in the two policy documents.

National Curriculum Frameworks: Historical Perspective

NCF 2005 is a landmark document. Before dwelling deeper into its classroom implications a historical overview of various policies and frameworks is required. NCERT was established in 1961, with a mandate of developing curricular material and the first curriculum framework was developed in 1975. As a follow up of the NPE 1986, NCERT, in the year 1988, brought out another curriculum framework titled '*National Curriculum for Elementary and Secondary Education—A Framework'.*



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It highlighted the common core principles suggested by the NPE 1986. In the year 2000, The National Curriculum Framework for School Education–2000 was prepared. The major thrust of this curriculum was on learning that leads to education that would help fight inequality and respond to social, cultural, emotional and economic needs of learners.

NCF 2005: A Brief

In 2005, the NCERT brought out the National Curriculum Framework 2005 along with 21 position papers on different aspects of school education. The Right of Children to Free and Compulsory Education Act, in 2009, made a clear mention about the implementation of National Curriculum Framework 2005, with a focus on building learner-centered environment in which learners learn without any stress. For more details, visit the web link https://mhrd.gov.in/rte.

The National Curriculum Framework 2005 (NCF 2005), in view of the social and economic changes, identifies the following aims of school education:

- Making children independent in their thought and action and sensitive to others well-being and feelings
- Empowering children to respond to new situations in a flexible and creative manner and to participate in democratic processes
- Developing in children the ability to work towards and contribute to economic processes and social change.

For achieving these aims, schools need to focus on; equality, quality and flexibility. Given the diversity of the country, students' contexts are important to bring into the classroom. NCF 2005 emphasises on the role of teachers to go beyond textbooks so that children can learn from their own experiences through role play, drawing, paintings, dramas, field visits, and conducting experiments.

NCF 2005 also emphasises on the need to see assessment as learning and in-built in the classroom processes. This requires, teachers to continuously and comprehensively assess children in their own way with a purpose to provide children immediate support rather than waiting for their test results and spending time on recording and reporting. Further, it laid importance not only on learning mathematics, languages, sciences and social sciences but also on life skills, social, personal, emotional and psycho-motor skills. NCF 2005 highlights the Learner-centered pedagogy, which can be followed when the learner is the focus while developing the syllabus, textbooks

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and planning classroom activities. For example, if we want to include a description about 'Plants' at the primary level the syllabus ought to focus on plants that children can see, touch and talk about in their day-to-day life. The textbook ought to provide the description of the same. Teachers can plan opportunities where children share and make posters of plants they have seen in their homes, neighbourhood, schools, etc. In this process they will connect their experiences with what is given in the textbook. While doing so, teachers will observe the progress in learning outcomes of each child.

Discussion Points

Work in pairs and peep into a typical school day of a teacher. Reflect if any of the above mentioned aims of education are being realised in the day to day teaching? How do you transact your day?

School subjects and the NCF 2005

Let us take a close look at NCF 2005 and the teaching of different subjects. It highlights that during the teaching of languages, the language needs to be used as a resource to promote multilingual proficiency. Language acquisition needs to be given importance in every subject area as it cuts across the curriculum. Reading and writing, listening and speech contribute to the child's progress in all curricular areas and must form the basis for curriculum planning. *Mathematics* needs to be taught in such a way that it enhances thinking, reasoning, visualising and handling abstractions, to formulate and solve problems. *Teaching of Science* should be recast so that it enables children to examine and analyse everyday experiences. Concerns for the environment should be emphasised in every subject and through a wide range of activities involving outdoor project work.

Social Science learning proposes to recognise the disciplinary markers while emphasising integration of the perspective of marginalised groups. Gender, justice and sensitivity towards children belonging to marginalised groups and minority sensitivities must inform all areas of Social Science. The NCF 2005 also draws attention to the four other curricular areas: work, art and heritage crafts, health and physical education and peace. It recommends bringing these areas in the curricular domain. 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

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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.

