

## **ATTENTION SKILL AND THE ROLE OF GUIDED OUTDOOR PLAY IN PRE-PRIMARY SCHOOL PUPILS' COGNITIVE DEVELOPMENT**

**BY**

**Janet Motunrayo Eseyin: Department of Education Foundations, Faculty of Education, University of Jos;  
E-mail: eseyinjane@gmail.com**

### **Abstract**

*Attention skill is vital in child's learning and development. It allows the child to function properly in the society. The more a child pays attention to what people say, the better the vocabulary and communication become. The study is centred on guided outdoor play and its role on pre-primary school children attention skill in cognitive development. An overview of guided outdoor play and cognitive development were discussed. The developmentally appropriate learning which revealed that child approach to learning should be imbibed including guided outdoor play. Suggestions such as, school administrators, curriculum planners, paediatricians, parents and teachers should deliberately and intentionally create time for children to be engaged in guided outdoor play and not just the impartation of knowledge but a more effective way of teaching which provide playful opportunities for children to explore and interact with materials that have specific educational objectives.*

**Keywords:** *Cognitive development, Attention skill, Guided outdoor play, Pre-primary school and Pupils*

### **Introduction**

Pre-primary school pupil's cognitive development involve the construction of knowledge of the world through physical activities and sensory experiences, it refers to individual abilities to perform various mental activities most closely related with learning and problem solving. It is the development of children's way of perceiving and mentally representing the world through interaction of genetic and environmental factors. A child's cognitive skills at pre-primary school level includes skill such attention, recall, language and mathematics. But the study will focus on attention skill. Masterson and Bohart (2019) asserted that a child who enters primary school without building basic cognitive skills may run a significant risk of starting behind and staying behind. Early childhood educators play a key role in developing attention skill among pre-schoolers. In their pre-service training, early childhood educators learn about the nature, stages and domain in children development, including cognitive skills and their importance to learning at the pre-primary school level, which attention skill is one. Pre-schoolers need concentration to learn effectively, but this poses a great challenge, as such, to improve efficiency among pre-schoolers, deliberate efforts should be made in providing activities that will sustain their attention and this include play especially guided outdoor play.

Attention has been referred to as the allocation of limited processing resources (Adaralegbe, 2009). Attention is fundamental to human thinking because it determines the information that will be considered in any task. Paying attention means tuning in to certain things while turning out others and maintaining focus over time Ganie, Sroufe and Cooper (2000) described attention as the behavioural and cognitive process of selectively concentrating on a discrete aspect of information whether deemed subjective or objective, while ignoring other perceivable information. One of the most important cognitive skills is attention skill. When a child learns to pay attention, it enables him or her to concentrate on one task for an extended period of time. Learning to focus attention is an important skill that the child will use in virtually all future learning.

### **Concept of Pre-Primary School Pupil**

The National Policy on education FRN (2004) posits that pre-primary school child falls within the age bracket of 0-6 years while Maduewesi, (1999) view pre-school children as young children between 2-5 years engaged in specially designed academic programmes before the age of formal schooling. According to her these children fell within Jean Piaget pre- operational period of intellectual development (2 -6years) and are normally found in nursery and kindergarten schools. At this stage, a preschool child is egocentric, his major cognitive task is the

conquest of symbols and he begin to make use of symbols. He asks a lot of questions, begins to make part in symbolic plays. He is very good in acquiring and making use of language.

In teaching the pre-schoolers, direct instruction is the teaching strategy that most people think of, meaning that the teacher directly communicates new information to pupils. However, Slentz and Krogh (2001) reported that direct instruction is not effective for teaching most skills to young children. Instead, young children need more engaging, hands – on instruction to learn effectively (Nsamenang, 2011). Research has shown that direct instruction can hinder learning because it limits children’s exploration and discovery (Bonawitz, Shafro, Gweon, Goodman, Spellce, & Schulz, 2011). In most cases, a more effective way of teaching is to provide playful opportunities for children to explore and interact with materials that have specific educational objectives. As children are playfully exploring, teachers can improve children’s understanding by asking questions about what they are exploring, and then elaborating on children’s answers (Fisher, Hirsh – Pasek, New Cornbe, & Golinkoff, 2013). Play seems such a natural part of childhood that it is difficult to imagine children needing help with this part of their lives. Play is one of young children’s developmental tasks and a crucial part of their activities which is believed to enhance cognitive skills development. Play is another means of communicating among all children, it serves as a means of learning about and making sense of the world. Play is one of the key ways by which young children learn and developing all areas of development (Omotuyole, 2016, Van Horn, Nourot, Scales & Alward, 2003). Guided play is a teaching method in which a playful activity is used to teach academic skills and concepts (Johnson, Christie, & Wardle, 2005).

