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# Concept Development on Early Childhood Education: Awareness, Dialogic Inclusion and Practice

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**Abstract**

*This review article concentrated solely on concept development in early childhood education. Children's concept development is critical, and it serves as a foundation for perceiving topic information for improved learning in higher levels of schooling. This article proposes dialogic inclusion as a strategy to improve the effectiveness of early childhood education by helping children acquire concepts effectively. As a start-up, the present system of early childhood education was brushed up with its aims and criteria for meeting the key topics. Simultaneously, core concepts such as classification, patterning, structure, and reasoning were discussed in relation to their nature, and the existing teaching procedure for the aforementioned concepts in early childhood was thematically represented. The dialogic inclusion, its awareness, and the existing system of childhood education in India with regard to concept development were reviewed, and dimensions of concepts were paragraphed. The phase of 'dialogic inclusion' in concept formation in education at the early childhood level was then disclosed, along with the themes' relevance.*

**Keywords:** Childhood Education, Concept Development, Dialogic Education, Dialogic Practice, Dialogic Inclusion

**Introduction**

In the stage of childhood, education is extremely constructive in nature. A child's social, emotional, physical, and cognitive (intellectual) development is all accelerating throughout that phase, and it needs ongoing attention, concurrently, the notion of learning and growth occurs. All of these things are most likely learnable through experience learning, which not only influences children but also plays a significant role in their learning, development, and progress. These can be obtained through formal education. In those, the classroom setting, the reaction, the experience gained through contact, and genetics are some of the influencing elements for concept creation. Although the benefits of formal schooling are negligible at this age, it is still too early for kids to develop their creativity, critical thinking abilities, or cognitive development. School education is the process of making sure that a few fundamental courses are taught in grades one through five. Math, science, social science, environmental science, mother tongue, Hindi, English, and arts and crafts are some of these disciplines.

(Devendraswamy) stressed that the progress of primary education is an index of the general, social, and economic progress of the country as a whole. NCTM states that the objectives and goal of teachers are to examine the situation of teaching in the early childhood stage, since early childhood is an important and vulnerable time; these years lay the foundation for a child's journey. Good early experiences leave a lasting impression and function as a spark for kids' future success in life. Teachers should give early childhood education a higher priority because it is their primary responsibility to educate

via play. On the other hand, kids that are eager to learn could accomplish it without any help. Conversely, some children need special care for concept clearance. Annual Status of Education Report (ASER), surveyed that at least 25% of schoolchildren in the 4-8 age group do not have age-appropriate and essential cognitive and numeracy skills, which then makes for a massive ‘learning crisis’ at a very early stage. In 26 rural districts assessed, just 16% of first-graders could read the material at the required level, and nearly 40% couldn’t even recognize letters. Of these children, just 41% could distinguish numerals with two digits. Only 41% could distinguish numerals with two digits. A survey report submitted by Education Times, indicated that in India, around 80% of parents assert that their child loves mathematics as a subject, but around 40% of parents also said they did not feel confident enough to teach math to their child. This propensity result is due to the weak grasp of the foundational ideas of mathematics by children.

## Conceptual Framework

### Early Childhood Education

Early childhood development encompasses many dimensions of a child’s well-being, so measuring it is an imprecise science. UNICEF reported that, it has been working with countries to close this knowledge gap and to develop specific indicators in three vital areas of measurement: the quality of care within a child’s home environment; access to early childhood care and education; and the overall developmental status of children. To access the undertaken objectives, ‘access to early childhood care and education’ needs to be analyzed. NEP-2020 proposed that ECCE consist of a foundational stage, consisting of five years of flexible, multilevel, play/activity education. The primary objective of early childhood education (ECCE) is to help children build a strong foundation for life, preparing them for school is a more urgent and useful goal. Institute of Medicine and the National Research Council reported that young children and infants are also extremely receptive to the lessons that may be imparted to them by the words and acts of others.

