



# Designing for Children

- With focus on 'Play + Learn'

## The role of toys in early childhood

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**Abstract:** The paper investigates the close relationship between development and play in early childhood. The developmental theories of Piaget and Vygotsky will be looked at in conjunction with the play way learning approaches. The historical use of playway methods and toys in educational theories will be further developed citing the parallel works and philosophies of Froebell and Gijobhai Badheka.

Early childhood is a period of critical developmental stages and learning. And yet in a scenario in which children are going to playschool at younger ages, education is too focused on conventional knowledge rather than learning in a true sense. The top down approach in education to a bottoms up approach to learning can happen effectively through play. Play as an intrinsic behavior of children and the role of toys in their development will be discussed. The argument of learning and play not as a disparate but as a congruent set of phenomena will be put forth. True learning brings a sense of joy and fulfillment to a child in the same manner that play does. The need of toys to be looked at not as a means of sweetening the bitter pill of learning (as is often considered) but as a means of intrinsic joy and learning will be put forth.

The argument is taken further to consider children with special abilities and needs. Toys which are designed for the overall development of the child can be particularly good in bringing together children with different abilities and provide a good source of learning. The paper will also discuss the role of such toys in meeting the challenges of inclusive education in schools.

*Key words: early childhood, play, development, toys, Inclusive education.*

## **1. Introduction**

The initial part of the paper looks into the development model of Piaget and the various developmental factors and milestones important in the development of children. Vygotsky's concept of emotional development of children and the role of play in development is also put forth. Two playway methods in education initiated independently by Froebell and Gijubhai Badheka are analysed. A comparison is also drawn between the difference in approach between learning in a conventional education system versus in a playway method. This study helped in coming up with a theoretical framework to further expound the relation between play and learning.

The second part of the paper looks at inclusive education and the current problems and challenges of inclusive education especially with respect to Indian school system. Considering the close relationship between playway method and learning established in the first part of the paper, a playway method is proposed for inclusive education and the rationale and benefits of the same are elaborated.

## **2. Method**

Method of investigation included literature review, interviews and observation at Froebell kindergarten, Germany and Dakshinamurthi school started by Gijubhai Badheka at Bhavnagar, India. Interviews and discussions were also carried out with elementary education experts from NCERT, India as well as principals, teachers and children in schools.

## **3. Play, child development and learning**

### **3.1 Developmental models for early childhood**

Piaget's theory on developmental milestone found in children include four development stages and is described as:

**Sensory-motor stage:** From 0-2 years children experience this stage. They experience the world through movement and senses and learn object permanence. They understand the world through their senses and try to make contact with them through sensori-motor activities.

**Preoperational stage:** From ages 2 to 7 children acquire motor skills and enjoy imagination and fantasy. Children are also found to be egocentric at this age.

**Concrete operational stage:** From ages 7 to 11 children begin to think logically but are very concrete in their thinking. Children can now conserve and think logically but only with practical aids. They become less ego centric and can take active part in social group play and show more emotional maturity.

Formal operational stage: After age 11 (development of abstract reasoning), Children develop abstract thought and can easily conserve and think logically in their mind.

The first three stages are especially important in order to understand the role of play and its close association with

Piaget proposed his developmental theory in generic universal terms. Vygotsky investigated child development and considered the role of culture and social conditioning on the development of the child. This is often referred to as cultural mediation. Vygotsky extends the role of play further by attributing qualities of abstract thinking, reasoning etc. Children develop imagination and the ability to give another meaning to the reality of physical objects. This enabled children to achieve higher mental functions and consider different realities. This according to him was very important towards the development of the child in his understanding of the world.

Piaget's generic theory of child development alongwith Vygotsky's theory of cultural mediation helps us to understand the developmental theory better. Although all children show distinct stages of development during their growth, Vygotsky's theory helps us to understand how external factors can shape and play an important role in the development process of a child.

### **3.2 Patterns of play and developmental stages**

Play is an intrinsic behavior which is observed in children right from childhood. Many of the traditional toys found have a close relationship with the developmental stage in the child. Age appropriateness is an important criteria in toys. Developmental stages occur rapidly in early childhood. The broad areas of development also show certain patterns of play behavior. We will look into play patterns with respect to developmental stages:

1. Sensory motor development: Children develop their sensory abilities and use motor activities in conjunction with senses. Examples of toys played during this stage include rattles, mobiles etc. A baby who is developing the skill of eye movement enjoys the moving mobile hanging on his crib. A baby who is learning and developing his hearing ability loves rattles.
2. Physical development: Children develop physical abilities like jumping, balancing, running etc. A baby who is learning how to balance his body likes balancing toys, skating, etc.
3. Cognitive development: Cognitive development involves challenges of the mind and is associated with learning of symbols, language etc. A child grappling with abstract principles would enjoy playing with puzzles
4. Social -emotional development: This development involves the development of social skills and emotional maturity and is considered to be a life long development activity. Children playing pretend

play and imagining themselves to be doctors, father-mother etc. are actually trying to understand the social realities and adapting themselves to the same.