As a follow up of NCF 2005, syllabi and textbooks developed across subject areas attempt to translate perspectives of learner-centered pedagogy in inclusive settings. We need to keep in mind that every child has the ability to learn however the environment, situation and relevance of the material makes learning interesting. Therefore, while transacting any textbook, we need to reflect on the objectives and how it can be used with all children including those with disabilities and from disadvantaged home backgrounds.

Discussion Points

- *Can learner-centered pedagogy be used in large classrooms?*
- *Can all subjects be planned using learner-centered pedagogy?*

Curriculum

All of us have gone through the process of schooling. We know that all the activities that contribute to the holistic development of the learners in the school revolve around the curriculum. Understanding the curriculum and its transaction helps all stakeholders relate to the textbook content, development of cognitive and human values, and integrate concerns related to gender and inclusion of all learners in the learning process.

Curriculum is understood as a set of planned activities, designed to implement a particular educational aim/ set of aims; and consists of the content of what is to be taught, the knowledge, skills and attitudes which are to be developed among the learners. It includes syllabus, textbooks and other learning material, pedagogy and assessment together with statements of criteria for selection of content, and choice in methods, materials and evaluation. For further reading refer to 'Curriculum, Syllabus and Textbooks' — Position paper published by the NCERT.

The basic factors which determine the curriculum are known to include: nature of learning, knowledge of human development provided by the accepted theories and societal influences. In addition, the needs and aspirations of the society, to a large extent, determine the nature of the curriculum, the content, the subjects and their organisation. The curriculum also has a transformative role to play.

As teachers and teacher educators we know that there are certain aspects that are taught informally in a school system which is referred to the hidden curriculum.

The hidden curriculum includes behaviours, perspectives and attitudes that students acquire during the schooling process. It is important to realise that a hidden curriculum is what students absorb in school and that it may or may not be a part of the formal course of study.

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Syllabus

The *syllabus* provides a list of themes, topics — class wise and subject wise. It also provides the time duration within which to complete the topic and the assessment criteria. The syllabus is a document that communicates course information and defines expectations and responsibilities. It 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 the associated weightage. The syllabus articulates the connections between learning outcomes, assessments, content and pedagogical practices. It highlights the way in which the course is constructively aligned for guiding students through their learning. There are four essential components to an academic syllabus; themes and questions, objectives, suggested activities, resources and notes for teachers.

Textbooks

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

Features of Learner-centered Textbooks

- Interactive with less information and more activities
- Provides space for learners to reflect and construct their own knowledge
- Covers the diversity of the country
- Demonstrate commitment to Constitutional Values
- Provide space for sensibilities towards the social concerns, such as gender, inclusion, etc.
- Attempt to provide space to work
- Attempt to provide space to ICT
- Have in-built evaluation
- Presents content in simple language
- Integrate arts, health and physical education

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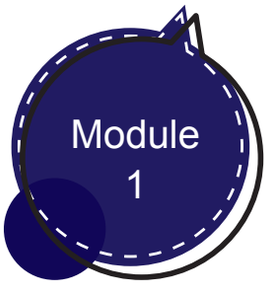

Role of Library in schools

NCF 2005 advocated for a school library mentioning that 'the school library should be conceptualised as an intellectual space where teachers, children and members of the community can expect to find the means to deepen their knowledge and imagination." School Libraries can be the centre of all convergence of learning in schools for all curricular areas. Studies on literacy confirm what educators have known for years: the more contact children have with books, the better readers they become. Teachers can promote better reading performance by reading to children daily and by having them interact with books through the extensive use of libraries. They offer the possibility for children to explore sources of knowledge beyond textbooks. Today literature for children's libraries is not just about stories but also includes a wide array of books like fiction, non-fiction and poetry. Libraries can contribute to learning from children in the early grades to young adults as well and can be a great repository for teachers as well. School libraries can run in the form of a separate room or classroom library or any other way that the school thinks this could be made to work. What is important is that children's interaction with books is made possible. It is suggested that a Library Training module may be developed to provide some essential guidelines for setting up and running a library in school by school principals, teachers, librarians as per the context of the States/UTs by the SCERTs/SIEs.

