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मानव संसाधन विकास मंत्रालय
Government of India
Ministry of Human Resource Development

NISHTHA

National Initiative for School Heads'
and Teachers' Holistic Advancement

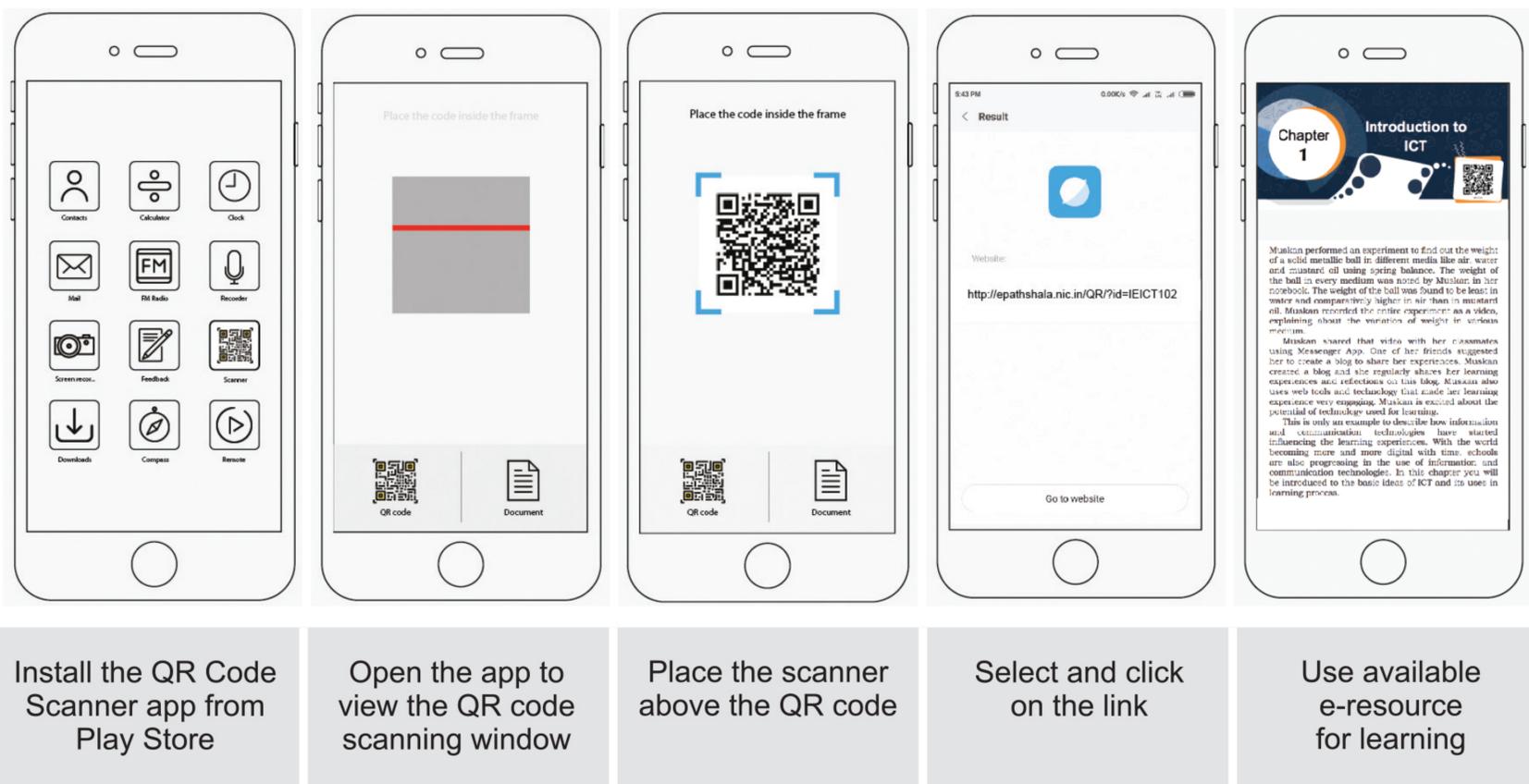
TRAINING PACKAGE ON SCHOOL LEADERSHIP DEVELOPMENT

Leadership Package

Step-by-step guide for users to access e-resources linked to QR Codes

The coded box placed on the top corner of every chapter is called Quick Response (QR) Code. It will help you access e-resources, such as audios, videos, multimedia, texts, etc., related to the themes given in the chapter. The first QR code is to access the complete e-textbook. The subsequent QR codes will help you access the relevant e-resources linked to each chapter. This will help you enhance your learning in a joyful manner.

Follow the steps given below and access the e-resources through your smartphone or tablet.



For accessing the e-resources on a computer or laptop follow the steps stated below.

1. Open the web browser Firefox (, Chrome (, etc.
2. Go to the ePathshala website (<http://ePathshala.nic.in>)
3. Click on the menu 'access e-resources'
4. Type the alphanumeric code given under the QR code ()
5. Search for the e-resources from the links that have appeared.

PRE-SCHOOL EDUCATION

Module
2

INTRODUCTION

SESSION 1

This module has two sessions. Session 1 gives an overview of the developmentally appropriate pedagogy used in pre-school. Session II deals with development of early literacy and numeracy.

You might have noticed young children going to different centers like crèche, day care, play school, nursery school or a kindergarten. Have you ever thought what do children do during their stay in these centers? Are children interested, happy and willing to be in these centers? In this session of the module you will get to know about what is pre-school education, how do children learn and what kind of pedagogy needs to be adopted with this age group?



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LEARNING OBJECTIVES

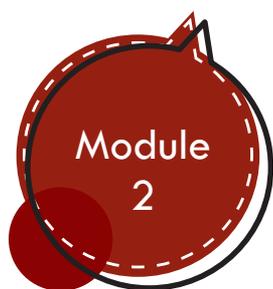
At the end of this module you will be able to—

- Define pre-school education
- Describe the need and importance of pre-school education
- Describe the pedagogy used in pre-school education
- Demonstrate an understanding of assessment in the pre-school years
- Outline the role of parents and community in promoting pre-school education
- Describe how linkages can be made with primary schools for smooth transitions

Activity: Ask your participants to share the memories of their childhood days (*one pleasant and the one not so pleasant*). Then begin the discussion, emphasising the importance of early years and how the memories leave a lifelong impact. You may also use some examples of how we remember stories/rhymes learnt in our early years even now as adults.

