

## **The Role of Play in Cognitive Development: Implications for Teachers**

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**Abstract:** Play is central to the development of a child. Different views have been expressed on how play contributes to intellectual development, physical development, emotional development and personality development among other domains of human development. The paper focuses on the conceptual framework of the term play. Different forms of play are covered. These include free play, spontaneous play, make-belief play, creative play, physical play and manipulative play. These are examined to provide a theoretical framework for the concept play, and as a way of giving the reader an appreciation of the role of play in education. Apart from developing other human domains, play contributes to cognitive development. A number of theories have been advanced to explain cognitive development in children. To demonstrate the importance of play in education the paper discusses Piaget's theory of cognitive development in relation to play. The paper focuses mainly on Piaget's first three stages of cognitive development and how play can contribute positively to development. The theory is examined according to its contribution to learning in relation to the role of the teacher. The paper concludes that play stimulates a child's social, physical, emotional and cognitive development and that the school has to promote the use of play in teaching all subjects.

**Keywords:** cognitive development; play; theories of play; Piaget's theory of cognitive development; teachers and school heads

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### **INTRODUCTION**

There are many theories that have been used to explain play and how it contributes to development of the child. These can be grouped into at least two categories. These are the early classical theories and the current theories of play. The paper focuses on the importance of play as postulated by Piaget's theory of cognitive development. Piaget's theory of cognitive development is one of the current theories of play. These theories are discussed according to their contribution to cognitive development, social development, emotional development and psychosocial development. The role of the caregiver and teacher at school is critically examined. To put the presentation into context, the paper examines the conceptual framework of the term play, before explaining Piaget's theory of cognitive development and its relevance. The paper proceeds to discuss how play contributes to the development of the child and how the caregiver and teacher can contribute to such development.

### **DEFINITION OF TERMS**

Devadas and Jaya [1] define play as "an activity in which a person is engaged when he is to do what he wants to do". What stands out in this precise definition is the element of choice to play. Gray [2]

defines play in terms of features that characterize play. For Gray [2] play is an activity that is: self-chosen and self-directed; intrinsically motivated; guided by mental rules; imaginative; and conducted in an active, alert, but relatively non-stressed frame of mind. There are at least two key elements of play that stand out in these two definitions. These are freedom of choice by the individuals who take part in the play and that the mental rules that guide play should promote creativity, relaxation and pleasure. Play can therefore be defined as an activity that we engage in voluntarily and spontaneously, without straining the participant, but can also be planned and directed.

Santrock [3] defines development as "the pattern of movement or change that begins at conception and continues through the life span". Santrock [3] further notes that what makes development complex is that it is a result of a variety of processes. These processes are biological, cognitive and socio-emotional. Development can also be viewed as the process in which something goes through to reach its full capacity or potential, just as a child goes through different stages in order to reach adulthood (<http://answer.ask.com>). When it comes to the development of the child, the child has to be developed

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in different areas that include cognitive, physical, social and moral, emotional, creative, health and language development [4]. The individual therefore goes through changes that are systematic, sequential and long lasting [5]. Such changes are age related. It can therefore be noted that development is concerned with what goes on within an individual as he/she interacts with the environment and acquires new knowledge and skills in the process of the interaction.

### **Conceptual Framework: Play**

The concept play is characterised by different types of activities. Play can be in the form of free, spontaneous play, dramatic or make belief play, creative play, constructive play, physical play, and manipulative play. In make-belief play children are given opportunities to imagine themselves in the adult world or animal world. They imitate these adults or animals as they play. Such play helps in both social and personal development as the children play as they learn and learn as they play. Play activities include *mahumbwe* which was common in the Shona tradition in Zimbabwe. This is an activity where children play different roles as mothers, fathers, teachers, shopkeepers, brothers and sisters. They also learn how to perform different household chores. This is therefore a form of dramatic play. As observed by Devadas and Jaya [1], make-belief play helps the child to manage desires and aspirations. This type of play is characterised by the participation of children in different activities. These activities contribute to different forms of development which include language development, social development, intellectual development and emotional development. In the classroom situation, the teacher has to provide resources and guide the children's play in order to achieve the desired results.

Another form of play that contributes to the development of the child is creative play. As the term implies such play promotes creative thinking. There is need to plan well for both indoor games and outdoor games. Depending on the nature of the activities and type of play, children can play indoors or outdoors. Through this form of play children are able to express themselves through the use of motor skills. Through creative play children create work that is original as they express themselves through colouring pictures, drawing, painting, and modelling. The school and indeed the teacher have to plan for resources that include brushes, paint, building blocks, puzzles among other materials. Creative play gives children an opportunity to express themselves through art, music and movement. Play can be used as a form of expressive arts and is a major component of the curriculum which contributes to learning and development of children. Gatsi, Mamvuto and Tafirenyika [6] note that expressive arts have the power to enhance the child's sense of self; enables children to appreciate and make use of locally available resources

and materials; promotes development of children's gross and fine motor skills; at the same time enhancing confidence and social skills. Within the classroom context, creative play becomes a mode of teaching Expressive Arts.