Playing is an intrinsic behavior of children and is found to aid in the development process. Play promotes learning of sensori motor skills, physical skills, cognitive skills and social-emotional skills in early childhood. However we also find that as children grow up they no longer need the aid of toys. Abstract thinking and reasoning skills enables them to carry out learning activities without the use of props like toys.

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### **3.3 Playway method in education**

We will consider two playway methods and approaches as propounded by Froebell and Gijubhai Badheka. Friedrich Froebel advocated the importance and role of free play in childhood. This came with his belief that humans are essentially productive and creative. It was this thinking which led him to develop special playmaterial for children known as Froebell gifts. Each of the gift is actually is a toy/puzzle which the child is supposed to play with and develop various abilities. The principle behind the same is 'from real to abstract' and 'learning by doing'. He also recommended a series of activities like games, songs, construction activities and free play, gardening etc. His strong belief in elements from nature led him to the concept of 'kindergarten' or garden for children. Activities involving imagination and creative thoughts were to be carried out before the development of basic knowledge. There were activities which could be carried out alone or in a group. Thus the Froebell system of education was able to integrate play and the use of toys effectively for learning in kindergarten system.

In India one of the pioneers of education Gijubhai Badheka started his experiments with learning. Although he based his system on the foundation and principles of Montessori education, it is interesting how he extended it and incorporated elements like storytelling, puppetry etc, as a part of education. His basic premise came from the Montessori system which believed that children have a natural love for learning and will find joy and fulfillment in new discoveries. For children, this itself is the intrinsic award and there is no need for any other material award in terms of prizes or rank. Learning and growth also helps the child to increase his/her self worth. The process of child discovering new knowledge is as important as the end learning. The basic activities for learning are centered around practical life activities, activities for sensori development, language skills

and mathematics skill. Gijubahi encouraged the use of stories as a means of learning. In fact he himself wrote the stories, encouraged students to enact the same. This model was very successful as it placed emphasis not only on learning language skills but also on the social-emotional development of children.

The emphasis of Froebell education system is more on imagination-creativity development, sensori-motor development and cognitive development whereas Gijubhai Badeheka not only placed emphasis on the conventional Montessori system of sensori motor and cognitive development but also on the social - emotional development of children through storytelling, drama, puppets etc. This could perhaps be explained also from the cultural perspective. Indian society as a whole like other traditional societies places emphasis on social emotional development of children.

However, both systems are learner centric in which the children get to learn according to their own interest and at their own pace. The systems promote learning by doing and encourage close contact with the real and concrete world around them before going into more complex abstract phenomena.

### **3.4 Conventional education system vs. Playway method in education**

In a conventional school, the education imparted places emphasis on primarily developing cognitive abilities and in gaining knowledge. This is done through a teacher-led system where teacher imparts knowledge and children are supposed to remember the same. The education goals are fixed by the teacher and all the children are supposed to achieve the same goals. This often leads to a competitive environment in class. The motivation for students is most often praise from teacher or in the form of rank/prize.

On the contrary a playway method is learner centric. Each child is able to set individual goals of learning according to his/her aptitude and level. The child learns to enjoy the whole spirit of learning and discovery and this becomes a pattern of learning even at a later stage. The learning is not limited to cognitive development but considers the overall development of the child. The learning is closer to real life and is interactive in nature. This ensures better internalization of learning.

