

NIGERIA'S CULTURAL PRACTICES: IMPEDIMENTS TO GIRLS' PARTICIPATION IN SCIENCE, TECHNOLOGY AND MATHEMATICS (STM) EDUCATION

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ABSTRACT

In this paper an attempt has been made to examine the influence of the Nigerian cultural practices on the participation of the girl-child in Science, Technology and Mathematics (STM) Education. The paper emphasized on the existing conflicts between the Nigerian cultural practices and science highlighting on the tricultural milieu within which the Nigerian child operates. It identified culture as the major impediment to girls' participation in science as the Nigerian culture presents science as a predominantly male domain thereby placing the girl-child in a marginalized and disadvantaged position in an era in which science and technology forms the dominant culture that dictates the pace and direction of world affairs. It was recommended among others that girls should be made to see the relevance of science and technology to their lives. They should not only understand science but have scientific attitude and approach towards the world and its problems.

Introduction

A human being only becomes human by interacting with other human beings within his social environment. This interaction is essential for his survival. For example a newly born human baby is absolutely helpless, for it to survive it must learn the skills, knowledge and accepted ways of behaviour of the society into which it is born. That is, it must learn a way of life, it must learn the

culture of its people. Culture is the collection of ideas and habits learnt, shared and transmitted from one generation to another. According to Tailor in Nwamkpa (2008) culture is that complex whole which includes knowledge, beliefs, arts, mores, norms, laws, customs and any other capabilities and habits acquired by man as a member of society.

Culture influences the consciousness and actions of its

members, it determines how members of a given society think and feel and defines their outlook on life generally. Among its functions is that it provides the basis for social cooperation and solidarity among members. Elias in Morrish (1980:265) emphasized that consciousness, thoughts, ideas, knowledge and even perceptions or any other angle that one might select for attention is primarily determined by the structure of the human groups where they are produced.

All societies have certain basic features in common and yet each society anywhere in the world has its unique characteristics. That is, each society has identifiable norms and values, while norms defines appropriate and acceptable behaviour in specific situations, values provides general guidelines on what is good and desire, it defines what is important, worthwhile and worth striving for.

Culture defines social position or status which is the position one occupies in a society. This is accompanied by roles expected of that position. Thus, the status of a man is accompanied by the roles of a man, the status of a woman by the roles of a woman. These roles provide important parts of guidelines and directives necessary for orderliness in the society and means of accomplishing certain

tasks. Broom in Adesina & Ogunsaju (1984: 373) opined that culture provides an unquestioned context within which individual action and response take place. Even rational action is subject to the cultural definition of what is a meaningful goal and what are available means. Emotional responses are governed by cultural norms such as appropriate feelings of grief, wounded pride or romantic love. Culturally determined responses are built into the very philosophy of the organism.

In a typical African society like Nigeria, gender roles are normal, natural, right and proper. Gender roles are discriminatory in nature and they are responsible for the imbalances and inequalities between the sexes. Women's social roles are family-centred. They have primary responsibility for child bearing and rearing and other household tasks while men are responsible for performing the more important tasks of society. Women are deprived of many socio-economic and political opportunities available to men. This is because such activities have been stereotyped as men's activities.

Among the goals of education in Nigeria is to socialize children into the society's acceptable values and attitudes. Specifically the Nigerian

National Policy on education emphasized on:

- the inculcation of the right type of values and attitudes for the survival of the individual and the Nigerian society.
- the acquisition of appropriate skills and development of mental and social abilities and competencies as equipment for the individual to live in and contribute to the development of the society.

To achieve these objectives, schools as agents of socialization should direct the thinking pattern of all learners. Their mental and social abilities should be appropriately developed. Driver in Igbokwe (2010) noted that pupils develop preconceptions and alternative frameworks through interaction with their different environments (physical and socio-cultural).

Developing strong intellectual capital in science and technology is essential for the growth and development of any nation. Nigeria needs well informed individuals (males and female) who can effectively manage the relevant sectors of the economy through technological advancement, scientific innovations and economic revolution.

However, certain aspects of Nigerian culture are in constant conflict with science. Magic and superstition as belief systems are being used to explain the meanings and purposes of natural phenomena. According to Adeniyi (1987) the power of witchcraft and Juju are used to provide explanations of natural phenomena in African society. These erroneous explanations and views often conflict with scientific explanations. Adeniyi further explained that for many years scientific knowledge has not been an integral part of African social life even though it is a desirable goal of education.

As a result of the practice of patriarchy in Nigeria, many discriminatory practices have been accepted as normal. Science and technology have been presented as predominantly male domain and women are grossly under-represented in science. This has made it difficult for the women to be involved effectively in the life of the society. Women must be educated in STM to be able to participate with understanding.

This paper discussed the influence of Nigerian cultural practices on the participation of the girl-child in Science, Technology and Mathematics (STM). The need for girls' participation in science was discussed and recommendations were made with the view to

improving girls participation in STM.

Influence of Nigerian, cultural practices on Girls participation in Science, Technology and Mathematics (STM) Education.

Biological, social and cultural practices around an individual to a large extent determines how his personality is shaped. This is because an individual is constantly being influenced by values, interests, goals, life-styles, orientation, stereotypes and interpersonal relationships as they exists within the society. Through the process of socialization, the individual form his basic orientation towards his world and develop the necessary skills to cope with his environment.

Members of a particular society usually share the same values, follow the same norms, and play a variety of roles. These roles are culturally determine. The roles provide an important part of the guidelines for orderliness within the society.