For pre-schoolers to benefit maximally at this level in learning, attention of pre-school pupils must be developed by nurturing children with an educational environment that increasingly stretches their attention through interesting and engaging educational activities using guided outdoor play.

### **Concept of Cognitive Development**

Cognitive development refers to advances in mental process associated with the perception, memory, problem solving, language learning and other aspects of brain development that occur with increasing age. Cognitive development is also the change that occurs in the way a child thinks and learns overtime (Rathus & Rinaldi, 2009). Cognitive development is one of the four domains of development. Others are physical, social and emotional. Cognitive skill focuses on the development of way of perceiving, mentally representing the world and solving problems. Cognitive development deals with the progressive changes that occur in how people think, reason, form concepts and solve problems (Oguntashe, 2011). Vygostky (1964) believed that all learning and ideas begin in the interaction between a child and those with whom he has had contact with, especially the adults in the community whom intentionally engage children in challenging activities in a systematic manner to foster cognitive skills. As a result, all learning is culturally based because people are situated within their own culture. Each culture has its own adaptations that have survived through generations; the tools, language, and actions as a particular culture such as appropriate age activities in guided outdoor play.

Piaget (1963) believed that children adapt to the environment via the process of assimilation to existing mental structures (accommodation) (Spencer & Dieffenbach, 2005). According to Piaget (1956) cognitive development focuses on the way children adapt to the world environment by mentally representing or perceiving the world and solving problems. Children thus mentally assimilate and accommodate stimuli from their environment. Piaget (1956) hypothesized that children’s cognitive processes develop in an orderly sequence or series of stages and that each stage development; largely depend on the maturation of the brain and on children’s interactions with their environment. Therefore, for pre-schoolers to develop their cognitive skills maximally, the environment must be stimulating and interesting to activate actions from children. Piaget (1956) opined that cognitive development is a progress re-organization of mental process resulting from biological maturation and environment experiences. James (2010) sees cognitive development as the set of all mental abilities and processes related to knowledge: attention, memory, judgement and evaluation, reasoning, problem solving, decision making, comprehension and production of language. Barnard (2001) posited that cognitive development

is an overall mental capacity which includes concept formation, attention, memory skills and thinking or perceiving. Cognitive development therefore refers to how well a pupil is able to perform various mental age-appropriate activities closely associated with learning and problem solving.

The first three years of the child marks the beginning of the development of the various cognitive skills, the building blocks of a maturing mind that features later in human development. This suggests that for pre-primary school pupils to reach their full potential in cognitive skills development, they must get the right start by engaging in activities that would enhance and improve cognitive competences. Piaget (1956) claimed that cognitive development is at the centre of the human organism and language is contingent on knowledge and understanding acquired through cognitive development.

### **Attention Skill of Pre-Primary School Pupils**

Learning to focus attention is an important skill that the child needs in virtually all future learning. Attention serves several functions related to information processing. It selects certain events or objects in the environment to focus on and maintain focus on the object of interest while information provided by that object is processed (Anderson, 2000). Attention skill is vital in child's learning and development; it allows the child to function properly in the society. The more a child pay attention to what people say, the better the vocabulary and communication become, the child might struggle with his speech, and reading may also suffer if the child does not have adequate listening skills, since the child might not be able to pay attention when someone is reading. Anyaegbu (2009) noted that in children, attention is thought to change with age, concurrently with changes in brain function. Several scientists interested in early cognitive development have proposed neurodevelopment models of attention development based upon behavioural findings in human infants, integrated with findings related to changes in brain function from studies of non-human animals and human adults, or neuropsychological research on clinical populations.

Attention is the brain function that allocates cognitive processing resources to focus on information or stimuli. It deals with how information is processed mentally in the environment using the five senses. Attention is the ability to keep the mind focused on something through careful observation and listening. It can be just momentary such as turning around after hearing a loud noise, or it may be for a sustained period of time such as playing video game. As children grow, they are increasingly capable of directing and sustaining their attention (Lopez, Menez & Hernandez, 2005). Attention in pre-primary school pupils has been linked to differences in parenting that are related to the economic circumstances of families. Low-income mothers are likely to experience more parenting stress and tend to provide less stimulation and support to their children (Grantham – McGregor et al., 2007). These differences in parenting are related to more impulsivity and less sustained attention in 5 years old, and this in turn, is related to lower cognitive competence (Dilworth – Bart, Khurchid & Vandell, 2007). Attention is often the starting point to other cognitive functions because one must first pay attention to something before processing it for meaning and understanding.