NCERT, states that in ECCE on foundations of learning, research and experience have repeatedly

demonstrated that early childhood development programs and opportunities for early learning improve child outcomes during subsequent schooling. The study conducted by CECED, Ambedkar University, demonstrates that despite children participating in early childhood care and education (ECCE), they are not developing adequate cognitive and language capability, which would prepare them for primary schooling, due to the low quality of the programs. This impact can be seen in the performance levels in primary grades, where children are going up the primary ladder without learning the basics. In general, it is noted that young learners should not adequately notice concepts involved in various subjects.

### Methodology

The broad plan and reasoning behind the research effort are referred to as methodology. For the methodological aspects, the researcher examined several thematic papers, research pieces, and policy papers that are all pertinent to the concept of childhood education in qualitative aspects. The study adheres to the phenomenological research technique since it collects qualitative information on how each children experience in a classroom setting is matched with a dialogic teaching approach. Accordingly, papers based on dialogic teaching approaches were a little bit more concentrated in terms of relevance. This study uses data analysis and carefully manipulates variables to get information on the inclusion of dialogic mode of teaching and learning process in early childhood education. This can be performed by using direct questions and open and closed ended questions as teacher-voice. Lastly, the following objectives are the focus of this study.

### Objectives of the Study

The key objectives that are addressed in this study are mentioned below;

- to explain how concepts develop in early childhood education
- to clarify the parameters for the development of concepts in early childhood education
- To notify the need for awareness of dialogic inclusion in early childhood education

### Awareness on Concept Development

Children's already have a 'large store of non-numerical quantity of knowledge' before they ever learn the meaning of numbers and how to utilize language to achieve numerical skills, with some even having primary numerical abilities, according to a recent idea development study. This was surely supported as a conclusion that the human brain is equipped with an inborn mechanism or, at least, with very early abilities to represent quantities (Carey; Feigenson et al.). Based on observations, we concur that infants and toddlers often come up with notions on their own via play and a natural interest about their surroundings. Concepts are those foundational skills that will provide the groundwork for further concept growth in schooling, even at this young age. Since the investigator (Simon) discussed that, the concept in subject is knowledge of the necessity of a particular relationship. During the early childhood stage, social cohesion is more suitable to say than representations and connectivity. (Veerman and Denessen) abstracted that social cohesion in schools refers to positive interpersonal relations between students, a sense of belonging of all students, and group solidarity. (Lira et al.) research on group cohesiveness supports that, free play activity was effective in stimulating group cohesiveness.

As a result, it is evidenced that during concept development, children in the classroom have some innate and predefined characteristics in math they got that are vital for concept formation. When children exhibit these characteristics, teachers may assist children to learn by including conversation or dialogue into their content to improve their knowledge.

### Concept as a Dimension

For introducing the specific contents in any specific subjects that are enclosed above, a primary teacher needs to use multiple tools, and it will be flashed below.

- Some printed materials featuring numbers and scientific symbols (charts and graphs)
- Certain objects that show numbers, such as spinners, dice-based board games, calculators, and puzzles, are robust enough for children to handle, sort, duplicate, and trace them. Distinct

- objects (buttons, shells, bricks, and plant seeds) that children can readily count; replicate artwork with patterns (weavings and baskets), cube trays, plastic or magnetic letters, colorful bottles, pattern blocks, and keys;
- a collection of items of various sizes (nesting blocks, measuring spoons, mixing cups, measuring cups) for measurement.
- Also for it, non-traditional measuring instruments include crayons, tape measures, scales, grid paper, rulers, cylinders, and strings. Everyday things to put together and take apart (puzzles, boxes, and lids);
- Material to create two dimensional shapes (string, pipe cleaners, yarns, and scissors);
- Moldable material to create three-dimensional shapes (clay, dough, sand, beeswax, and toothpicks)

Finally, for reasoning, conversant with critically and solve difficulties in undertaken tasks and in daily life, preschoolers have difficulties in everyday tasks that need them to modify and rethink their strategy. Some circumstances need reasoning, whether to determine a quantity (e.g., 'How many corners in this image?') or to reason geometrically (e.g., 'What shape will fit?'). In other contexts, children learn best through quantitative reasoning and require broader thinking or problem solving. Not only is it good for children to think, but it also gives them the opportunity to investigate other foundational concepts like counting, classification, and picture formations.