Adesina and Adepoju (1984:) identified three major sources of cultural influences. These are:

- Processes of western education (schooling)
- Industrialization

- Science and technology

Nigeria is a patriarchal society. Gender roles are ascribed to men and women. Men's roles are more valued in the society than women's role. Women have been ascribed second class status. Their upbringing and training are primarily aimed at preparing them for feminine roles. A woman in the Nigerian society is brought up to see marriage and family life as her ultimate goal in life. Haralambos and Herald (1980:380) reporting from an article in the Saturday Review identified the ideal of womanhood thus:

Married life is a woman's profession and to this life her training – that of dependence is modeled. Their upbringing in the family prepares them for femininity their education reinforce the sex division through school organization, and the curriculum teaches them skills suitable for women's work in which they encounter some measures of discrimination.

The school is not simply a training ground for life and larger society. It is life and social living (Morrish, 1980) school reflects very much the general social conditions. It places a lot of limitations upon an individual and his behaviour (Morrish, 1980) schools are charged with the responsibility of transmitting the norms and values of the society. It provides a child with the opportunity to learn how to behave in a socially acceptable manner both as a person and a member of society. School reinforces some of the traditional biases towards women.

The school curriculum in Nigeria is sexist in nature, girls are mostly trained to become teachers, midwives, nurses, secretaries and other clerical jobs all of which are low paying, low-status and less valued jobs. Young boys on the other hand are socialize to high prestige, superior and top decision making fields. Science and technology education therefore remains a predominantly male domain.

The deriving force behind social progress in a society is scientific discovery and its application in the improvement of the society. According to Edikin (2007) the contribution of science, technology and mathematics education to national development is seen and felt around us. Science provides humanity with the knowledge of

the environment, social behaviour, the change in the quality of life of the citizenry, improvement of the economy, industrialization and strength in international decisions and policy making. It inculcates in the citizens scientific and technological attitude such as curiosity, creativity, critical mindedness, objectivity, honesty, selflessness and open-mindedness which are qualities which foster national development.

However, the Nigerian society has not accorded science the right social climate and cultural base essential for its development. Science and cultural practices in Nigeria seems to be in conflict. According to Wasagu (1997) the learning of science has been made difficult by the conflict which generally arises between science and culture and between science and superstitious beliefs. Adeniyi (1987) also observed that African world view is strongly expressed in the superstitious and religious belief which is endemic in the background culture of the children. The African child is said to be operating within three ways of life or sub-cultures. These are a scientific native and religious sub-cultures. That is, he is operating within a tri-contextual milieu (Wasagu, 1997).

As members of their social groups, students neither argue nor doubt the cultural beliefs that they

acquire in their society. These kind of students simply copy science instead of adapting the spirit of science by way of doing science. In most cases such students learn scientific concepts and ideas without believing in what they learn rather just to learn so as to pass prescribed examinations.

Traditional religious thoughts are not interested in the scientific explanation of natural causes of things. Many natural occurrences are explained by way of superstitious beliefs. For example rainbow, thunderstorm and lightening are considered as mysterious afflictions visited upon people by the devil (Abdullahi, 1982).

Females are said to be more superstitious than their male counterparts. The predominant presentation of science as male domain has continued to diminish the relevance of science and technology to the girl child. According to Igbokwe (2010) they find it difficult to see meaning in the learning of science which they perceive as foreign culture quite different from their indigenous culture.

Need for STM Education for the Girl-Child

Education is a life-long process that enables one to acquire

knowledge and skills. Through education one's potentials can be effectively tapped. Education improves economic growth and quality of life of an individual. It empowers people and enables them to make informed decisions across a wide range of activities such as issues concerning the rights of women, the education and health of children and improved nutritional health of the family.

A well informed and scientifically educated woman is an asset to the nation. This is because scientific and technological literacy will provide her with knowledge and skills essential for the development process. She will be able to fulfill her marital obligations intelligently. She will efficiently contribute to health, agriculture, national reconstruction, social, political and economic development of the nation. Socio-economic development is essentially development of human and natural resources. Nigeria is blessed with abundant human and marital resources. However, natural resources are no longer the primary determinant of development. Intellectual capital rule today's world (Balogun, 1982).

Women have aspirations and want to participate fully in the life of the society however, inadequate opportunity for education and training has made it very difficult for them to contribute in the

development process. As mothers women have great role to play in creating the required home environment which is necessary for the physical, social and intellectual growth and development of the children. Women therefore need proper training for all skills to be able to fulfill their expected roles within the society.

Conclusion

In this paper, the influence of Nigerian cultural practices on girls' participation in science, Technology and Mathematics (STM) education were discussed. The paper emphasized on the tri-cultural Melieu within which the Nigeria child operates. That is any Nigerian child that embarks on science learning is faced with three types of belief systems or ways of life. These are religious, native and scientific. The need for girls participation in science was also discussed, emphasizing on the role of science in changing the quality of life of the individual and the improvement of the economy of the nation. It was recommended among others that girls should be made to see the relevance of science and technology to their lives. That teaching of science should go beyond production of physicians, biologists or mathematicians but rather the development of rational men and women that see the relevance of science to social issues.

Recommendations

It is recommended in this paper that:

- Learners should be made to understand science from cultural perspectives. That is cultural issues should be incorporated into the school science curriculum.
- Girls should be made to see the relevance of science and technology to their lives. They should have the awareness of their rights and responsibilities to the society and should not only understand science but have scientific attitude and approach towards the world and its problems.
- Teaching of science should go beyond production of physicians, biologist or mathematicians but rather the development of rational men and women that see the relevance of science to social issues.
- Girls should be given all forms of educational support to be able to acquire all skills consistent with their talents to become all they are capable of becoming.

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