Other forms of play that have to be promoted within the school are constructive play, physical play and manipulative play. The activities that the children engage in have to be planned in relation to the ages of the children. In constructive play, like in creative play the children have to be involved in building, construction, drawing, painting, music and games. On the other hand physical play contributes to the physical development of the child. Activities under active play include climbing, running, sliding, running among other activities. Manipulative play develops the children's skills of handling different objects.

### **Piaget's theory of cognitive development**

Piaget made an attempt to explain cognitive development in terms of series of stages that children have to pass through. These stages according to him follow a fixed sequence. Experience and exposure play a critical role in determining the rate of movement from one stage to another. According to Piaget, a child is actively involved in the search for knowledge and is able to find her/his way through successive stages of cognitive development and each stage is characterized by a different way of thinking about the world and understanding it [11]. A child is expected to develop through these stages until he/she can reason abstractly. According to Piaget's theory of cognitive development a child has to go through four stages of development. These are the sensorimotor period (birth to 2 years), preoperational period (2 to 7 years), concrete operational period (7 to 11 years) and the formal operational period (11 years through adulthood). Since there is not much the ECD caregiver can contribute in terms of play and child development at the fourth stage (11 years through adulthood) as this age group is well above the 0 to 8 years that is covered by ECD, the discussion focuses on the first three stages.

### **Play and development**

Play is very important in the development from infancy up to adulthood. According to Piaget the first stage of cognitive development is the Sensory-motor stage (birth to 2 years). Play at this stage should be directed at tasks that contribute to growth in sensory motor and intellect, development of language, motor control, and development of self-concept [7]. As a result of limitations in mobility, the child tends to play alone. The child can play with toys and dolls. The role of the caregiver is to ensure that the objects used in play are safe and not poisonous. This is important because the child gets a feel of the object by biting it or making sounds with it. Play at this stage is very much similar to solitary play as observed by Parten. In solitary play,

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children play by themselves and rarely take note of those around them [8]. The type of play at this stage is manipulative play. As noted by Minnett (2005) manipulative play involves skilful use of hands and the training of the coordination of hands, eyes and brains. This coordination develops as children play with objects such as rattles and soft toys.

At the preoperational stage (2-7 years), the child can be described as egocentric. The child only thinks about himself/herself and has problems accepting the views of others. As noted by Santrock [3] the preoperational stage can be divided into two sub-stages. These are the symbolic function sub-stage and the intuitive thought sub-stage. The symbolic function sub-stage covers the 2 to 4 year olds. At this sub-stage, the child's thinking is characterized by images and symbols. In relation to this sub-stage the role of the caregiver is to promote symbolic play. This is the age group that constitutes the ECD-A level whose age range is 3 to 4 years, in Zimbabwe. This is very much similar to parallel play as presented by Parten [8]. At this stage children play side by side. They may be in a group, but engaged in different activities of play. In this regard, play helps the child to be creative as he/she does things alone. The presence of other children in the group though doing different activities helps the child to connect with others. The caregiver has to take cognisance of the fact that at the ages of 2 to 4 years, children need time to play and at times they need to play independent of the other children. That way, play will enable the children to discover experiment, create and concentrate (Minnett, 2005). As noted by Vygotsky the idea of symbolic and make-believe play provided an excellent setting for cognitive development [3]. In symbolic play the children are able to substitute real objects with others that are easily accessible to them. For example, children can use a rope as a substitute for a train. Such imaginary play should be encouraged and planned for by the caregiver as it advances the children's creativity.

In addition, parallel play allows the child to explore and experiment with objects. The caregiver has to provide the different types of toys. The caregiver also has to vary the objects, shapes, colours and sizes that the children have to play with. She/He also has to change the activities so that the children keep their interest in the play. Furthermore, the caregiver also has to allow children to freely express themselves. Children can express themselves orally and physically. That helps in the development of language expression.