INTRODUCTION

Early childhood is defined as the period from birth to eight years of age. In recent years, early childhood years have emerged as an area of high priority. Early childhood development has been included as a specific target in the context of Sustainable Development Goal (SDG). Target 4.2 of the SDG aims to



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ensure that all girls and boys including those belonging to disadvantaged groups and with disability, health conditions have access to quality early childhood development, care and pre-primary education by 2030 so that they are ready for primary education. India is among the 193 countries that have endorsed the SDGs and committed to working towards their achievement.

The first six years of life are ‘critical’ in any child’s life span since the rate of development in these years is more rapid than at any other stage of development. The brain is most flexible and adaptable to learning during these early years. According to recent researches in the field of neuroscience 90 per cent of the brain’s growth occurs by the time the child is 5 years of age. This growth is influenced by not only the nutritional and health status of the child but also the psychosocial experiences and environment the child is exposed to during these early years therefore investing in early years in the form of pre-school settings, provisions and programmes are extremely important.

Pre-school is defined as any setting imparting pre-school education to the children between 3-6 years (referred by any nomenclatures such as *anganwadi*, *balwadi*, nursery, pre-school, preparatory, pre-primary, LKG, UKG, etc.).

In India pre-school education is provided by all the three sectors, i.e. government, private and NGOs. In government it is mainly provided through Integrated Child Development Services (ICDS), centres commonly known as *anganwadis*. About 40 per cent of the *anganwadis* have been co-located in premises of the primary school. In order to bring about convergence with the *anganwadis* the principal of the primary school should take the overall responsibility of the pre-school component in the *anganwadi*. There are a large number of private pre-schools which are generally unregulated and some NGOs that provide pre-school education as social welfare for children coming from marginalized and disadvantaged section. In the year 2017-18, two years of pre-school education before class one have been added in the school education continuum under *Samagra Shiksha* by MHRD. In response to which NCERT has developed ‘The pre-school curriculum’ and ‘The pre-school guidelines’ highlighting goals, key concepts/skills, pedagogical processes and early learning outcomes for Pre-school I and Pre-school II in a progressive manner.

Pre-school education is a programme for *ALL* children (including those having special needs, including those belonging

to disadvantaged groups) between three to six years of age. It places emphasis on holistic development of the child—attending to his or her social, emotional, cognitive and physical needs which in turn provides a solid foundation for lifelong learning and wellbeing. It provides and ensures a natural, joyful and stimulating environment with emphasis on necessary inputs for optimal growth, development and learning. It is imparted using non-formal, play-way and activity based approach. Pre-school education is not a downward extension of primary education.

Pre-school education ensures a smooth transition from pre-school to early primary classes leading to better performance and better retention rates. The developmentally appropriate practices and experiences of early years help children to build their competence in all areas of early learning and development namely, the physical-motor, the social-emotional, the cognitive, language and art and aesthetic appreciation.

Reflective Questions

Why do you think pre-school education is smart investment?

Exercise: Divide the participants in two groups. Divide the chart paper into two columns with the captions—what is pre-school education and what it is not. Let both the groups reflect and write their answers. The trainer moderates the discussions and suggestions of the groups.

Learning Outcomes for Children in Pre-school

- Children maintain and display good health, hygiene and sanitation practices and healthy eating habits.
- Children exhibit adequate muscular coordination and basic motor skills.
- Children demonstrate desirable social manners and are sensitive to the rights and privileges of others.
- Take responsibility and makes choices, plays with other children demonstrates cooperation, helping, sharing, initiatives in large/small groups.
- Children express emotions in socially acceptable manner.
- Children explore and participate in art, music, dance and creative movements.
- Children participate in conversations, follow instructions, communicate needs, and draw to represent an idea.
- Children demonstrate awareness of and show concern for the environment.

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- Children enjoy experimentation and seek explanation about their immediate physical, social and biological environment.

‘Children learn in variety of ways-through experience, making and doing things, experimentation, reading, discussion, asking, listening, thinking and reflecting, and expressing oneself in speech, movement or writing – both individually and with others. They require opportunities of all these kinds in the course of their development.’

– NCF 2005.

PEDAGOGY IN PRE-SCHOOL EDUCATION – HOW DO CHILDREN LEARN?

You have already learnt about the need and significance of pre-school education and how a quality pre-school is critical for the holistic development of the child. In this section you will be acquainted with the pedagogy for providing holistic development to the child.

Play

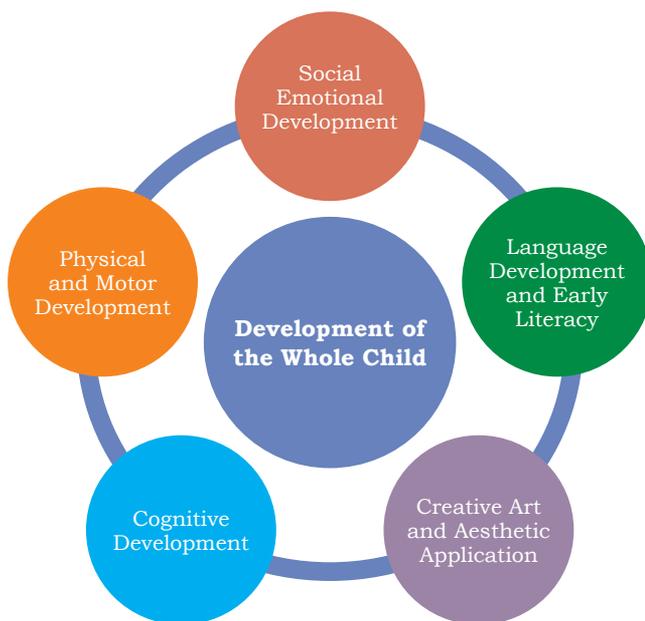
Play is at the heart of how children learn. Play is universally regarded as child’s way of learning. They love to play and are happy when they are given freedom to explore and experiment through play. Play is an important vehicle for overall development of children (i.e., *physical, motor, social, emotional, language, cognitive, and creative and aesthetic development*), as well as reflection of their development. The pre-school curriculum therefore lays emphasis on play as a medium that provides opportunities to children to interact with the environment and with one another in order to construct knowledge. Play can be free play and guided or structured play. Free play is initiated by children and adult supervision is minimal whereas guided play is initiated by the teacher with special learning objectives in mind. Teachers should avoid gender stereotype statement such

as *boys do not cry /does not play with dolls* etc. Children (*including those with special needs*) should be given freedom to choose their own interest areas. Play activities should be planned for all learning areas or domains of development and all children should be encouraged to engage in play activities.

