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Arts And Crafts in Schools as Basic Instruments for Technological Development of the Nation

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Abstract

Creativity is induced right from the formative years of young people, who are taught to work with their hands and brains. Arts and crafts, which offer children opportunities for progressive acquisition of skills in mental and motor activities, as well as the cognitive, help to lay the solid foundation for technological development. Developing country like Nigeria needs to fully adopt this culture that would help to sensitize the children's creative endowment. Arts and crafts are, therefore, examined in this paper as foundation on which the technology of any nation is built, starting from the life of school child.

Introduction

Exposing children to the knowledge of arts and crafts, helps to lay a foundation that stimulates creativity in them, which would later be significant in the technological development of the nation. When a child is given a rudimentary activity that borders on the effective use of hands and brains, development is ultimately enhanced. For instance, for a child to construct a paper kite or boat, he first starts by visualizing a mental impression of his concept before the actual practical exercise begins. This basic creative experience has become very significant in various disciplines, where hands (psychomotor) and brains (cognitive) partnership together as in the technological development.

When children are thought to explore their environment and stimulate their own creative impulses, it helps to harness the innovative tendencies inherent in them. On this, Eisner (1972) has noted that education in the arts develops the child's creativity, aesthetic sensitivity and the capability of the analysis of the physical aspects of the world. According to him, these aptitudes are needed for rapid development of any country. In most developed nations of the world, profound interest is shown in arts and crafts, and steps are taken by the government to structure the curriculum suitable for its implementation. Nwoko (1978), states that in technologically advanced countries, the greatest emphasis is placed on creativity during the formative years of young people. This is where the significance of crafts and arts are brought to the fore as the basics on which technology is developed.

Through the knowledge of arts and crafts, children are groomed to think creativity. Thus, according to Nwankwo (2008), one of the major aims of arts and crafts is to train the children to think for themselves. The development of the psychomotor and the cognitive through artistic experience has brought forth creativity significant in various technologically-oriented disciplines such as engineering, science and technology, architecture, among others. In developed countries, young people are not sent to school simply to obtain certificates and pester around the government for employment. They are rather prepared, groomed and equipped with practical subjects such as arts and crafts to facilitate the advancement of the nation's development in technology. Nigeria as a nation could make big strides in technological acquisitions by establishing emphasis on the import of arts and crafts. This is true because in many developed countries, as stated by Diogu (2002), a major contributing factor to academic, economic and industrial success is the knowledge of creative art and its application to the development of human and material resources for nation building. For clarity and proper comprehension, it is pertinent to look at the concepts of arts, crafts and technology.

Concepts Clarifications

Arts and Crafts

It is not easy to define art because of its wide-range dimensions, which encompass virtually all aspects of existence. An attempt to define art will only narrow its meaning and make everything about it somewhat confusing and nebulous. Art has multiple functions that make its definition difficult. It has philosophical, ideological, religious, socio-cultural and aesthetic meaning, and this is the reason it is not easy to pin it down to a particular definition. However, an ordinary concise definition of art by Oxford Advanced Learner's Dictionary (2015), states that it is the use of the imagination to express ideas or feelings, particularly in painting, drawing, or sculpture. Succinctly and peripherally, it can be said to be an idea conjured up on the mind's space, visually and skilfully created for functional and aesthetic purposes.

Crafts are creative activities that involve the use of hands and brains to produce something tangible. Collins English Dictionary (2014) defines it as to make or manufacture (an object or objects) with great skill and care. It is an occupation or trade requiring manual dexterity or skilled artistry (www.thefreedictionary.com, 2003). The salient word 'skill', which appears in the former and latter definitions clearly explains craft as the ability to do something creativity well. To do any paper construction of a miniature vehicle requires much skill, and children who engage in this, have their creative impulses sensitized as they continue to explore on this creative experience.

Technology

Technology is the collection of techniques, skills, methods, and process used in the production of goods or services or in the accomplishment of objectives, such as scientific investigation (Wikipedia). It is further stated here that technology can be the knowledge of techniques, processes, and the like, or it can be embedded in machines to allow for operation without detailed knowledge of their workings. Arthur (2009) simply saw technology as a means of fulfilling a human purpose. Bamiro et. al. (2014) defined technology as the application of scientific knowledge in the study, production and use of tools, machines and devices for the benefit of mankind. To Oloidi (2011), technology is design and design is art. In this concept, he tried to comment on the co-existence or symbiotic relationship of art and technology, which according to him, started from the dawn of history. Ehindero et. al. (2009) described technology as the practical use of knowledge by humans, which involves the use of imagination and innovation. According to them, it is any material or immaterial item produced by humans to solve some specific problem; or to satisfy our needs or want. All the above definitions hinge on what a person or group of persons can produce with their hands and brains or sometimes,

produce for societal consumption. This is the attribute of arts and crafts which forms a significant base for the technological development of the nation.