Attention is fundamental to human thinking because it determines the information that will be considered in any task. Pre-schoolers need concentration to learn effectively, but this poses a great challenge, as such to improve efficiency among pre-schoolers deliberate effort should be made in providing activities that will sustain their attention and this include guided outdoor play. There are several types of attention for use during the course of daily activities. Berk (2006) and MentalUP (2020) asserted that attention could be divided into four types, they are: Sustained attention, Selective attention, Alternating attention and Divided attention

#### **i. Sustained Attention**

Sustained attention is the ability to focus on one specific task for a continuous amount of time without being distracted. Sustained attention is synonymous to “focus”, “concentration” or “vigilance”. Sustained attention is in use when one continuously focuses on one task or concentration on an activity for a prolonged period of time without getting distracted. Examples of sustained attention may include listening to lecture, reading a book,

playing a video, or fixing a car. It can be challenging among pre-primary school pupils to maintain this type of attention for a significant amount of time without becoming distracted. Therefore, the level of sustained attention for children often varies. They may be intensely focused for one minute before beginning to lapse.

**ii. Selective Attention**

Selective attention is the ability to select from the various factors or stimuli that are present and focus on only the one that is important. Every day, one is constantly exposed to a number of environmental factors or stimuli, but the brain naturally responds by selecting a particular aspect or factor to focus on. Selective attention is used where attention basically allows one to be able to select where attention is necessary. Selective attention is used when attending to different voices and there is need to focus on one person's voice, or trying to study in a noisy room. The tasks of selecting information to attend to, staying focus on it, ignoring irrelevant stimuli all pose challenges to pre-schoolers because their attentional systems are not yet fully developed (Berk, 2006). When employing selective attention, one is able to avoid distractions from external influences such as noise, and internal are in form of thought distraction. Pre-primary school pupils find this very difficult because for children, moving from the world of multisensory experiences in outdoor play to sitting still and selectively attending to a teacher in a classroom for a long period can be particularly difficult. For pre-schoolers to develop a selective attention, they should be involved in what they love to do naturally well, which is play, especially guided outdoor play.

**iii. Alternating Attention**

Alternating attention is the ability of mental flexibility that allows one to shift focus of attention and move between tasks having different requirements. It is the alternating of one's attention back and forth between two different tasks that require the use of different areas of the brain. Alternating attention is used almost all the time by adults. Sudden changes are constantly made on activities or actions which require the attention to shift. Alternating attention is used when reading a recipe (learning) and then performing the task of recipe (doing). It could also be alternating between unrelated tasks such as cooking while helping the child with homework. For pre-primary school children, alternating attention seems very difficult, they need to grow into this stage gradually to be able to move between tasks having different requirements and still stay focus.

**iv. Divided Attention**

Divided attention is the ability to process two or more responses, or react to two or more different demands simultaneously. It is often referred to as multi-tasking, basically dividing attention between two or more tasks, such as talking with friends while making dinner, or talking on the phone while getting dresses. When using divided, one does not change from one task to another completely instead an attempt is made to perform them at the same time. Therefore, divided attention is really focusing on part of each task. Although divided attention is thought of as the ability to focus on two or more stimuli or activities at the same time, but it is humanly impossible to concentrate on two different tasks simultaneously. The brain can only process one task at a time. Ability to attend carefully to a task, ignore distractions and stick with it, is something that takes time for pre-primary school pupils to develop, therefore since pre-schoolers are part of humans, it is also not possible for them to focus on two tasks and process them simultaneously. For pre-primary school pupils, divided attention is of great challenge. For pre-schoolers to develop sustained, selective alternating, and divided attention, they should be involved in various activities that are of interest to them at this level, such as play and especially guided outdoor play.

**Overview of Guided Outdoor Play and Cognitive Development**

Play is essential part of children's daily life and it promotes all round development that it has been recognized by the United Nations High Commission for Human Rights (2006) as a basic right of every child. This informed the inclusion of this Right in the National Policy for Integrated Early Childhood Development in Nigeria (2007), National Policy on Education (2013). However, serious violation of the provision and guidelines of the National Policy on education are observed at this level such as direct instruction method of teaching strategy among pre-schoolers which has deprived pre-primary school children the right to play as a learning process, especially guided outdoor play.