Play activities for different developmental areas

Activities for Physical and Motor Development

Children in pre-schools should be given adequate and regular opportunities for engaging in interesting and age appropriate outdoor play activities involving larger muscle development



such as catching, running, jumping, skipping, balancing, etc. Alongside outdoor play, the daily plan for a pre-school should provide time and opportunity for free indoor play with materials in activity areas such as block play, manipulative play, art activities with paints, clay, brush, crayons, etc. This provides opportunities for fine muscle development and help to nurture their creativity, imagination and also strengthen eye hand coordination. Play activities should be contextually relevant and planned progressively from simple to complex, familiar to unfamiliar to allow for challenge, and yet be achievable for most children with some effort, while also catering to individual needs of *ALL* children including those with special needs.

Activities for Socio-Emotional Development

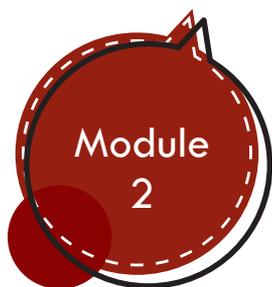
During early childhood the foundations for social and emotional wellbeing are laid. Wellbeing means good physical and mental health and a feeling of happiness and satisfaction. Warm, nurturing and supportive relationships with adults are important for development of emotional security, positive self-concept and respect for others. When adults show respect for children and use positive guidance, children can learn to solve problems, develop self-control and a strong sense of identity.

Free play activities provide opportunities for children to make choices and take decisions and also understand others' rights and perspectives. In addition, they support development of pro social behavior in children like waiting for one's turn, sharing, helping others, identifying own and other's emotions and experiencing compassion and empathy. Following one's interest and choice enables children to develop skills of self-regulation, perseverance on task and good work habits. Activities like meal time and toilet breaks allow for good health habits to be formed such as hand washing, eating nutritious food, eating slowly, drinking clean water, etc.

Activities for Creative Art and Expression

Opportunities to develop imagination and creativity through music, art and craft help children develop self-expression, enjoyment and disposition for art, music and movement. When children view the work of other children they also learn to appreciate and respect differences in culture and viewpoint.

Opportunities for creative expressions through scribbling, painting, drawing, music, movement, clay modeling provide children insight about the world around them, understand real life objects and events and also influence their competence as creative problem solvers. Such activities also give opportunities



to exercise fine muscles which prepare them to write. A variety of concrete, process-oriented play experiences encourage children to experiment with new ideas and materials and use their imagination.

Activities for Language Development and Early Literacy

Given our country's multilingual context, we have a large number of children whose home language is different from the medium of instruction in school. These include contexts such as that of tribal languages or dialects of regional languages and increasingly now English medium pre-schools where children in most cases come in with no or little familiarity with oral English. Starting children on reading and writing without ensuring their oral language base results in children learning to read mechanically through simple decoding, but without much comprehension. Since all school subjects are language mediated, this early learning gap inevitably has an adverse impact on children's later performance in school. In addition to this challenge, we have a large number of children who are first generation learners who do not have a literacy environment at home.

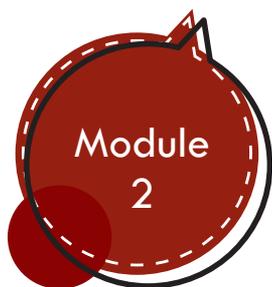
Children learn to communicate effectively if they are given ample opportunities to talk, listen, share, and narrate their experiences to other children and adults in a relaxed, non-critical and stress free environment. Provide opportunities such as story-telling, rhymes, role play and dramatisation, etc. Ensuring a print rich environment in the class be it in the form of captions, labels and instructions, and their own name tags will help children develop print awareness. Activities for helping children develop phonological awareness, i.e. identifying sounds within the environment or identifying patterns of sounds within words, identifying beginning and end sounds of words and helping children learn to associate visual images or shapes/letters with sounds, all provide children effective tools for learning to later read and write. Read aloud story books or book browsing experiences in interest areas should be enjoyable with access to a wide range of reading materials such as comics, magazines, story books etc. Moving forward from read aloud of stories to shared reading with teacher in whole class, small groups or individually will help children to become independent readers as they come into the early primary grades. For initiation into reading and writing, teachers could design activities that help children connect writing with familiar day to day activities such as making a shopping list in-front of children, sending a mail to a friend/

parent, or simultaneously writing a story being constructed by children on the chart paper/black board helps children to understand that print is the written form of spoken words.

Activities for Environmental Awareness, Scientific Thinking and Mathematical Reasoning

Children are born with natural curiosity and the innate science and math skills to interpret and respond to the world. A major goal of pre-school education is therefore to help children move towards more logical thinking by helping them graduate from their perception-bound to more concept based understanding. This gets addressed by helping children form concepts related to the world around them through direct experience and interactions with the physical, social and natural environment. Children start distinguishing between colours, shapes, sizes, quantities, vegetables, fruits and so on as they experience each concept. This early learning is facilitated in communication with adults, as the child interacts with the environment. Language thus also plays a very important role in helping children form concepts. Cognitive development is thus closely related to perceptual categorisation – the development of categories based on perceptual similarities. Cognitive skills like matching, seriation, or classification based on comparisons, help to refine concepts and help children form a sound foundation for higher order cognitive skills of critical thinking, reasoning, memory and problem solving which are the basis of a scientific temper.

Mathematical thinking and reasoning is an important sub-domain of cognitive development. Mathematical thinking involves thinking about objects and their quantitative and spatial relationships without thinking about their specific characteristics or their qualities. To begin with, a sense about these relationships emerges and based on these the patterns and the more abstract concepts develop. During early childhood, we can see a path of development for the foundational ideas of mathematics – from what are known as pre number concepts related to sense of quantity, size, distance, length, width, weight and height to number sense to arithmetic or algebraic ideas and from sense of shape and space to geometrical ideas. The teacher may begin with introducing the pre number concepts as foundational experiences, through a range of guided activities requiring different cognitive skills such as matching, classification and seriation as applied to these concepts. This process will give children an adequate conceptual base for further learning of concept of numbers and shapes, again



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following a similar process and relating concepts of number or shapes to the children's immediate environment.