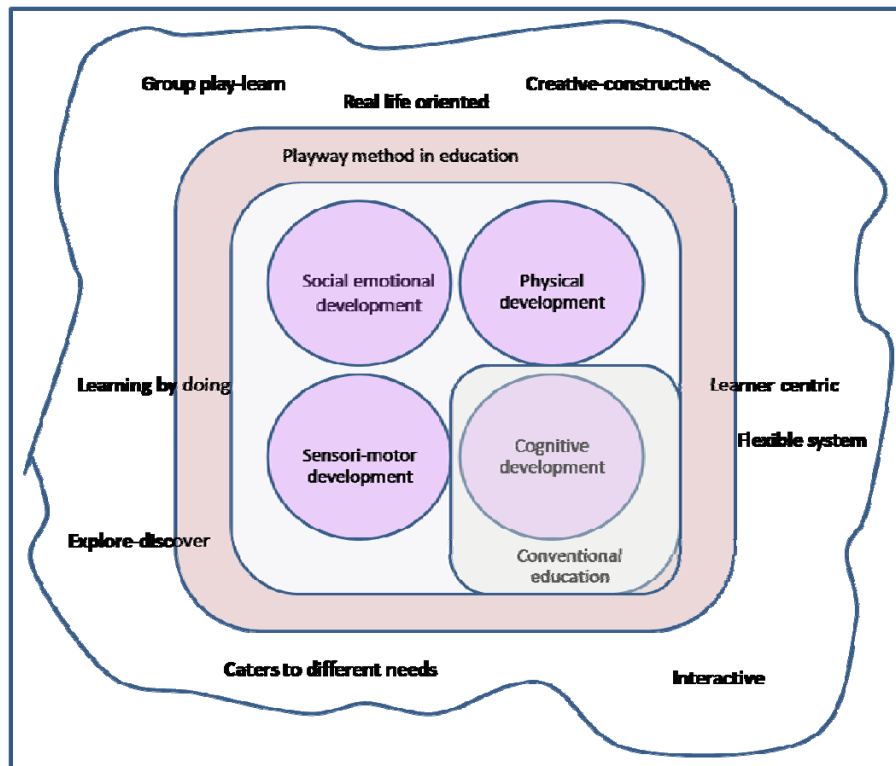


Figure.1 Learning and development in Conventional education vs. Playway method

#### 4. Playway method in inclusive education

##### 4.1 Inclusive education

The idea of inclusive education is understood today as allowing children with special needs into normal schools. The Indian government has made it compulsory for schools to give admission to children with special needs. Although this was done with a good intention, in reality it has resulted into many problems. The main problem is that the education system today is not able to cater to the needs and requirements of differently abled children.

##### 4.2 Problems with inclusive education in current system

For children with special needs, learning activities of daily living is as important as learning maths or language skills. A child with cerebral palsy needs to learn how to take bath and wear his own clothes even more than learning subjects. The over emphasis on subject specific skills has led to a lot of problems for children who need to learn skills and develop other abilities. Problems are faced by children with special need, their parents, teachers as well as the normal children studying in the same class. Some of the other problems include:

- The inability of teachers to cope with differently abled children

- Children with special needs spend their precious time in coping with 'normal' education and cannot put emphasis on learning which could be more important to them
- Differently abled children often take more time than normal children and get frustrated because of the learning pressure
- Differently abled children lose their self esteem because they are always trying to compete with normal children.
- 'Normal' children and their parents often consider children with special needs to be a liability rather than a strength to their school
- There is not much integration with normal children in classroom and often differently abled children tend to get isolated

#### 4.3 Benefits of introducing playway approach in inclusive education

We have already seen that play takes into cognizance the overall development and holistic learning for children as compared to contemporary education. How can play way method help in the area of inclusive education?

Playway method not only considers the disabilities of children but also the abilities of children. It provides possibilities of peer group learning for children. An educational curriculum which considers the learning of sensory abilities, physical abilities and social - emotional abilities alongwith cognitive abilities would provide a true learning environment for children with different types of needs and learning goals. Some of the benefits are discussed below:

- Playway methods takes into consideration the overall development of the child
- Holistic development approach takes into consideration, sensori-motor, physical, cognitive as well as social-emotional development.
- Enables each child to set up independent learning goal
- Is learner-centric and not teacher-centric
- Emphasizes on learning by doing and helps in better internalization
- Enables peer group learning in which differently abled children would actually enhance the learning of normal children too
- Enables integrated learning i.e. learning of different skills and knowledge base from one source

## 5. Conclusions

The arguments which can be put forth to place emphasis on the introduction of playway approach to education in the early years are:

- a) Too much emphasis only on narrow 'knowledge based' cognitive development often distorts and limits the learning pattern of children at a young age. An open, broad based learning system in early childhood enables better integration of right brain-left brain thinking and physical-sensori-social-emotional development. The learner-centric approach and the patterns of learning developed in early childhood will be retained and developed further throughout their lives.
- b) Playway education is specially good for inclusive education system and not only helps in effective integration of differently abled children into the classroom but can also help 'normal' children learn from differently abled children.

## References

Bhadheka, G. (2005) Divaswapna. National Book Trust, India.

Froebel, F. (2003). The Pedagogics of the Kindergarten (Paperback). International law and taxation.USA.

Piaget, J. (1983). Piaget's theory. In P. Mussen (ed.). Handbook of Child Psychology. 4th edition. Vol. 1. Wiley, New York, USA.

Piaget, J. (1962). Play, Dreams and Imitation in Childhood. Norton, New York, USA.

Vygotsky, L.S. (1978). Mind in Society: The Development of Higher Psychological Processes. Cambridge, MA: Harvard University Press.