### Concepts: One Part of the Whole

Early in childhood, children become aware of and investigate their surroundings while favored situations. They explore in space, compare quantities, look for patterns, and solve practical challenges. Children who pick upon concepts are better able to navigate the world outside of school and lay the groundwork for the future. These skills serve as the foundation for studying core concepts in math in primary school, and they are associated with later reading and results.

The concept of number sense denotes an early qualitative knowledge of the number of small groupings of things without actually counting them.

This comprehension is known as visual knowing or ‘subitizing’. (Sayers et al.) disclose that subitizing refers to being instantly and automatically able to recognize small numerosities without having to count. This concept paves the way to the process of accessing number sense, so that children start to repeat the numbers in order, and begin to understand one-to-one relationships and also genuine counting. This is also the period when preschoolers begin to learn about cardinality.

Classification and patterning is the notion of functions throughout the preschool years refers to the formation of concepts in children as they sort and classify items, and begin to predict based on a recognized pattern. Sorting, categorizing, and working with patterns help children bring order, organization, and predictability into their educational domain. Classification and pattern analysis lay the groundwork for thinking as children learn to detect correlations, construct generalizations, and understand the connections between common underlying structures. (Kamol and Har) reported that, thinking, particularly thinking, is a tool for understanding abstraction.

Measurement and Piaget’s developmental ideas of conservation and transitivity are not fully understood by preoperational learners. Prior to measuring, things must be identified as having measurable qualities and compared based on length, weight, or capacity. Preschool-aged children learn to compare, organize, and measure. They categorize objects as ‘the same’ or ‘different’, followed by ‘more’ or ‘less’ based on quantitative characteristics. They understand measurable traits such as length and weight and use phrases like ‘heavier’, ‘taller’, or ‘longer’ to understand or solve problems by directly comparing things based on those characteristics.

Structures, the children, detect forms and define qualities of things (shape, size, position) and the spatial connections between objects in space. It is a method for determining the connections between shapes and spatial characteristics. Children develop spatial thinking abilities and can understand shapes in different positions (orientation). (Clements et al.) identified in children that, shape is a fundamental construct in cognitive development in and beyond shapes. For example, young children form artifact

categories characterized by similarity among instances in shape. They learn to describe the direction, distance, and location of objects in space with their own words. Children make pictures and designs by combining two- and three-dimensional forms, and they solve problems like selecting which puzzle piece will fit into a specific location.

Reasoning, thinking in children often involves critical reasoning and the ability to reason out for factors to solve problems. Children, preschoolers have hurdles in daily activities that need them to adapt and change their path of action. (Sumpter) describes mathematical reasoning at the pre-school level is a part of several frameworks, simultaneously, reasoning is often related to oral language skills. One way of studying reasoning is to look at argumentation, for instance, look at an individual’s argumentation and different choices made when solving tasks. Some learning situations need reasoning, whether to determine a quantity (How many cubes?) or to reason geometrically (What shape will fit?). Other learning situations need wide thinking or problem solving, and children develop reasoning. Encouraging children to engage in thinking not only benefits them, but also helps them to investigate other principles such as shapes, counting, and categorizing.

## Teacher’s Voice

### Self Phased Questions

According to the investigator, self-phased questions are just teachers interrogating themselves. This prompts a teacher to ask questions based on a student’s accomplishment/academic achievement/capacity/concept liability. Probably, through experience, self-paced questions helped children to gain idea clarity. The teacher is always aware of the kind of exercises that the children like for expressing their subject concepts.

- Which task took the longest to complete?
- Whatever activity ought to I engage in more frequently?
- Which new words are intended to motivate children to engage in math-related learning activities?
- Which were the children’s favorite activities as specificity?
- Which task required more time?

- What activity ought to I engage in more frequently?
- Which new words could tackle mathematical concepts?

### Open Ended Questions

(Miranda and Álvarez) suggested that the teachers ask open-ended questions, they allow their students to think freely and flexibly, to express their own ideas and thoughts, without worrying that they have to give a correct answer, and, on the other hand, they promote successful discussions that stimulate student participation. Some of the open ended questions are;

- How does that form resemble this one?
- How is it different?
- Why isn't this shape an oval (circular or square)?
- What makes this form of shape (specified one)?
- What happens if I turn or flip this shape?
- Where have you seen this shape previously?
- Where would you expect to find anything in this shape?
- How did you choose what to copy or draw?