Reflective Questions

1. What factors should be kept in mind for designing activities for holistic development of pre-school children?
2. Why phonological awareness is important at pre-school stage?

Exercise: Sound Substitution

The trainer asks the participants to substitute the first sound of their names with a given sound. For example, if the sound is /m/ then *Seema, Sanjay, Pankaj, Meena, Jyoti, Manoj* become *Meema, Manjay, Mankaj, Meena, Myoti, Manoj*, etc., respectively. Then the group can also be asked to count how many names have remained unchanged.

Exercise: Divide the participants into 5-6 groups. Allot one early learning area to each group and encourage them to write at least two/three activities of that particular learning area.

Caution

- No Admission Test (oral/written/interaction)
- No Formal Tests/Examinations
- No Corporal Punishment or Child Abuse

Assessment in Pre-school Education

The purpose of assessment is to discover what children know and understand, based on what they make, write, draw, say and do. Assessment helps to know the progress of children's learning and development-what they already know and how they can be supported in advancing their learning. The assessment in pre-school is done by using observation, anecdotal records, sample of children's work, checklists, portfolios, rubrics, health cards. The assessment needs to be documented in all areas of development by interpreting the evidence from the day to day experiences of the child. Assessment during pre-school years also helps to ensure early identification of developmental delays, special educational needs and potential abilities.

Parent and Community Involvement

For an effective pre-school education programme, it is important to have a partnership between the child, family and teachers in order to provide a holistic and seamless approach to children's learning. It is important to ensure that whatever is achieved in pre-school is reinforced or complemented at home. Pre-schools and parents should share information about any special needs or disability conditions of the child. This helps in early identification of disability, develop individualized learning plans and identify and refer family members to specialised agencies if needed. Pre-school teachers can meet and communicate

with parents when they come to drop and pick their children and exchange information about their child's interest and capabilities, provide suggestions for activities to be conducted at-home by parents. Child's work samples, progress record and developmental delays (if any) should be regularly shared with parents in meetings at regular intervals. Parents can be involved as volunteers/resource persons in the conduct of activities of the school like story telling sessions, organisation of field trips, cultural programme, etc. Advocacy/awareness programmes or parent education programmes should be organized from time to time.

Reflective Questions

- Why do you think parent involvement is essential?
- How do you think Parents can be involved to strengthen the PSE programme?

Exercise: Divide your participants into smaller groups. Let them identify some topic of importance to parents of young children and encourage them to plan parent education programme on any one topic highlighting the content, strategies, preparations in terms of material required, human resource, technology, venue, etc.

Linkages and Smooth Transition to Primary Grades

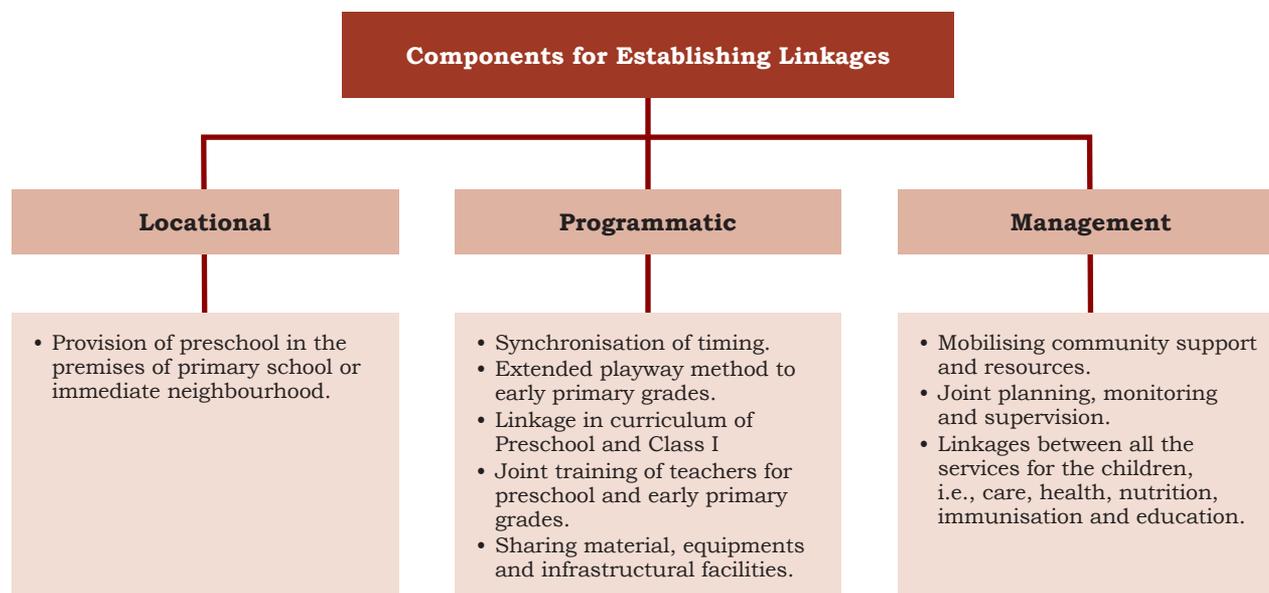
The transition to primary grades can be both exciting as well as challenging for the child. The child has to adjust to new environment, new ambience, new expectations and relationships. Therefore it becomes important that *ALL* children are supported in making these transitions. In order to make the transitions smooth the teachers of pre-school and primary school should communicate with each other regularly. Visits to primary schools can be organised so that children get an idea of the new class and are better prepared. The physical set up of class 1 and 2 should be similar to pre-school in terms of print rich environment, child sized chairs, child-friendly toilets and basins. The pre-school teachers should share the portfolio and assessment report with class teachers of class 1 and 2 so that they get an idea about different children.

In our country there exists a wide variety of pre-school services *anganwadis*, *balwadis*, co-located *anganwadis*, private pre-schools etc. Total 737666 *anganwadi* centres exist in or adjacent to the primary schools (*Source: UDISE 2017-18*). If effective linkages are established in terms of location, timings, content, pedagogy, resource sharing etc. then there will be no

Benefits of Linkages

- Increasing children's participation
- Enhancing enrolment and retention
- Higher achievement at different levels of learning
- Reversing trend of downward extension
- Better school readiness
- Effective resource utilisation

difficulty and pre-school becomes smart investment and can act as a feeder/input for primary education making learning and development progressive.