Berk (2011) described guided outdoor play otherwise known as play with a purpose as any activity that offers pre-schoolers specific learning objectives, that teaches new skills where there is typically an adult leader. It is a type of play that is planned and set up by the teacher in a stimulating environment. Guided outdoor play experiences provide adult scaffolding in the context of activities that young children find engaging and motivating. Guided outdoor play take place outside the classroom either in a playground or play yard, where children’s play can take off, flourish and come to full expression, where children act like children, make a mess run, jump, hide, shout, yell, whistle and explore the natural world. For example, when children climb up a little dirt hill and manoeuvre their way down, they learn they can do this, which really adds to their sense of confidence. In the activities such as water play or sand play, children are pouring sand back and forth into containers of different sizes, shapes and volume. They discover the quantity of water or sand that fits into different containers. Building with blocks on an uneven surface outside, or playing with toy cars in the grass teach children about different textures, sounds and smells because the environment is naturally different from the indoors. High quality early childhood programs incorporate play especially guided outdoor play in their learning activities.

Korb (2016) asserted that outdoor play is important in pre-schoolers learning and development since it is the official and authentic content which translates the expectations of the society into knowledge, skills and attitudes at this level. In guided outdoor play teachers intentionally design play opportunities, activities, and environment with specific learning goals in mind. Guided outdoor play, is sometimes contrasted with “work” and characterized as a type of activity which is essentially unimportant, trivial and lacking in any serious cognitive purpose, since the children will pack sand, mud, water and become dirty. As such, it is seen as something children do because they are immature, and as something they will grow out of as they become adults. However, this view is mistaken and misleading. In guided outdoor play, children do more than run, climb and ride bicycle. They explore the weather, insects, plants and everything going on around them. Their curiosity is stimulated as they seek answers to their question about new discoveries.

Many of the fundamental tasks that children must achieve, such as exploring, risk-taking, problems solving, attention and absorption of vast amounts of basic knowledge, might be most effectively learned through guided outdoor play. Children play in different ways and the nature of their play changes as they develop. Play is one of young children development tasks and a critical part of their activities which is believed to enhance cognitive skills. Research suggests that play most effectively supports learning when children have opportunity for both free and guided play (Henniger, 2005). Researchers who have studied childhood play often categorize it according to either its cognitive or social elements. Piaget (1962) posited that the stages of development of the brain mirror the stages of play in early childhood. Pre-primary school pupils learn much through their senses. Outside, there are many different wonderful things for them to see such as animals, birds and green leafy plants, to hear: such as wind rustling, through leaves, a robin’s song, to smell such as: fragrant flowers, and the rain-soaked ground to touch: such as, trees, water and even to taste such as rain drop on their tongues. Henniger (2017) opined that playing outdoors provides children with numerous opportunities to engage in sensory experiences. The sights, sounds, smells and texture found outside are attractive to children and make the setting more interesting to them. Cognitive contacts with the outdoor help children learn concepts such as cause and effect and making connections. Piaget (1963) stated that cognitive development is the process of building more elaborate schema or concepts about the workings of the world, and outdoor play build schema especially guided outdoor play.

### **Developmentally Appropriate Learning and Attention Skill**

Psychology teaches that children have very short attention span. Meaning that children attention span at learning is short but large at play. They cannot sit down in one place for a long time unlike adults, despite this children are involved in direct instruction as main approach by teachers to learn through lecture method and memorization. For example, pre-primary school children may be required to recite numbers, letters, thirty-six states and their capitals, and copy from the board with little or no break time. The principle that educational

practice must match the developmental level of the pupils is the essence of what experts called developmentally appropriate teaching. Developmentally appropriate teaching means that educational practice is rooted in research about how young children develop and learn (National Association for the Education of Young Children, 2009). The goal of developmentally appropriate teaching is to promote optimal learning and development for children.

Developmentally appropriate learning means that educational practices are matched to the developmental level of the children. Thus, teachers must understand the unique developmental characteristics of young children and use this understanding to guide their choices about the teaching methods they use, especially strategies that will aid learning at this level. Children love to play and sees play as work, so when teaching and learning are planned in playful ways, children learn better including using guided outdoor play. The goal of developmentally appropriate practice in early childhood programs is to enable young children to thrive as they are learning and developing. Using developmentally appropriate practices enables young children to thrive at the level that they are currently, which then builds a solid foundation for future growth and developments (Korb, 2016).