Discussion Points

- *Share a teaching experience of going beyond the textbooks in your classroom. What are your views about students' participation and learning in such an experience?*
- *Libraries are an important component of schooling, but mostly these are considered as spaces full of books. Share your views on how to make library space a more lively and vibrant space.*

Learning Outcomes

NCERT has recently developed Learning Outcomes which are meant to move away from assessment based on rote memorisation of the content. The competency (learning outcomes) based assessment has been emphasised to help teachers and the whole system to understand what children will achieve across the year in a particular class in terms of

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knowledge, skills and change in social-personal qualities and attitudes. Learning Outcomes are statements that include the knowledge and skills children need to acquire by the end of a particular class or course and are supported by the pedagogies which teachers need to implement for enhancing learning. The statements are process based and provide the check points that are measurable in both qualitative or quantitative manner for assessing the progress of a child on the scale of holistic development. Two learning outcomes for Environmental Studies as examples are given below—

Competency includes a cluster of related abilities, commitments, knowledge, and skills that enable a person to act effectively in a situation. Competence indicates sufficiency of knowledge and skills that enable someone to act in a wide variety of situations.

- Learner describes the need of food for people of different age groups, animals and birds, availability of food and water and use of water at home and in the surroundings
- Learner describes 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 and visit different places, collect information from them on the topic of their choice and discuss the findings in the groups.

The Learning Outcomes at the Elementary Stage are meant to provide effective learning opportunities to all the students including children with special needs (CWSN) and those belonging to disadvantaged groups. These have been developed for different curricular areas. The learning outcomes are linked with the curricular expectations and pedagogical processes for all children including those with special needs. The provisions for children belonging to disadvantaged groups include the following:

- Ensure their participation in the learning process and help them progress like other children. Avoid comparing children.
- Modifying the curriculum and learning environment to suit individual needs.
- Provision of adapted activities in different content areas.

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- Accessible text and materials to suit age and levels of learning.
- Appropriate management of classrooms, e.g., management of noise, glare, etc.
- Provision of additional support by using Information and Communication Technology (ICT), video or digitised formats.
- Mobility aids (wheel chair, crutches, white cane), hearing-aids, optical or non-optical aids, educational aids (Taylor frame, abacus, etc.)
- Sensitising other children about the strengths and weaknesses of CWSN.
- Additional time and selecting suitable mode (s) for the successful completion of assessments.
- Respect for home language and relating to socio-cultural milieu (e.g., traditions and customary practices etc.)

The problem is not how to wipe out all the differences but how to unite with all differences intact.
– Rabindranath Tagore

Pedagogies for Achieving the Learning Outcomes for all Children

Inclusive Classrooms Role of Teachers

Part of the process towards education which is inclusive of learners with disabilities and other marginalised children requires a critical analysis of why the regular mainstream system is not successful in providing good quality education for all school-age children as it is currently organised. It also asks for identification of existing resources and innovative practices in local contexts, and examining barriers to access, participation and learning. Read the handout with the story 'Animal School' individually. Share your views with the whole class on each of the questions that follow the story.

Teachers ought to remember that effective and inclusive teaching is good for all children. It helps to focus on children's unique strengths and weaknesses, and thus for their individual learning needs. In order to give all learners effective learning opportunities to achieve learning outcomes, a dramatic shift from exclusivity to inclusivity is required. We need to take into account not only the cultural diversity but also diverse social and economic background and variations in physical, psychological and intellectual characteristics of children if they have to learn and achieve success in school (NCF 2005).

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Animal School: A Story for Analysis [2]

Once upon a time the animals decided they must do something heroic to meet the problems of a "new world" so they organised a school.

