

EXPLORATION OF COCONUT SHELLS FOR GRAPHIC DESIGNS: AN AID TO TEACHING AND LEARNING FOR PRESCHOOLS

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Abstract

The coconut tree is said to be the most useful tree as you can make use of almost all of its parts from its leaves to its fruits to its trunk and more. This paper focuses mainly on the procedures of using the coconut shell for producing the Alphabet for preschool by making it a medium of improvisation for instructional materials. The use of graphics design on coconut shell will draw due attention to the sound element found on the coconut, and attract attention through play which reinforces the potentials for retention in a child's memory.

A vital suggestion is made on the need to graphically use elements found in our environment to teach preschool children. In so doing learning is thereby assisted for optimum output.

Key words: Coconut shell, Preschool, Graphic designs, Alphabet Recognition

Introduction

Pre-school education originated from the ideas and practices of Robert Owen who established an infant school in New Lanark, Scotland in 1816. Samuel Wilderspin established one in London in 1819, while in 1828 the countess Theresa Brunszvik founded one in Hungary. Johann Heinrich Pestalozzi in 1801 Switzerland, his pupil Friedrich Froebel in Germany and Maria Montessori in Italy were among those whose ideas and practices also influenced the development of Early Child Education (ECCDE). Friedrich Froebel's Play and Activity Institute for young children which was established in 1837 was renamed the kindergarten (German word for Garden) that is, garden for children in 1840. From then on many such schools were named kindergartens.

Western education was formally started in Nigeria by the first Christian Missionaries who arrived Nigeria in 1842 (Fafunwa, 1974 and Taiwo, 1980). Their primary aim was to restructure infant education and provide grants. The ages of children in these infant classes varied from six to fourteen years. This process transcended into subjecting children to place their hands across their heads to touch their ears before they qualified for admission. (Gabriel, 2014).

Pre-school in Nigeria dates back to the colonial and postcolonial era when the traditional Early Child Education (ECE) practices was born before the introduction of the formal system of pre-school in the nineteenth century. This caters for crèche, nursery and kindergarten from ages zero to five years old that are ready to transit into primary schools at age five or six as the case may be. Nursery education now became a part of the education system from ages two, while infant classes now became part of primary schools for children of five plus and six years which includes games, stories, simple handiwork, painting

and such activities suitable to the age of the children. (Eastern Region Gazette, 1956 and the National Policy on Education, NPE, 1977).

Hence, according to the National Policy of Education (2004) the significance of education at this stage is to:

- effect a smooth transition from home to the school by providing adequate care and supervision for the children while their parents are at work on farms, in the markets, offices, etc.
- inculcate in the child the spirit of enquiry and creativity through the exploration of nature and the local environment, art, music and playing with toys etc.

These help to cater for a child's social, physical, emotional and intellectual development and education.

ECE has a lot of advantages. Ibiam (2011) noted that, in 2009, UNESCO specifically stated that early forms of education gives young children adequate conditions to develop, learn and enhance their chances of becoming successful in life.

Relevance of Instructional Materials and Preschool

Pre-school prepares a child for elementary education, which starts at age one to five. These include day-cares, crèches, nurseries and kindergartens. It is a significant aspect of both formal and informal education in Nigeria. In formal education, it precedes the nursery education before a child proceeds to the primary school, and informal as regards the children (toddlers) day-cares, which most schools operate on their own content and philosophy. The day-care centres are usually expensive, thus only a few parents can afford to send their children to pre-schools. Today's society, most parents in both rural and urban areas are unable to provide sufficient time for their children due to time constraints created by their time-demanding occupations. As a result, they drop off their children at day-care centres. These have been of great assistance to mothers employed outside the home (Anini, 2011).

A pre-school activity provides and improves a child's learning power, with wider societal benefits. It equally boosts their social skills, cognitive and emotional development, which is not easy to quantify (Lomberg, 2014). Benjamin Bloom's (1956), taxonomy of cognitive domain as revised by Anderson, (2000) identifies six steps in which a child's cognitive domain is developed; i.e. creating, evaluating, analyzing, applying, understanding and remembering. There is evidence that the children in this age bracket learn better and faster by seeing and doing things made of colours and shapes, which is why it is necessary to make available instructional materials that will enhance pupils' learning.