Reflective Questions

- Why do you think linkage between pre-school and primary education is important?
- How can linkages between pre-school and primary schools be strengthened for smooth transitions?

Exercise: Divide your participants into small groups and ask them to discuss (i) the issues and concerns of co-located *anganwadis* (ii) how as administrators/principals they can support co-located *anganwadis* (iii) how can the primary school be benefited with presence of co-located or any other nearby pre-school? How linkages between pre-school and primary school may help children and their families?

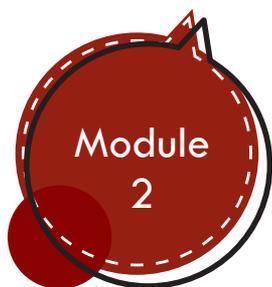
A Sample of a Day's Schedule in Pre-school

Now, since you are aware of the significance of pre-school education, pedagogy, parent involvement, linkages, etc., the following sample of a day's schedule in pre-school (*on the topic means of transport*) will help you to understand how the pre-school programme is transacted. Each play activity is planned for 15-20 minutes, keeping into consideration the attention span of the child. There is a balance between child initiated and teacher guided activities to provide opportunities to children for

autonomy, decision making and pursuing an activity of their choice. A balance between group and individual activities is also made to help children learn collaboration, working in groups, sharing, waiting for their turn. The schedule also highlights the importance of health, hygiene, and nutrition for young children. Careful observations while children are engaged in tasks need to be done in different areas of early learning so that appropriate interventions are made at the right time as each child's needs, interests and learning style is different.

Teacher starts the day with following activities

Topic: Means of transport		Duration: 4 hours
Duration	Details	
30 Minutes	Welcome, warming up activities, cleanliness checkup (Teacher directed large group activity)	
30 Minutes	Free play in activity areas (child-initiated small group activity) Children can choose the activity area for play. These activity areas for example, could be dolls area, reading area, block building area, language and literacy area, In case there is less space in the pre-school the teacher may provide one/two activity areas on rotation basis so that children enjoy exploring the play in small groups.)	
15 Minutes	Circle Time: Free conversation (Teacher initiated large group activity) where children will be seated in a semicircle and children share their experiences (what did they do, where did they go, how any festival/event was celebrated)	
15 Minutes	Guided conversation (Teacher initiated in large group) The teacher and children sing a rhyme on transport. The teacher then encourages children to talk about what vehicles they have seen while coming to school; how they have come to school, how their parents go to work. She then shows few toy vehicles or pictures of vehicles and talks about it. She draws children's attention towards display board and reads the names written under each vehicle by putting her finger beneath the words.	
30 Minutes	Numeracy Activity (Teacher initiated and child initiated) Children sit in semi-circle and the teacher keeps the pictures of various vehicles in a horizontal row. Children sort the pictures as per the given criteria like-land transport, air transport or water transport. The criteria could also be sorting according to number of wheels or motorised or manual vehicles. This activity will help children to learn how to sort/classify according to categories.	
30 Minutes	Writing Readiness/Early literacy/Art Activities (Child initiated) Children are asked to draw and colour the vehicle of their choice and describe the their drawing. The writes what children tell her.	



10 Minutes	Hand washing and snack time – 30 Minutes
10 Minutes	Hand washing after meal
30 Minutes	Outdoor play Teacher takes children out of the classroom in outdoor play area. She gives them opportunity to run, jump, play in swings, sand etc. This helps in physical motor development. She may also play some game with children with simple rules which help children to learn to wait for their turn.
30 Minutes	Story Making (child initiated, teacher guided) Teacher makes sound of different vehicles and asks children to identify and tell the name of vehicle. This provides opportunity for developing listening skill. The teacher then starts telling a story to children “Once I was travelling by train .There was a child in the train who was crying.” and asks children to guess why do they think the child was crying and builds the story further by repeating and continuing to add sentences spoken by children. She keeps giving clues and adds on to events to keep the interest of the children. The class then sings rhyme with them.
10 Minutes	Good bye circle (Large group activity, teacher directed) Children and the teacher discuss what all they and done during the day. Children reflect and talk about the activities they enjoyed the most. They discuss the sequence in the story. She asks children to observe common means of transport while going home and share it the next day. This helps children in making connections to what they have learnt in school and at home concept can further be reinforced by parents.

Note:

The timing for the activities is not rigid. Any activity may be shortened or extended depending on the interest of the children. The timings also include transitional time from one activity to the other.

Activities for KRPs/Teachers

Activity 1

Ask participants to share their experiences of interaction with children in their family and around, what are the characteristics they have noticed?

Activity 2

Demonstrate an activity to be conducted with pre-school children for gross motor development or any other domain and

ask participants to identify and share what children will learn through that activity.

Activity 3

Divide the participants in 4 groups. Ask each group to collect at least 10 literacy and numeracy games, stories, rhymes and songs and creative activities for pre-school children.

Activity 4

Discuss in a group about how pre-school can be linked with early primary classes. Suggest at least five strategies for strong linkages between the two.

Evaluation (Self-check Exercise)

You may use the following checklist for individual reflection. After you have gone through the module, put tick mark against the relevant column.

S. No	Items	Yes	No
1.	Define pre-school education.		
2.	Describe the need and importance of pre-school education.		
3.	Describe the pedagogy used in pre-school education.		
4.	Demonstrate an understanding of assessment in the pre-school years.		
5.	Outline the role of parents and community in promoting pre-school education.		
6.	Describe how linkages can be made with Primary schools for smooth transitions.		

EARLY LITERACY AND NUMERACY

SESSION 2



In this session of you will come to know about ‘What is early literacy and numeracy’ and ‘How’ to plan and conduct the related activities so that the transitions of young children from Pre-school to Primary school become smooth. We encourage you to model literate behavior while talking to your participants on early literacy and numeracy, because this has been designed with the hope that you would be able to motivate and inspire your participants to understand and implement developmentally appropriate early literacy and numeracy in their states/schools, and at the same time will allow your best teaching skills to shine through.