- They had adopted an activity curriculum consisting of running, climbing, swimming and flying.
- To make it easier to administer the curriculum, all the animals took all the subjects.
- The duck was excellent in swimming. In fact, better than his instructor. But he made only passing grades in flying and was very poor in running. Since he was slow in running, he had to stay after school and also drop swimming in order to practice running.
- This was kept up until his webbed feet were badly worn and he was only average in swimming. But average was acceptable in school so nobody worried about that, except the duck.
- The rabbit started at the top of the class in running but had a nervous breakdown because of so much makeup work in swimming.
- The squirrel was excellent in climbing until he lost interest as his teacher made him start from the ground up instead of the treetop down. He was made to over exert and then got a C in climbing and D in running.
- The eagle was a problem child and was disciplined severely. In the climbing class, he beat all the others to the top of the tree but was not liked as he insisted on using his own way to get there.
- At the end of the year, an abnormal eel that could swim exceeding well and also run, climb and fly a little had the highest average and was winner
- The prairie dogs stayed out of school and fought the administration as they would not add digging and burrowing to the curriculum.

Worksheet

Share views on:

- Why did the animals take the same subjects? Did they all benefit?

[2] An adaptation of George Reavis' fable, "The Animal School", originally written in 1940, when he was superintendent of the Cincinnati Public Schools.

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- Being average in all subjects was acceptable by the school. Did this suit all the animals?
- Why do you think the squirrel wasn't allowed to fly down from the tree-top?
- Why was the eagle seen as a problem child?
- Why do you think the prairie-dogs wanted digging and burrowing added to the curriculum?

In schools, there should be no fear of facing discrimination, corporal punishment, abuse or teasing/bullying. Also, the teachers need to plan their learning tasks and pedagogical practices in a way that all children are able to participate equally in the education process. The class environment should be such that every child feels happy and relaxed instead of feeling, bored, scared or alone. To uphold the fundamental right to education given to all children, creating safe and inclusive environment for all learners is critical.

Every child has the right to be supported to go to school in his/her community, be welcomed and included by teachers and peers alike. Studies have shown that inclusion is most cost-effective, and academically and socially more effective, than segregated schooling. When all children, regardless of their background or learning needs, are educated together, everyone benefits – and that is the cornerstone of inclusive education. School and teachers must take up their responsibility with greater rigour to provide quality teaching and learning opportunities for children. It is important to always remember that when seeking explanations for lack of achievement, teachers must be prepared to consider inadequacies in the teaching-learning conditions rather than inadequacies in children. We must understand the whole point of education is not only to create inclusive schools but also, inclusive societies.

Discussion Points

- *Can you think of other reasons why all children should attend regular schools?*
- *Discuss in small groups how educating all children together can help to build inclusive societies?*

Teachers inadvertently inculcate gender based attitudes as a result of their own social interactions both formally and informally. Therefore all teachers themselves must leave their own prejudices/biases behind when they enter the classrooms. shoul67(sho64

- *Ability to mobilise resources to provide various options to the learner* — identify and organise various resources in print and digital forms, low cost material in the surroundings, artefacts, learning sites in the vicinity and supportive human resource.
- *Use of technology to support learning* — use of various apps for example, google art and culture, google sky, google earth, subject specific apps: geogebra, tux of math and Google speak.
- *Dealing with inter personal relations/soft skills* — skills of listening, responding, initiating and maintaining conversation, positive regard, body appearance and gesture.

Discussion Points

- *Have you tried any of these skills while addressing diversity in your teaching?*
- *What kind of teaching skills will you use to encourage equal participation of all learners in your class?*

Gender-sensitive Education

We all know that gender is a cross cutting concern across all disciplines and is basic to the construction of knowledge. Gender sensitivity is an important pedagogical concern which teachers should integrate in their teaching–learning processes. As facilitators through their positive attitude and pedagogical interventions they can help the students in unlearning of gendered and stereotypical attitudes which they acquire through the socialisation processes. Teachers also need to recognise the factors of gender bias in textual material and curriculum transaction; identify the biases with regard to the content or role allocation to male and female characters; explore linguistic bias and recognize the participation of women in all spheres including political, social and economic processes.