Children who receive assistance with these kinds of inquiries become highly productive in the school. Teachers need to apply effective questioning tactics, especially when teaching primary school students. Asking a lot of questions all throughout the text isn't always a good strategy. Instead, ask the child fewer questions that will require more consideration. Give the kids some time to think about the question, and then pay attention to what they have to say. Children who engage in this type of classroom activity feel heard and are encouraged to contribute to class discussions. Hearing what the children have to say promotes conversation and teaches us more about him or her.

### Dialogic Inclusion

What is meant by dialogic classroom conversation, and how can it be conceptualized? Dialogic classroom discussion is a complex task, especially in the early stages of education. It refers to a classroom atmosphere in which children and teachers consider and discuss common subjects in the form of interaction or exchanging of words. Dialogic inclusion in teaching involves continuous teacher-

student interaction, departing from traditional lectures. It encourages active participation and attentive listening, facilitating effective dialogue for understanding. This methodology empowers teachers to engage with evolving children's perspectives, gather their opinions, and address misconceptions through meaningful conversations. Further, this investigation will provide an additional characterization utilizing three linked properties of dialogic classroom discourse. (van der Veen et al.) mentioned that in dialogic classroom talk, first, the interaction between children and their teacher is motivated by a 'shared, discussable topic (or object) that gives direction, purpose, and coherence to the dialogue'. Second, in dialogic classroom talk, children are given space to (a) share, expand, and clarify their ideas or positions, (b) carefully listen to one another's ideas, (c) reason, (d) think together and negotiate meaning, and (e) reflect on their communicative performance and the understandability of their oral messages.

However, dialogic inclusion-nourished teaching thrives when it is combined with conversations regarding the subjects the teacher tackled; dialogue in this stage also denotes exchange of concepts, ideas, and important points that are required for the session.

### Strategies in Dialogic Inclusion

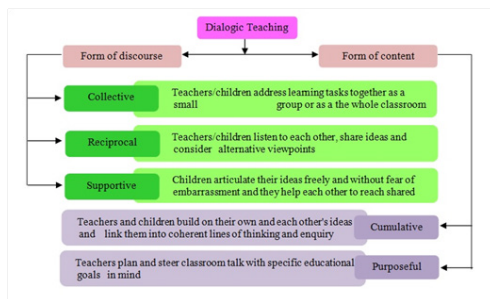
The exchanges of pedagogical dialogue between the teacher and the children will be significantly influenced by the early childhood curriculum model employed in the early childhood service. (Manas) expressed that pedagogical practice may be classified into three main categories. It would be a structured approach, an open framework approach, and a child-led approach.

For these three approaches, a smart dialogic inclusion will be manipulated to make the educational practice effective. (Flanagan) highlighted the structured approach in dialogic design as a methodology for integrating diverse ideas into coherent understanding through open and focused dialogue. This dialogic approach is characterized by three aspects: a pure dialogic form, the establishment of a shared dialogic space, and the use of teaching conversations to generate knowledge. These three



characteristics are present in this structured method. (Munroe) discussed that the open-ended approach or open approach is a flexible, student-/child-centered method that has recently gained popularity in the field of mathematics education. Through the implementation of an open framework approach, dialogic inclusion is improved, transforming the dynamics in the classroom. The role of the teacher shifts to that of a facilitator, fostering a learning environment that promotes meaningful discussions and provides numerous learning opportunities. Moreover, ongoing interaction between the teacher and children is emphasized, moving beyond one-way teacher presentations. The child-led approach is a student-focused strategy that highlights the child's autonomy and ability to learn independently. It allows children to take charge of their education, learn at their own speed, and pursue their interests and hobbies. (Atta) encloses that dialogic teaching harnesses the power of talk to stimulate and develop students' thinking, learning, and understanding.