LEARNING OBJECTIVES

At the end of this session on Early Literacy and Numeracy you will be able to—

- Understand the importance of early literacy and numeracy.
- Reflect on the knowledge and training needed by teachers to improve current pedagogy and practice in early literacy and numeracy.
- Understand the importance of creating language and print rich environment.
- Understand the importance of planning activities and experiences for early literacy and numeracy through play based developmentally appropriate activities.

INTRODUCTION

Early literacy and numeracy are essential skills for *ALL* (including those having special needs, gender, and socio-economic background) children. The more children hear language in the environment, and the more opportunities they get to use it, the more they learn about how it works. The first essential to the development of language in early years is an informal, relaxed and print rich environment. It motivates and encourages children to observe and notice print in their everyday setting, i.e. home, and around and ask important literacy related questions about print, writing and reading such as ‘what’s that?’, ‘what does that poster/ story book say?’, ‘are you writing

‘Modeling literate behavior’ means when children watch you read and write on the daily basis.

my name? Early literacy activities help children make meaning of words and express themselves, and are critical skills to be developed before children can read and write.

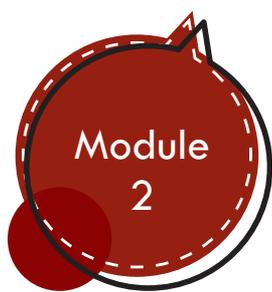
Language development involves listening, speaking, reading and writing. In the context of early year's program, it is known as 'reading readiness' and 'writing readiness' where lots of opportunities need to be given for encouraging early attempts of reading and writing.

How to plan for early literacy experiences and activities

When children come to pre-school, they bring with them their own experiences of using language at home and with their family and community. These skills should be valued and should be used as the starting point for further development of language skills. The diversity of children's families, and their linguistic backgrounds should also be respected and kept in mind while designing activities for children.

Children are encouraged to be proficient in their home language or mother tongue first and then school language (regional language/English) is introduced informally by exposing children to some commonly used words. Sometimes more than one language is spoken in a family (as mother tongue and local dialect) so multiple languages are permissible in the classroom for expression by children. Children need to be provided experiences for—

- **Development of oral language:** Oral language is used to communicate with people. Opportunities to use language through listening, speaking and acquiring new vocabulary helps children communicate effectively by expressing their needs, ideas, thoughts and feelings. Provide lot of opportunities for oral expression such as circle time or large group time to share feeling, ideas, ask and answer questions, take part in conversation, sing rhymes/songs, listen to music, stories, explain and make predictions, recall a sequence of instructions or events in a story, create story, play memory games, etc. Children can also be involved in dance, drama or pretend play which provides opportunities for non verbal communication like gestures, body language, expressions in addition to verbal communication.
- **Print awareness for early literacy and writing:** Print awareness refers to the ability to recognise print and understand that it carries meaning. Functions of letters, words, pictures and printed text and how these relate to oral language; using signs/labels as an essential



ingredient for print awareness. Creating a meaningful print rich environment is the first step for implementing early literacy program; this is a necessary pre-reading skill and pre-writing skill. Pre-school classrooms should have print-rich environments with plenty of books and written words. For examples, label words on various objects in the room such as “door”, “window”, and “*almirah*”. Keep letter magnets, foam letters, and letter blocks available in the language area.

- Bonding with books: children need to be provided variety of books for book handling, turning pages, looking at Picture/ print and understanding of what a book is and how it is to be used or read. Bonding with books helps children understand that print carries meaning, reading of print goes from left to right, top to bottom. A book has front and back cover, a title page, and an author, a story has a beginning, middle and end and a text can be factual.
- Phonological awareness: Phonological awareness is the recognition that language is made up of words, syllables, rhymes, and sounds (phonemes). Phonemic awareness refers to a child’s ability to manipulate, classify and listen to each speech sound or phoneme. This knowledge occurs initially in oral language; children need not know how to name letters or their corresponding sounds in order to demonstrate phonological awareness.

For phonemic awareness children need to develop:

- Awareness of Word—Understanding the concept of words.
- Children can tell which word is longer—Elephant or cat?
- Rhyming—Being able to rhyme one syllable words. For example, cat- bat-rat; *makdi-kakdi-lakdi* (listening to words that rhyme same and create new words)
- Blending—The child can put together the beginning and end sounds. For example, /bl/ and /ack/ is black.
- Segmenting—The child can break up sentence into words and also identify sounds in a word. For example, what are the words in the sentence “I love my school”?
- Identifying beginning sounds—Identifying words that begin with the same sound.
- Which of the following begins like Balloon?—
Rain, Sun, Bat, /*Paani, Batakh, Jahaz*
- Deleting sound—Child can say a word after deleting the given sound. For example, how do you say bat without /b/? *Makaan without /ma/ becomes kaan.*

Substituting and manipulating sounds—Child can replace speech sounds with others. Can you change your name by changing the first sound with /p/, Eg Sita-Pita, Kumar-Pumar, etc.

Children need to be provided opportunities for reading aloud, shared reading, guided reading, singing songs, rhymes and finger plays, language games and activities for sound matching, sound substitution, sound discrimination, sound substitution. In addition to this, parents should encourage children to observe print by pointing out words on signs and logos on food boxes, packets etc, pointing out details in pictures and talking to the children about them, or encouraging them to describe what is happening in the picture. Using every day, natural occurrence where children can visually compare letter shapes and sound similarities of words and letters. For example, using alphabet sorting boxes,alphabet books and puzzles, etc.

Early writing

Children reflect their developing phonemic awareness and letter sound knowledge in their first attempts in writing by making marks or scribbles on the page which progress to random letter or number like forms. The teacher needs to help children in developing writing skills by:

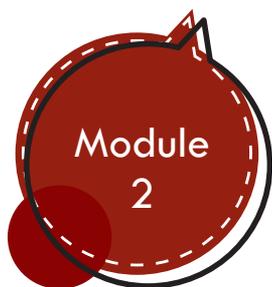
Shared Writing

Teacher and children compose a story or a message together. The teacher models by writing on the board. She may say “I know how to write ‘mat’ but how to write ‘pat’? Children give their answers. Teacher then rubs ‘m’ and writes ‘p’. She then sounds out /p/a/t.