Moreover, instructional aids contain detailed information on how to improve teaching and learning as projected by Suleiman (2010); who is of the opinion that the instructional materials as the name suggests, are materials of visual, audio and audiovisual nature. The learning aids make abstract concept and ideas

interesting in both teaching and learning processes. He also adds that the aforementioned materials, aid teachers to supplement his or her teaching scope and methods.

Scarcity and relatively high cost of instructional materials have necessitated the use of improvised materials by some schools to teach their pupils. This is paramount because the existing ones found in national and international markets are expensive and made of plastics that do not sufficiently reflect Nigerian culture. Supporting this fact Abolade, (2009) emphasizes that when materials like the foreign ones are not available as teaching aid, other types or forms of instructional materials like the use of coconut shells can be applied. Again, Abolade and Olumorin (2004) in Mberekpe (2013) agreed that most of these factories producing instructional materials for teaching art- based courses are usually found in developed countries and their products are scarce and usually expensive to buy, if found.

Alphabet Knowledge

Alphabet knowledge is consistently recognized as the strongest, most durable predictor of later literacy achievement. Anyaoha (2017) shows that a practical implication for increased effectiveness of teaching alphabet knowledge to young children enhances Alphabet Knowledge (AK) instruction. AK is a method of practical instruction that early childhood teachers can use to organize, plan, and teach the essential skills of the alphabet. It emphasizes identifying the letter name and sound, recognizing the letter in text, and producing the letter form, through flexible, distributed cycles of review based on factors that influence acquisition of alphabet knowledge.

Graphic Designs

Graphic design is a systematic process aimed at helping students learn more easily. McArdle (1991) reported that an efficient instructional design greatly increases students' success. In other words an efficient graphic instructional design stimulates student's interest. Several instructional design models have been developed by different researchers. Essentially, the processes of instructional planning of design models consist of analysis, designing, development, implementation, and evaluation steps (Dooley, 2005). In undertaking instructional design, it is possible to apply a single model, or to combine more than one model in establishing a concept (Isman, Çağlar, Dabaj, & Ersözülü, 2005). A study embarked by these authors show that a combination of instructional design models which entail graphics was used to develop instructional materials. These include the models described by Dick, Carey, and Carey (2005), Kemp, Morrison, and Ross (2005), Smith and Ragan (1998), and ADDIE cited in Zheng & Smaldino, (2003); Dooley (2005). These models have common steps, which were emphasized by Dooley (2005), and the same four common components were pointed out by Zheng and Smaldino (2003); they are: learner considerations, content organization, instructional strategies, and evaluation.

Dick, Carey, and Carey (2005) state that, the most important aspect of an instructional goal is the description of what learners will be able to do. The description is not complete without an indication of:

- (1) who the learners are,
- (2) the content in which they will use the skills, and
- (3) the tools that will be available.

Powell and Wells (2002) proposed that using multiple methods provide teachers with flexibility, and enhance activities to be appropriate for different learning styles.

That is why using graphic designs becomes a significant media that involves pictures, computer animations and visualizations that have positive effect on students and answers to conceptual questions about particular phenomena (Kelly & Jones, 2007). Russomanno and Goodwin (2007) suggested that graphics and visualization tools make learning more exciting than the traditional paper- pencil techniques.

The Recognition of Alphabet and Its Impact on Toddlers

The materials used by teachers to teach and drive home their subject points at the infant levels of education system is a paramount issue in practical classroom interaction and successful transfer of knowledge from the teacher to the learners. There is every need for expansion of early childhood development activities, like exploration of all available instruments of information; communication and social action, to assist children in acquiring the minimum basic knowledge in learning alphabet recognition are necessary for a better life.

Toddlers/infants understand more when instructional resources for alphabets are used because it gives them a clear picture of what they have been taught. Osakwe and Itedjere (1993) summarized these resources as textual like books, audio-visual and human resources. They stated that these resources are either used individually or collectively in any meaningful teaching and learning situations.