Co-existence of Arts/Crafts and Technology from the Dawn of History

The prehistoric man began to struggle for existence by subjecting himself to psychomotor and mental coordination, which were evident in his stone axes, clubs, spears and other viable weapons purposely created to enhance his hunting expedition. He had begun to conjure up ideas on the best way to design these weapons to make them more functional and dangerous. A careful study of the structure of these first implements would reveal the creative ingenuity with which the spears, stone knives and clubs were designed to become not only more effective, but to be fully dangerous to terminate life at a blow. This was the commencement of art and technology, which, as argued by Oloidi (2011), started with the prehistoric man, who was the first artist-designer of his stone axes, clubs and other tools.

The cave paintings discovered at Altamira in Spain that dates back to 12,000-11,000 BCE and those that were discovered at Lascaux, France which dates about 15,000-13,000 BCE, show evidence of co-existence between art and technology (Kleiner, 2009). These men designed and painted their hunting weapons, which lend evidence to the fact that art and design (technology) have begun to co-exist right from the dawn of existence. Thus, according to Nnadozie (2017), the symbiotic relationship between art and technology could be traced back to the early time when men lived in caves. He further stated that their drawings and paintings of the beasts they intended to hunt and the design choice of their weapons precipitated the earliest forms of art and technology.

It is evident from the assertions of the foregoing writers that the beginning of technology could be traced to art, which preceded and complemented it. A good example where art has contributed immensely to the development of technology is in the invention of aircraft. A man called Leonardo da Vinci, an artist, after watching birds fly in the space, began to conceive the idea of a flying craft. He vented his interest in the new concepts and graphically depicted several hundreds of the sketches of aircraft, which proved an onerous task to science and technology until after 400 years, when the concept was actualized. This has remained a credit to the art profession. The first generation of craftsmen (artists) were basically blacksmiths (metal designers and fabricators, who excelled in wagon construction and the making of horseshoes. Mr. Studebaker, for instance, was a blacksmith, then a wagon maker and in the early 1900's, he started building cars and trucks (Allen, 2008). This basic artistic knowledge has continued to advance the technological development of the world.

Arts and Crafts in the Development of Technology

In schools, many children manifest interest in arts and crafts activities mainly because they are activities that offer them opportunities to see and appreciate what they produce. At times, they are absorbed in the quest to produce an item of household use. This tendency to explore their environment in arts and crafts has become significant in the technological development of the nation, as can be seen in the following:

1. Children's Ability to Explore

Arts and crafts activities help a child to develop the ability to make his feelings obvious, which is a prelude to self-exploration that leads to self-discovery. When children are allowed to draw or paint any concept of their choice, it provides them the liberty to explore ideas that appeal to them. According to Campbell (2015), colour, different art materials, different textures of materials and some inspirations from a parent, can prompt children to express themselves with real originality. One spectacular thing about art and crafts is that they operate in the psychomotor (use of hands) and the cognitive (use of brain).

A child, who begins to make use of hands to express his feelings, will first apply the use of brains to the level of his reasoning ability. By trying to express his feelings, he is subjected to slight mental activity that gives satisfaction to him, especially on seeing what he has been able to do. Thus, Lowenfeld and Brittain (1975) perceive that a child is a dynamic being; art becomes for him a language of thought. If a child is allowed to explore without adult imposition or interference, it provides him ample opportunities to express himself freely and this leads to self-discovery that has been the foundation of all creative endeavour.

The self-expression mentioned is not about aesthetic pleasance. What a child has produced may be interpreted by the adult as something that lacks aesthetic attributes, but the underlining fact about a child's creative experience is the manifestation of his ability to express himself his own way. Lowenfeld and Brittain (1975) have discovered that the child who expresses himself according to his own level becomes encouraged in his own independent thinking and expresses his own thoughts and ideas by his own means. This freedom of expression does not end at the childhood level; it has become a basis for the child's future development as a renowned artist, an architect, an engineer, a technologist, a scientist, among others. The background to most discoveries that helped to develop the parent technology was tied to ability to explore, which was strongly anchored in arts and crafts. Free expression leads to free exploration and experimentation and by this, innovative ideas are incubated and hatched.

2. Development of Fine Motor Skills

Hand-eye coordination achieved through engaging a child in arts and crafts activities is an important aspect of child development in which he makes use of his eye and hand in creating something visibly tangible out of nothing. For instance, cutting of paper into various shapes and sizes, gumming what has been cut onto a surface, painting of shapes with varieties of colours, and trying to build a three-dimensional object like cuboid, all help to develop the creativity inherent in the child. Constant use of hands and eyes helps a child to develop the power of precision and accuracy. Sharing a view from the American art therapist, Ann Reyner, Campbell (2015), draws a distinction between art and crafts, viewing the former as an open-ended or unstructured activity while the latter is goal-oriented or 'structures'.