Promoting Inclusion in Transaction of Disciplines

Read the six statements on "Myself as a learner" and working on your own, complete the statements.

Myself as a learner [3]

Working independently complete these sentences:

I learn slowly when _____

_____

_____

3 Adapted from UNESCO *Teacher Education Resource Pack: Special Needs in the Classroom*

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I learn quickly when _____
_____
_____

Learning from textbooks is _____
_____
_____

Learning in groups is _____
_____
_____

I learn well from someone who _____
_____
_____

I enjoy learning when _____
_____
_____

Share and collate your responses on each statement in the large group. It is amply clear that we all have our own preference to learn successfully. The above exercise can be undertaken with the children in your class to know more about them as learners and plan teaching accordingly. You can ask children to complete the sentences in writing or respond verbally.

Inclusion in Teaching of Languages

Some children may have specific difficulties in learning languages. Teachers may need to adopt suitable strategies to overcome the difficulties. These may include

- incorporating content related to real-life situations which benefit all children,
- where there is more than one language used in any area, use of the preferred majority language,
- creating awareness and sensitivity amongst all children about, Sign language and Braille script,
- alternative communication systems to compensate for the difficulties faced in using spoken language,
- using ICT for children with difficulties in writing.
- Some children may require support for interpreting written information,
- provide more time and individualised attention for long passages and learning from visual inputs. Reading Braille text involves memorising and synthesising as wholeness of phrases, sentences, etc., is not possible. Children with

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visual impairment while reading Braille text thus require more time,

- teachers and others working with children with hearing impairment need to provide need based support for— comprehending new vocabulary, discriminating between words and understanding words with multiple meanings.
- Composing sentences involves producing grammatically and semantically correct text which may be difficult for some children. Grammar usage (past tense, prepositions, active and passive construction) may also pose challenges. Teachers need to focus on sentence construction, forming connections between ideas and concepts, organising thoughts and understanding and using phrases,
- teachers and others working with children with cognitive impairments need to provide support for: oral language (listening, expressing ideas and/or speaking) and articulation (ability to speak fluently and coherently), reading (including decoding, phonetic knowledge and word recognition). The student may skip words, lose place, mistake one word for another, and experience difficulty in understanding figurative language — idioms, metaphors, similes, etc. and
- language comprehension (new vocabulary, sentence structure, words with different meanings and concepts) especially when presented rapidly, may lead to difficulty in taking class notes. Teachers also need to remember that some children may face difficulty while organising thoughts, making revisions, pronouncing words and/or sequencing a story and while performing activities involving eye hand coordination and writing (illegible handwriting, frequent spelling errors).

Inclusion in Teaching of Mathematics

To overcome difficulties of access some pupils may require simplification of the language, tactile material, and teaching aids for geometry, and making calculations while solving sums. Children may also need help in interpreting data in graphs, tables, or bar charts. There may be learners who may need help in interpreting oral directions or while making mental calculations. Use of ICT can help to overcome difficulties with quantitative and abstract concepts.

- Teachers and others working with children with visual impairment need to provide support for developing spatial concepts and understanding the relationship between

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spatial concepts, three-dimensional objects transformed into two-dimensional forms, and special characters (symbols) used in Mathematics. These children may face difficulty in interpreting audio recording of mathematical text(for example, equations), difficulty in transcribing and reading mathematical text in Braille because of spatial arrangement, colour codes and learning of Nemeth or any other Mathematical Braille Code.