Ekwueme and Igwe (2001) asserted that it is the teacher's task to provide experiences which support, stimulate and structure children's learning to bring about a progression an understanding that is appropriate to the child's needs and abilities. Adekunle (2008) noted that teaching and learning resources mean anything that can assist the teacher in promoting Alphabetical recognition to learning by using a flash card for **A,B,C,D,E,F** and so on, displaying, pointing, air writing, and playing. When students are given the chance to learn through more senses than one, they can learn faster and easier. It is therefore very important for the teacher to use teaching materials/aids for alphabet recognition to make teaching and learning simple, interesting, systematic, positively interactive and meaningful experiences in order to have an impact on the toddlers. Ekpo (2004) appropriately declared that instructional materials are often used to compensate for the inadequacies of the sense organs or to reinforce the capacity of the dominant organs, which should be relevant for the realization of effective learning.

Olumorin (2009) suggested that, when foreign materials are not available for use in teaching and learning, improvisation of instructional materials can be applied. Hence, teachers can overcome physical difficulties that could hinder effective presentation of a given topic. For instance, in learning alphabets at preschool class, an imported chart with 'A' for Apple; 'B' for Balloon etc. are being used, but a locally produced chart that will reflect objects that can be easily seen in the child's environment can be used. Examples 'A' for Ant; 'B' for Basket; 'C' for Cutlass etc. Based on this background, the need to fashion out ways by which local waste materials can be used for developing instructional materials that can support teaching and learning processes cannot be over emphasized.

Coconut Shell

The coconut tree is very useful; one can use almost all of its parts for various purposes. The coconut tree (*Cocos nucifera*) is a member of the family Arecaceae (palm family) and the only species of the genus *Cocos*. The term coconut can refer to the whole coconut palm or the seed, or the fruit, which, botanically, is a drupe, not a nut. The spelling coconut is an archaic form of the word, the term is derived from the 16th-century Portuguese and Spanish word *coco* meaning "head" or "skull", from the three indentations on the coconut shell that resemble facial features (<https://en.wikipedia.org/wiki/Coconut>).

Coconuts are known for their great versatility, as evidenced by many traditional users, ranging from food to cosmetics and craft. They form a regular part of the diet of many people around the world.

Pictures and Production of Coconut Shells for Graphic Designs

The parts of coconut shell used are the hard parts covering the drupe. It is seen to be stronger than regular wood and effective when cutting out the circular shapes out of the coconut shells. This made the study to move further by considering the shells for graphical designs that could be used as an improvised instructional material for teaching and learning. These are the following steps used in achieving the designs: The picture of coconut and what it looks like.

Step: 1. Shells collected from coconut sellers or waste bin



Plate i: Coconut with the food



Plate ii:Cracked Coconut shells

Step 2: Cut into circles and briefly sand paper

Step 3:The circled Shell thoroughly sand paper to have smooth textures in order not to be harmful to children.



Plate iii: shells cut into circular shapes



Plate iv: Coconut shell smoothly sand paper



Plate v: Vanished Coconut shell prepared to be used for with Lower and Upper case letters
Source: Anyaoha (2017)

Step 5: Masked with a masking tape for printing and dabbing was used to achieve the prints with the use of Acrylic colours to produce Lower case and Upper case letters for Preschool Children.



Plate vi : Masked coconut shell for prints



Plate vii: Graphically designed Small letters for preschool
Sourced: Anyaoha (2017)



Plate viii: Graphically Designed Capital letters for preschool
Source: Anyaoha (2017)





Plate ix:Two and Three letter words
Source: Anyaoha (2017)

Pilot Study

After the designs were made they were used to test the effectiveness of the designs on the preschool children.

Preschoolers Using the Shells for Learning



Conclusion

The Exploration of Coconut Shells for Graphic Designs is an aid to teaching and learning for preschools and demonstrates that materials within our environment can be used for instructional materials to stimulate participation in the class and also provides avenue for classroom interactions, which makes

learning easier. It will also serve as a contribution to knowledge in the area of using it as a medium for counting numbers within preschool children.

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