Both the former and the latter are significant for creative development, which stimulate the technological development of any society. In craft, which is goal oriented, a child is taught to follow definite instructions, which if he does, will help to train his perceptual reasoning and mechanical accuracy in other areas of his future endeavour. Sometimes, to ask a child to produce something like a paper television or a house may not require any definite instruction by the teacher, who may like to create forum for self-exploration, self-esteem and novelty. In this premise, it is, therefore, left for the child to explore avenues of achieving these, by making available, all the instruments required such as gum for sticking papers together, scissors and cutter for necessary cuttings and ruler for measurement, among others. All these require hand and eye coordination which helps to train a child on how to coordinate ideas into physical forms. This coordination is very significant in harnessing the creativity inherent in a child. Thus, Chukwu and Nnadozie (2011) have found out that by taking art as a subject, children will have a chance to practice some important skills, as well as promote their potential talents.

The development of fine motor skills through the practice of arts and crafts is a continuous process which spills over from childhood to adulthood. Not only the psychomotor is affected at this point, the cognitive and the entire being are aspects of the development. On this, Lowenfeld and Brittain (1975) have stressed that art is important for the child. According to them, it is important for his thinking processes, for his perceptual development, for his emotional development, for his increasing social

awareness, and for his creative development. Art and crafts are, therefore, all-round developer of human potentials relevant for nation building.

3. Development of Creative Potentials

Creativity, according to Nwoko (1978), is not the preserve of any race or nation; it is a human endowment that has made itself manifest in all parts of the world. Development of creative potentials starts very early in the life of a child, who begins to scribble marks on any surface he comes across, with a measure of concentration. He develops his own ideas and conception of his environment through his scribbling, which initially are randomly rendered. However, he progressively begins to organize his scribbles into identifiable forms, which is possible through his participations in arts and crafts activities.

Art experiences, according to Lowenfeld and Brittain (1975), have always been considered the basis of creative activity within the schools. Clarifying this further, Eisner (1972) suggests that art should be considered an important and indispensable part of the education programme because it helps in the development of creative thinking. Children do not have to be first skillful in order to be creative; all that they need to do is to concentrate on their artistic experience with degrees of emotional freedom to explore and experiment. Arts and crafts help to develop the creative potentials of a child, which in turn is taken to adulthood. Preble and Preble (2004) see arts as something that come from innately human needs to create and to communicate. According to them, they come from the desire to explore, confirm, and share special observations and insights.

Creative potentials, first of all, are latent and need to be tangibly harnessed through arts and crafts. When a child constructs objects, especially the three-dimensional, which is not school assignments or projects, but self-exploratory activities, the development of his creative potentials tends to be faster. The reason is that the search for new ideas are higher because he is not restricted to any instruction. As a child explores with concrete objects, he lays a solid foundations for technological acquisition. Thus, according to Nnadozie (2017), for any nation to progress technologically, there is need to harness the inherent creative and technological potentials in such a nation, principally through its arts.

Arts and crafts, therefore, perform indispensable functions that have been considered as foundations for technological development. In vocational schools, Diogu (2002) points out that creative art has helped to provide skilled manpower mostly at intermediate level in the local industries, including engineering and constructive sectors. According to him, it is this system of education that should be encouraged because it leads to the acquisition of practical skills as well as basic technical knowledge, which every nation needs for development. Creativity developed through arts and crafts has tentacles that spread themselves to the gamut of solving creative problems and communications in many areas of life. On this, Nwankwo (2008), notes that the knowledge of arts is important and indispensable to technology, for all-round efficiency of a child and for proper advancement of civilization of a developing country.

Conclusion

Arts and crafts have been found to be strongly indispensable for the development of technology, which starts from harnessing the creativity inherent in a school child. Every child has been discovered to be endowed with creative potentials, which are awoken, when he is engaged in arts and crafts activities. These activities which involve hand (psychomotor) and eye (cognitive) coordination are the foundation for the technology of any nation. It is now apparent that arts and crafts afford children the opportunities for self-exploration, which gives room for innovation and the development of technology. This works out better when they are not loaded with rigid instructions; but however, when cautionary instructions are given, they train them to become precise and accurate in their

undertakings. It is, therefore, obvious that for this nation to forge ahead in technological development, arts and crafts should be given a front seat in the curricula of schools.

Recommendations

For this nation to develop her technology through arts and crafts, the following measures should be taken:

- Instructional programmes affecting the subjects (arts and crafts) should be restructured to make them more effective and feasible.
- Art and technology should not be treated separately; they should be tied to one string, allowing them to complement each other. Thus, Read (1958) has rightly warned that art cannot develop without science; neither can science develop without art.
- Most of our local crafts which have gone into extinction should be reawakened, resuscitated and readapted into the mainstream of the world's technology.
- The educational objectives and values of arts and crafts should be highlighted upon by curriculum planners and policy makers, possibly professionals in the subjects, to clarify them as instruments for technological development of the nation.
- The government should fully equip schools with relevant materials, tools and equipment for enhancement of arts and crafts as agents of technological acquisition and development.
- It is also of immense importance to equip schools with qualified art teachers, who can impact artistic knowledge efficiently and effectively.
- The need to make arts and crafts compulsory subjects in both junior and senior secondary schools cannot be over emphasized. If this is done, Nigeria would arise and shine in technology.

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