- Teachers and others working with children with hearing impairment need to provide support for: delay in linguistic growth, which may lead to lack of general vocabulary and technical vocabulary of Mathematics (words like reciprocal, linear, etc.), understanding the wordiness (use of a number of words to explain meaning of mathematical problems, and distinguishing words with multiple meanings like interest, table, credit, angle, rate, volume, power, point, etc. Student while lip/speech reading may face difficulties in distinguishing mathematical words (tens and tenths, sixty and sixteen, etc.). Difficulties may also be faced due to limited use of cognitive strategies to select the relevant information and apply rules necessary for solving problems.
- Children with cognitive impairments may face difficulties in sequencing, step-wise problem solving and in place value. Mathematical calculations (computations), number reversals, copying problems and confusion in operational symbols, such as + for ×, and difficulty in recalling sequences of operations are also evident. Difficulties may be faced by children while comprehending abstract concepts in Algebra and Integers, etc., and identifying different shapes in geometry and directionality and comprehension of word problems.

Inclusion in Teaching of EVS and Science

Some students may require support with mobility and manipulation skills to participate in experiments or other hands on activities being performed both indoors and outdoors. Students can benefit from adapted or alternative activities, adapted equipment, the use of ICT, adult or peer support, additional time, and support in lessons that may not be easily accessible to them.

- Teachers and others working with children with visual impairments need to provide support for understanding visual inputs on chalkboard, demonstrations, presentations,

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graphics and diagrams, experiments, involving physical safety, abstract and difficult concepts. There may also be a requirement for more time.

- Children with hearing impairment require support for understanding abstract words and the connections between abstract concepts. Science concepts like photosynthesis, habitat, and microorganisms without visual representations can pose difficulty. Solving problems that involve more than one dimension for example; comparing objects on the basis of multiple dimensions like number, size, shape, and colour may be difficult as compared to those with single dimension like size only.
- Understanding the technical language of science, and drawing meaningful linkages/relationships between concepts (for example, between pressure and force) need to be planned for proper comprehension for children with cognitive impairment. Support is required for understanding abstract concepts, planning, organising, sequencing and generalising. Peer support works well while conducting science experiments.

Inclusion in Teaching of Social Sciences

In order to achieve learning outcomes in EVS and Social Sciences, some students may require support in the form of prepared tapes, talking books/DAISY books to access text; help in writing to communicate their ideas through alternative communication methods, such as ICT or speech; adaptation of content and activities; education aids to manage visual information; and/or support to understand various geographical concepts, features and the environment. Group activities such as projects and assignments done through cooperative learning will enable all students to participate actively in all classroom activities. Resources such as tactile diagrams/maps, talking books, audio-visual and Braille material, etc., may be used.

- Teachers need to plan carefully for children with visual impairment while explaining geographical terms and concepts, for example, latitude, longitudes, directions and providing graphic and visual descriptions like reading maps,graphs, diagrams, paintings, inscriptions, and symbols and while studying monumental architecture.
- These children also require support for making observations of environment and space — land, climate, vegetation and wildlife, distribution of resources and services. Reference material like spelling lists, study questions, important

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references, and other information students may need for reference can be provided in enlarged, tactile or embossed formats or redrawn with proper contrast.

- Children with hearing impairment require support for understanding of terminologies/technical terms, abstract concepts, facts, comparisons, cause effect relationships and chronology of events, etc. They do well with help for reading loaded heavy text (textbooks/source materials) in History and Civics and drawing inferences.
- Illustrations, charts, graphs and maps can be difficult to understand for some children including those with cognitive processing problems. Extracting relevant information from long text can be a challenge for students with reading difficulties. Further the teacher needs to keep in mind that remembering the sequence of events and connecting them, making generalisation and relating information in the textbooks with the environment can pose problems. Some children may show limited ability to understand and interpret abstract concepts.

Assessment for Inclusive Environment

The previous section presented some ideas and examples to help you create an inclusive classroom having children with diverse learning needs. This section presents some suggestions for implementing assessment in an inclusive setting, and prompts you to develop new ways to engage in inclusive assessment. While planning your teaching, it is good to remember that assessment occurs throughout the teaching of a lesson. This allows you, to recognise and plan the following steps in teaching of the topic. Assessment at the end of your teaching of the lesson helps you to understand how far your teaching objectives are realised.