Young children have incredible amounts of energy, like to explore new things but have a short attention span (Carlsson-Paige, 2008). Children's inability to sit still for extended periods of time is helpful to develop physical skills. Their energy and desires to explore, enables them to be exposed to the many new things that they have to learn. Children are easily distracted so that they can be exposed to everything they need, to be successful adults (Korb, 2016). A short attention span is part of children's nature. So, children should not be typically punished for a short attention span. One goal of guided outdoor play should be to help children focus their attention for longer periods of time in learning activities since children are learning through what they love doing best which is play. Paying attention is necessary for them to be successful as they grow older. However, attention is developed by nurturing children with an educational environment that increasingly stretches their attention through interesting and engaging educational activities using guided outdoor play. Child-centred approach to learning is about the most appropriate approach to learning for pre-primary school children for it ensures the active involvement of pupils in learning process. At the pre-school level, effective and appropriate approach to learning is when pupils are engaged. Copple & Bredecamp (2009) points out that for pre-school age children, "learning goes from hand to head": This implies that children learn by doing, with hands-on activities, such counting using stick, beads, smooth small stones, or bottle tops, working with clay and paper Mache, building with blocks, painting and drawing in a playful way.

There is popular saying that "what I do I understand". This is very true of children generally, therefore, when a child reacts to the experience by responding either positively or negatively (response). When the preschool child is allowed to do things by himself or herself, and is reinforced by what he or she does, the child will develop skills needed for doing what he/she does. In other words, the child acquires the special skill of doing certain things through practice. This implies therefore that children should be given opportunity to do things themselves. There must be a variety of play and learning materials which could be brought or improvised by the teacher or parents in order to achieve this goal.

### **Suggestions**

Based on the analysis in this paper, the following recommendations are made.

1. School administrations should restructure the guided outdoor playground, patronize and provide adequate and appropriate guided outdoor play facilities that will enhance cognitive development and sustain attention skill of children in pre-primary school, and also expose their teachers to workshop that will equip and guide them on how to balance learning in the classroom to support guided outdoor play not yielding to the trend of focusing on academic aspect alone.
2. Parents and guardians should encourage guided outdoor play among pre-schoolers by discouraging sole emphasis on academic performance at the expense of guided outdoor play which is fundamental at this stage for holistic development of children. Parents should learn to ignore the challenge of dirty appearance of their children during guided outdoor play and plan to sacrifice more time for their clean up.

3. Policy makers should develop effective policy that will formally support guided outdoor play as a legitimate activity on the time table of pre-primary school pupils, knowing the effectiveness of guided outdoor play activities in stimulating cognitive skills. Policy makers should also come up with improved policy development so that guided outdoor play is more actively promoted and effect the need for a balance of emphasis between benefits of guided play, risk and safety which will be backed up by law to assure parents of their children safety in these days of insecurity.
4. Paediatricians and other health professionals should carefully consider the use of guided outdoor play as an intervention strategy for children with weight problem as this could adversely affect cognitive development.

### **Conclusion**

In conclusion, this paper highlights the role of guided outdoor play in attention skills towards pre-schoolers cognitive development. Guided outdoor play activities have the goal to nurture cognitive development, especially attention skill. Guided outdoor play is a developmentally appropriate learning strategy for sustaining attention skill in pre-schoolers, meaning that children are not being forced to learn content that is too advanced for their skill development thinking abilities. Guided outdoor play discouraged the use of direct instruction with pre-schoolers, instead children should participate in playful and exploratory learning activities as this will naturally motivate their interest and increase their attention skill since play is work for children and children attention span is short at learning but large at play.