Independent Writing

Daily writing experiences help children explore words and sounds. Initially children may be at different stages of writing—some may be drawing instead of writing or copying print from the classroom, other may begin writing random letters or letter sound associations to reflect their thoughts. As children learn few letters and sounds they start beginning to use them in writing if they can segment the sound in the word. Therefore use of invented spellings should be encouraged.

A writing area duly labelled, having a running black board/ white board in the classroom helps children fulfil their desire and early attempts of writing such as scribbling, drawing, making strokes. Teachers need to embed writing in the daily schedule of the program. Make reading and writing a part of



the daily routine of the classroom such as writing in front of the children, let them see how you write, why you write. Early attempts of writing activities don't have to be formal. Appropriate teaching learning material like picture dominoes, picture reading charts or posters on different themes, letter cut-outs, name cards, graded story books, printed letters and labels to be displayed in different activity areas, letter-picture puzzles, flannel board and cut-outs for stories should be provided to children. Teachers may also use age appropriate technology such as e-stories/digital games to enhance early literacy.

Reflective Questions

1. What is the importance of oral language in language learning?
2. What are the different ways by which Phonemic awareness can be developed?
3. What opportunities should be provided to a child for developing writing readiness?

Activity 1

Facilitate a discussion about reading- readiness and writing readiness. You can start by saying, "let's think about how reading helps in our daily lives." Encourage discussion through the following questions.

- What do people read?
- Why do people read ?
- Who are the people who are most likely to read?
- Why is writing so important for us?

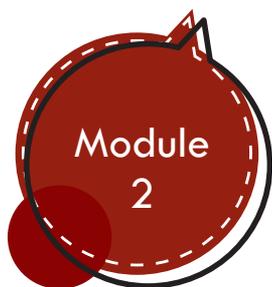
Highlight the importance of modeling reading behavior and providing a print rich environment. Ensure that every teacher/ participant feels valued no matter what their response may be.

Your Role is to familiarise yourself well with the pedagogical processes of Early Literacy. And how you will help your participants/ teachers to use it in early years? In order to facilitate this, appropriate pedagogical processes need to be planned. A few pedagogical processes for promoting early literacy are mentioned below—

- Creating a language area (to encourage early attempts of reading and writing) for handling picture, story books, language games, , drawing, scribbling, painting, signing in the morning on the attendance chart, teachers may create a sign-in or sign-out attendance chart that motivates children to write, or attempt to writes.

- Interacting in a print rich environment in the class (by labeling things, words walls, posters, etc.
- Creating a print rich classroom(at the eye level of children) with bulletin messages, books, labels on open shelves/ toy boxes, notes, children’s personal folders, photographs of children reading and writing, name cards, scribble messages, familiar food packets displayed etc.
- Opportunities for story (read aloud, graded stories) and rhymes from picture and storybooks; print rich environment; activities for sound discrimination like identifying the beginning and end sounds; picture talk and picture books; discriminating shapes and symbols through work sheets like what is different?
- Selecting age and developmentally appropriate books that relates to the children’s own experiences.
- Reading a book during whole group/ circle time and it should be fun and learning for both the teacher and children.
- Reading at a pace and keeping the finger beneath the print so that the children understand that writing has meaning
- Shared storybook reading and looking at books ; storytelling, story-making
- Language games for developing awareness of sounds segments (sounds, syllables, rhyming words) e.g. phonic games with beginning and ending sounds such as what initial sound you hear in your name? (For example, Babita— initial sound ‘buh’/b)
- Keeping variety of paper(both lined and unlined) and writing tools such as thick crayons, thick pencils, thick markers in each activity areaof the classroom to encourage children to depict their play visually. Provide sand tray for writing in the sand, tracing letters etc.
- Keeping props such as puppets, toys to supplement the pictures in the story books/illustrations. Modifying the story book to meet each child’s individual needs and interests. It is appreciated if the teacher uses texture, tactile clues, or anything to enhance the early learning experience and make the material inclusive and accessible to *ALL* the children.
- Using music videos for helping to learn rhymes, music and movement. Looking and matching the letters on the key-board.

You also need to explain to your participants how to observe and assess children’s learning? They need to look for the



following suggestive indicators of early literacy development in children, *for example*—whether children

- use language to express their ideas.
- describe the size, shape, colour and position.
- control their eye-hand coordination as they stack/build blocks.
- combine letters to make words.
- provide new words to poems/ songs.
- follow the print from left to right.
- follow directions during class activities.
- listen to story and talk about the story.
- notice the letters, words on newspaper, story books, magazines, food wrappers and labels.

MATH READINESS OR EARLY NUMERACY

Young children are natural mathematicians, fascinated by what is “bigger,” wanting “more” of their favorite things. Mathematics skills in early years are developed and based on children’s experiences with their environment, their interactions with adults and other children and their daily observations. When in a pretend play children use play money, note pad as a cash register, balance scale, they begin to engage with counting, and various other pre-mathematical concepts. Similarly, when children play in a sand pit and measure cups/handful of sand as part of a sand play experience, talking to each other, they are actually engaged working with ideas about volume, and quantity; when playing in a building blocks area children are expanding their ideas for construction and using vocabulary such as big/small, long/short .Such experiences at the pre-school builds on children’s natural curiosity and enthusiasm. In addition, children, find patterns, compare quantities, try and balance blocks on top of each other. All these experiences help children develop a solid foundation for future success.

Explain to your participants that the math readiness and early math activities should build on the daily life experiences of children at home and at the pre-school. Support your statements with suitable activities and examples. The following are certain processes for math readiness and early numeracy—

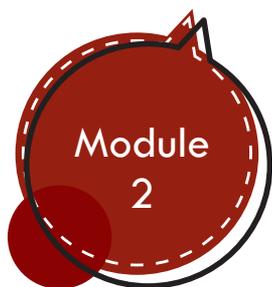
- Matching of objects/pictures according to a specific criteria
- Sorting, grouping and Classification on the basis of one dimension, progressing to more than one dimensions

- Problem solving- fixing puzzles/ completing picture/ puzzle; completing maze
- Recognising patterns and shapes and extending patterns
- Reasoning activities—What goes with what/Relationship activities; puzzles
- Comparisons and measurements (Pre-number) for example of size (Big-small), weigh (More-less), height (Tall-Short), length (Long-Short), distance (far-near) and volume (more-less), etc.
- Sequential thinking—understanding the order of things—what comes first, lays foundation for understanding ordinal positions.
- Spatial relationships—concepts of top/bottom, up/down, in/out, straight/curved, etc. are important for understanding of basic mathematical concepts.
- One to one correspondence—matching sets of objects with cardinal numbers and using one count term for each object, touch and count.
- Counting beginning from building groupings or sets of objects, progressing to the numbers.
- Number sense—counting and telling how many.