the authors indicate that it promotes the overall development of children in the primary stage, and is upgraded from classroom talk. In investigating classroom talk, (Wilt et al.) reported that, one can place classroom talk on a continuum from monologic to dialogic, and monologic classroom talk is characterized by a large amount of teacher talk and a focus on the reproduction of factual knowledge. Again, (Femke et al.) support, the dialogic classroom talk children actively participate and are positioned as thinkers. In these conversations, children are encouraged to share their views, reflect on their own and others' contributions, and try to understand one another, and the concepts in multiple dimensions. We conclude that dialogic talk may generate meaningful learning situations that may improve children's mathematics learning. However, dialogic interaction may also prompt children to use claims that are not mathematically valid. The role of the teacher is to guide interaction within such situations and needs to be further explored.



**Figure 1 Strategies in Dialogic Inclusion**

### Dialogic Practice

Early childhood educators are aware of the benefits of using dialogic inclusion to teach fundamental concepts. Early concept development in children can be facilitated by play-based learning strategies and a curiosity for the classroom setting. Thus, beneath the ideas, teachers can support their instruction through dialogic inclusion.

(Girbés-Peco et al.) reported that dialogic contexts improve children's reading and learning as well as their relationships with peers, families, and their environment. (Rapanta et al.) discussed that inclusive dialogic teaching is about the promotion of a social or inclusive dialogic pedagogy that goes beyond knowledge transmission (Simpson), also,

### Implementation

Dialogic teaching is a specific teaching approach in which the teachers and students/children have continuous conversations as rather to the teacher only imparting knowledge. Implementing dialogic inclusion in the classroom can be done by:

- Fostering a sense of security: To make children feel comfortable (self perception and in content they undertaken), use cooperatively created communication and discussions within the classrooms.
- Promoting participation: Encourage children to actively participate by posing thought-provoking questions on content.
- Assisting children in overcoming misconceptions: Discuss concepts with children and assist them in overcoming misconceptions.
- Fostering thoughtful discourse: Assist children in becoming lifelong learners and critical thinkers.
- Showing sensitivity to children's experiences: Recognize the various, even horrific, experiences that children have had.
- Giving students agency: Give them the freedom to decide what information to disclose and whether to share it.

Several framework and course formats can be accommodated within the dialogic classroom framework. As a resultant, the inclusion of dialogic mode in teaching entails creating agreements on communication, formulating insightful inquiries, and setting up the better early childhood educational environment.

### Summary, Followings and Recommendations

In this phase of early childhood education, children learn all the lessons linked to fundamental life skills mostly through copying styles. Children get better at describing experiences and expressing their thoughts and feelings, as well as an increasing understanding of their own feelings. Their concentration with peers increases as they become more aware of the effects of their activities. More precisely, the formal and informal instruction that primary school teachers provide appears to be crucial to the development of concepts related to various subjects and elements of child growth.

The term 'early childhood education' describes educational initiatives and curriculum aimed at children under the age of eight. Children gain essential information and abilities at this crucial developmental stage, which lays the groundwork for their future learning and growth. The themes covered in the foregoing section addressed children's primary characteristic at this age and the ability to form concepts in both their subject and in real life. This concept creation on certain themes is particularly significant for their preparation knowledge for specific subjects. Preschool instructors use dialogic inclusion and positive reinforcement to help toddlers understand and follow instructions.

It is strongly recommended that the dialogic form of instruction be made a required component of the curriculum for early childhood education in order to facilitate more study in this field. This forces elementary educators to think about this method of instruction without making distinctions between the areas or material they teach. Also to enhance this dialogic inclusion in early childhood education, it is recommended that research will be continued in

- establish a distinct area within the curriculum for dialogic inclusion;

- dialogic inclusion tailored to certain subjects; and
- follow up on dialogic inclusion beyond the primary level.

Early childhood educators need to be skilled, perceptive, and engaged with the children they educate. They won't be able to determine children's interests or future skills in any other manner. They have to build curriculum for childhood education of different ages based on their understanding of how children grow and learn. This aspect of educational work also refers to the hidden curriculum. Like the problems at these developmental phases are distinct and contingent on the children's uniqueness. The preschool teachers, who worked with those children, have responsibility for their arithmetic development in this troubling scenario.

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