The other sub-stage is the intuitive thought sub-stage. This sub-stage covers the 4 to 7 years age group. In the Zimbabwean education system these age groups are found in the ECD-B level (4 to 5 years) and grades 1 and 2 (6 to 7 years). Apart from the desire to explore and discover things they what to find answers to

why things appear the way they do. They are interested in seeking knowledge for the sake of it. At this stage children learn to share. As noted by Devadas and Jaya [1] play can be used at this stage to develop social values. These can be developed through playing with other children and playing games with peers. At this stage the child is not only looking at herself/himself as an individual, but is also concerned with what others are doing. By associating with others, the child learns to share through play. The child also learns to share and work as a team. This sub-stage is very much similar to associative play as enunciated by Parten. In associative play, children play in pairs and groups. They show interest in sharing toys and are interested in the relations that are involved in working together much more than the tasks themselves [3].

In view of this, the caregiver has to plan games that promote team work. Children are given opportunities to take leadership roles within their groups. Such interaction through play allows children to acquire emotional values and moral values. Play to develop team work may include soccer games, netball, rugby and any other small games that involve team work. Such activities should promote social play, which contributes to language development and the acquisition of communication skills. In addition to that, the caregiver should plan and provide for both outdoor and indoor play. The caregiver is a facilitator of children's play. This facilitation can be done by providing resources that promote play. Such resources include blocks, construction toys, clay, paint, balls and ladders. In the planning process the caregiver should be clear on which skills she/he intends to develop. The caregiver has to plan in terms of which of the materials will contribute to different forms of development, and which ones contribute to sensory play and gross motor play. Such forms of development that are promoted through play include social development and emotional development. Vygotsky observes that children can develop socially through pretend play, as it stimulates development as they use their imagination; it helps the child to follow rules and to learn about the social world [8]. Games that stimulate social development involve contact with others. Examples of such games include traditional games such as hide and seek, *sipoti sipoti*, *mahumbwe* among others. Play in that respect gives the child a sense of belonging. Apart from stimulating social development, games contribute to physical development as children exercise their bodies, learn to balance and use them as a way to lease excess energy. At the same time play offers the child an opportunity to express emotions and feelings within a group.

The third stage in Piaget's theory of cognitive development is the concrete operational stage (7 to 11 years). This age group is equally important to the caregiver. Within the context of the education system in Zimbabwe ECD covers 0 to 8 years. Children of age 8

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are found in grade 3. At this stage children are able to make conclusions from logical operations and can use logical rules to handle problems [9]. Furthermore, they are able to classify objects, can consider other people's view points, can now focus on different features of a situation at the same time, apply deductive reasoning and can apply abstract thinking from the use of concrete objects [9].

At this level the caregiver is a teacher. Play at this level should be able to develop operational thinking in the child. The child should also be given objects and problem solving games that stimulate inference. The caregiver has the responsibility to provide an environment that is supportive to the child's development. This can be done by making use of social interactions and peer play and learning. The caregiver has to use a variety of concrete experiences to enable children to learn through play. Play can be used as a form of discovery learning.

#### **Benefits and importance of play**

As noted above play contributes to the development of children in many ways. Minnet (2005) notes at least four benefits of play to children that are worth remembering. First, play is an essential part of children's learning because it gives them pleasure, as they play and learn at the same time. Secondly, children get an opportunity to play on their own and to play with others, which is an important component of socialisation. Third, play helps the child to make discoveries about the world. Fourth, play helps to reduce stress and it therefore helps children to manage stress at the same time preventing boredom. On a similar note, Hullet et al. [10] and Devadas and Jaya [1] argue that in addition to the above benefits play has physical values, educational values, social values, emotional values and moral values. It also contributes to cognitive development as noted above in Piaget's theory of cognitive development.

Basing on the excessive energy theory, play provides an outlet for excessive physical energy, as children are to release pent-up tensions and frustration. In that regard play performs a therapeutic function. There is need therefore to plan for different forms of play. This could include practice play which involves repetition of ideas, symbolic play in which a child transforms the physical environment into a symbol and may involve substituting objects, and games that children have to be actively involved at the same time obeying the rules of the games [3].

#### **CONCLUSION**

Teaching and learning that put the child at the centre contributes to the growth of different domains in the child. Play is therefore a mode that can be used in teaching and learning at school. The paper has discussed the conceptual framework of the term play,

by identifying and discussing the different types of play. It also examined how these different forms of play can be used as teaching modes within the classroom. The paper further discussed the importance of play in relation to Piaget's theory of cognitive development. The views by other theorists such as Parten and Vygotsky in specific cases they concurred with Piaget's theory were also discussed. These ideas were discussed in relation to the role of the caregiver and teacher in promoting play and learning. It may be concluded that play stimulates the child's social, physical, emotional and cognitive development and the caregiver and teacher have to facilitate play by creating a safe environment for children. Play therefore has a critical role in the development of the child.

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