A few pedagogical processes for early numeracy at the pre-school stage are mentioned below.

Pedagogical Processes for Promoting Early Numeracy

- Using story books to encourage numerical reasoning.
- Identify everyday situations and real-life examples to use ordinal numbers.
- Manipulating objects/materials such as blocks, interlocking toys.
- Picture reading, odd man out activities, completing 4-5 piece puzzles, maze, sorting/ grouping activities (two-three attributes at a time).
- Reproducing the patterns in the given sequence and creating on their own.
- Using concrete objects for matching, sorting classification, sequencing, seriating activities.
- Counting objects/numbers in the immediate surroundings in a meaningful way to find out how many objects are there.
- Activities where children need to measure and make estimations using cups and glasses and carry out non-standard measurement such as handful of sugar, a pinch of salt.
- Children where they can actively participate, enjoy experiments with teacher's assistance (e.g., floating of toys ,dissolving sugar while making lemonade, etc.)
- Where they narrate, what happened the day before, or what they did after their favorite field trip, etc.
- Counting down days to an event such as birthday celebration/ festival celebration using concrete materials (e.g. using twigs/ sticks/ picture/ number calendar).



Module 2

You also need to explain to your participants how to observe the children's progress in early numeracy. The following are suggestive indicators:

- Recognise and create patterns using environment materials and objects.
- Identify sequence/pattern in the stories/poems
- Use vocabulary to describe problem/pattern
- Do touch and counting, using one-to-one correspondence
- Explain about how things are same and different
- Use comparative vocabulary (e.g. Bigger, Smaller, Taller, Shorter etc.)
- Compare the number in two set of objects.

Examples of some activities for Early Numeracy

Classification

Classification can be done with any concept such as colour, shapes, size, animals, transport, etc. Say for example, ask children to keep all yellow leaves on one side, and green leaves on another side. You can begin with simple classification initially with the real objects and gradually with multiple classification. You need to begin with single criteria and gradually moving to two or more criteria for example, asking a child to classify yellow and green fabric pieces, moving to two or more attributes, for example, big yellow fabric pieces and small green fabric pieces. Once a child is able to classify concrete objects, then the skill can be strengthened further, using pictures and other manipulatives.

Compare and Seriation

Place 5-6 leaves of different sizes in front of the children. Ask the children (one by one) to sort out and name the biggest and smallest leaf. Then give them 3 more different sized leaves and ask them to seriate in order, biggest to smallest and vice versa. When the children are able to seriate 3 leaves, increase the number of leaves.

Patterning

- Use blocks, beads and other manipulative to build spatial reasoning and patterning skills. For example, "Threading and patterning activities using colour".
- Follow the pattern or copying patterns.
- Completing the pattern.

Sequential thinking

- Sequential thinking cards which the children organise according to the logical sequence of events. Encourage left to right placement of objects or cards.
- Repeating orally a sequence of three numbers between 1 and 10.
- What comes next? – “Monkey, Monkey, butterfly, Monkey, Monkey,...” (the child says, “Butterfly”).
- Seriation:- Putting things in order (biggest to smallest, tallest shortest and on)

Problem solving skill

Problem solving activities help pre-schoolers to develop basic problem solving skills and hand-eye coordination. Completing simple jigsaw puzzle initially and gradually a difficult one, for example, starting with two piece puzzle to 5-6 piece puzzle. Puzzle activities can include traditional Inset boards (shapes, animals, transport, birds, fruits).

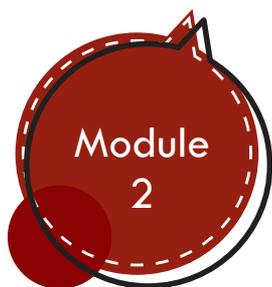
Reflective Questions

- How do children learn by handling manipulative objects?
- Do you integrate numeracy activities in other subject areas? Think about how you could plan and support children’s learning in early numeracy in a joyful manner.
- What kind of opportunities do you provide for language and early literacy and numeracy at your school. For example, does the classroom display is planned in a manner that children can see print? Is it at the eye level? Where can they see number symbols?

Activity for KRPs/Teachers

Activity 1

Divide your participants in four groups and give them materials and objects to conduct and practice the activities. Provide objects of different sizes, shape, colour and pictures of animals/ birds/transport, objects such as twigs/sticks/pencils, etc Give directions for different types of activities to be conducted like classification as per given criteria, comparison,seriation, pattern completion etc. Highlight how environmental objects such as flowers, leaves, seeds, etc. can be used for activities. Share examples of math readiness and early math activities and their significance.



Module 2

Activity 2

Exploring Math/Numbers in outdoors: Divide your participants into groups of two. Ask one group to make a list of examples of outdoor activities through which they would promote early math, and ask the second group to make a list of objects/materials/books and other resources that they would use for developing math readiness and early math. Give 15-20 minutes to complete this task. Then ask both the groups to do presentation of their work.

Activity 3

Activities in progression for Math Readiness and Early Math: Demonstrate atleast one activity in progression for Pre-school-1 (3 to 4 years old children) and Pre-school-2 (4 to 5 years old children). Let your teachers understand how to increase the complexity of the activities/ tasks on any skill or concept. It would help in understanding the progression in children's learning. All this will help in achieving the desired early learning outcomes.

Activity 4

Make a weekly plan based on pre-number concepts/ numbers

Evaluation (Self-check Exercise)

You may use the following checklist for individual reflection, to prompt group discussion, or as a way to track progress as you improve skills as master trainer. After you have gone through the module, put tick mark against items that you have understood from the list given below.

S. No	Items	Space for tick mark
1.	Benefits of Early literacy and Early Numeracy	
2.	Print rich environment for Early Literacy and Math	
3.	Pedagogical Practices for EL and EN	
4.	Different types of Group exercises	
5.	Language skills Activities	
6.	Number Readiness Activities	
7.	Role play	

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