### **References**

- Adaralegbe, M. A. (2009). Innovations and curriculum development for basic education in Nigeria: Policy priorities and challenges of practice and implementation. *Research Journal of International Studies*, 4(8), 51-58.
- Anderson, L. M. (2000). *The kindergarten year: Findings from the early childhood longitudinal kindergarten class of 2008-2009*. Washington D.C.: National Centre for Education Statistics.
- Anyaeibu, E. J. (2009). *Blueprint on basic education in Nigeria*. Benin City: Dasylya Influence Enterprises.
- Barnard, W. M. (2001). *Early intervention, parent involvement in early schooling and long-term school success*. Unpublished doctoral dissertation, University of Wisconsin, Madison.
- Berk, L. E. (2006). *Early intervention, parent involvement in early schooling and long-term school success*. Unpublished Doctoral dissertation. University of Wisconsin, Madison.
- Berk, L. E. (2011). *Child development* (8<sup>th</sup> ed.). New Delhi: Piti Learning Private Ltd.
- Carlson-Paige, N. (2008). *Taking back childhood. A proven road map for raising confident, creative, compassionate kids*. New York: Plume.
- Copple, C., & Bredecamp, S. (2009). To be an excellent teacher. In C. Copple & S. Bredecamp (Eds), *Developmentally appropriate practice in early childhood programs serving children from birth through eye 8* (3<sup>rd</sup> ed., pp. 33-50). Washington, DC: National Association for the Education of Young Children.
- Dilworth- Bart, J. E., Khurshid, A., & Vandell, D. L. (2007). Do maternal stress and home environment mediate the relations between early income -to- need and 54 months attentional abilities? Infant and child development. *An International Journal of Research and Practice*, 16(5), 525-552.
- Federal Republic of Nigeria. (2013). *National policy on education* (6<sup>th</sup> ed.). Yaba, Lagos: NERDC Press.
- Fisher, K. R., Hirsh- Pasek, K., New Combe, N., & Golen Koff, R. M. (2013). Taking shape: supporting pre-schoolers' acquisition of geometric knowledge through guided play. *Child Development*, 84, 1872-1878.
- FRN, (2004). *National policy on education*. Lagos: NERDC.
- Ganie, B. D., Sroufe, L. A., & Cooper, R.G. (2000). *Child development: its nature and course* (4<sup>th</sup> ed.) USA: McGraw- Hill Companies.
- Grantham-McGregor, S., Cheung, Y. B., Cueto, S., Glewwe, P., Richter, L., Strupp, B., & International child Development Steering roup. (2007). Developmental potential in the fitrst 5 years for children in developing countries. *The Lanlet*, 369(9555), 60-70.

- Granthan-McGregor, S., Cheung, Y. B., Cueto, Glewwe, P., Richter, L., Strupp, B., International child development steering Group. (2007). Developmental potential in the first 5 years for children in developing countries. *The Lancet*, 369(9555), 60-70.
- Henniger, M. L. (2005). *Teaching young children: An introduction* (3<sup>rd</sup> ed.). Upper Saddle River: Pearson Inc.
- Henniger, M. L. (2017). *Teaching young children: An introduction*. Pearson.
- Johnson, J. E., Christie, J. F., & Wardle, F. (2005). *Play, development, and early education*. Boston: Pearson.
- Korb, K. A. (2016). The importance of quality early childhood education: The role of developmentally appropriate practice. In G. O. Akpa (Ed.) *Developmentally appropriate practice in early childhood care and development education in Nigeria* (pp. 11-29). Jos: Department of Educational Foundations, University of Jos.
- Lopez, F., Menez, M., & Hernandez-Guzman, L. (2005). Sustained attention during learning activities: an observational study with pre-school children. *Early Child Development and Care*, 175(2), 131-138.
- Maduwesi, E. J. (2003). *Curriculum and practice in early childhood education*. Benin City: Dasylyva Influence Enterprises.
- Masterson, M. L., & Bohart, H. (2009). *Serious fun: How guided play extends children's learning*. Washington D C. The National Association for the Education of Young Children (NAEYC).
- MentalUP.Co. (2020). *Types of attention – Explore how your mind focuses*. Retrieved from <https://www.mentalup.co/blog/types-of-attention> accessed on 10th July, 2020.
- National Association for the Education of Young Children. (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8*. Retrieved from [http:// National Association for the Education of young children /file/position/PSDAP](http://National Association for the Education of young children /file/position/PSDAP). Pdf.
- National Association for the Education of Young Children. (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through eye 8*. Retrieved from <http://naeye.org/files/naeye/files/positions/PSDAP.pdf>.
- Oguntashe, W. A. (2011). *Contemporary issues in early childhood education in Nigeria*. Ibadan: University Press.
- Piaget, J. (1956). *Learning theories*. London: Routledge and Cougal Publishers.
- Piaget, J. (1962). *Play, dreams and imitation in childhood* (C. Gattegno & F. Hodgson, Tans.). New York: W. W. Norton.
- Piaget, J. (1963). *The origin of intelligence in children*. New York, NY: Norton.
- Rathus, S. A., & Rinaldi, C. M. (2009). *Childhood and adolescence: Voyages in development*. Toronto Ontario, Nelson Education Ltd.
- Slentz, K. L., & Krogh, S. L. (2001). *Teaching young children: Contexts for learning*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Spencer, G., & Diettenbach, A. (2005). *Studies expand understanding of X chromosome*. Washington, DC: National Institutes of Health