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.*

- In a mixed ability group encourage varied responses for a question and give clear messages and pause after asking a question to give adequate time to respond. We must

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Barkhaa — a reading series

remember that activities done for explaining the content can be used again for assessment.

- Allow flexibility in choosing answers, for instance, recognition and identification rather than recall, colouring the correct answer, cut and paste, matching, pointing the odd one out. For example,
  - for responses requiring auditory processing, accept responses in monosyllables.
  - replace tracing of alphabet activities in the textbook exercises with cut-outs of alphabets allowing the student to explore the contour and shape of an alphabet more closely.
  - alternatively allow students with speech processing delays to demonstrate learning by use of pictures or stamps — allow the student to point to picture (s) as demonstration of learning.
- Use flash cards, word cards (for example, to introduce words or to construct a grammatically correct sentence), and pictures, real objects, to get response rather than only verbal or written response. For example, ask the child to pick up the flash card when you call the name of an animal. Activities, such as matching or checking answers can be done with the help of real objects.

Discussion Points

Share with your partner

- *How will you make schools more inclusive?*
- *How does inclusive education help children to stay with their families and communities?*
- *To what extent does the inclusive approach strengthen teaching methods and improve the quality of education for all?*

Conclusion

This module will help teachers and all other stakeholders engaged in the task of making schools inclusive acquire knowledge, attitudes and skills needed to work effectively with students from diverse groups. The content will help readers take a closer look at the national policies, the curricular frameworks, in particular NCF 2005, learning outcomes and appropriate pedagogies for achieving them. It will enable teachers to: use inclusive strategies and accept every child as a member belonging to the group, restructure the classroom physically and attitudinally to provide for the needs of all students, plan

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activities in such a way that the participation of ALL students in class is ensured and focus on practices in school to respond to the diversity of students.

Self-assessment

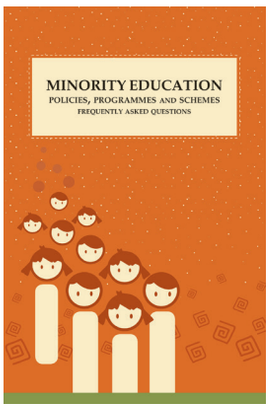
- Summarise the changes you will make in your teaching subject wise to support diverse learners while teaching lessons.
- Place them in an order of priority starting with the change(s) you feel are most important

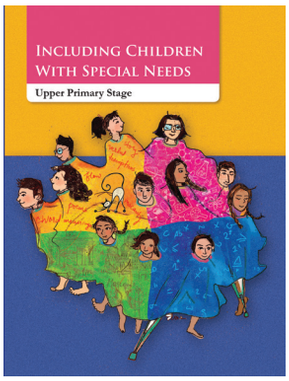
  1.

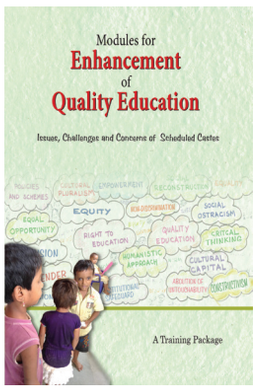
  2.

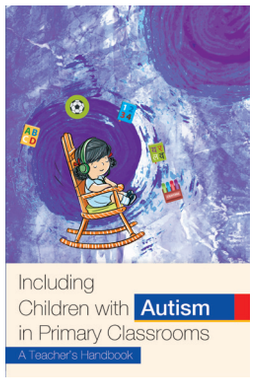
  3.

- Identify the support and guidance that would help you as teacher to make these changes.
- How can these changes be beneficial to all children? Compare your answers with other colleagues in your school and add ideas to your list.
- How will I make the assessment meaningful and inclusive for all children? Compare your list with that of your partner.









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