

THE IMPACT OF GENDER INEQUALITY ON NATIONAL DEVELOPMENT IN NIGERIA

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Abstract

Gender inequality especially in science teaching has been an issue of discuss", and concern over the years. Presently it needs to be seriously addressed as most boys are dropping out of school and the women are taking over the education system. The role of women-in national development cannot be over emphasized and for this role to be effective and efficient, more women should study science. Equal educational opportunities should be given to both sexes especially in science. This is necessary because the overall development of any nation is enhanced by advancement in science and technology. This paper identified the indices and causes of gender inequality, strategies for achieving gender equality in science teaching and implications to national development.

Introduction

The issue of gender inequality has lived, is still living and will still live in all spheres of our activities if collective efforts are not geared towards bridging this gap. This has extended right into the educational system and has also eaten deep into the very fabric of science and technology. Science teaching also records this anomaly and if it is allowed to continue, the overall developmental system will collapse as teaching has gradually degenerated right into the hands of women. One of the most important goals of education according to Oriafio (2002), is for it to be functional and utilitarian, preparing the individual for life in the community and reforming the society for relevance, adequacy and competitiveness in the world. Education is known to hold the key to the economic, political; sociological and human resources development and well-being of any society.

Since science and technology are the driving forces for economic and social progress; it must be an integral part of education to which every citizen is entitled. Science according to Okeke (1991), is a systematic process of obtaining knowledge about nature and natural phenomena utilizing careful observations and experimentation.

Applied science (technology) according to Okonkwo *and* Eboatu (1999) is the practice of science for the benefit of industry and mankind. We have the strong belief that a brick layer, for example would do his job better if in a simple language, he is told what a brick is. A home wife will know how to take care of her children's cloths, if she knows what textile is all about. The same is true whatever material we use or work upon. This overview of science and technology shows that it is the livewire of all developmental processes in a nation. It is therefore very crucial that every member of a nation has access to science education; irrespective of sex.

It is generally observed that despite the emphasis and clarion call that everybody should have equal access to educational opportunities, it is still observed that there is still some element of gender inequality in our educational system to the disadvantage of the females. In this context, gender inequality is visualized as a state whereby some group of people due to their sex are hindered from performing and carrying out certain roles in the society due to cultural limitations or societal expectations. A student's gender does not automatically determine how much he or she will participate in class as is being misconceived by some people. The realization of the need to integrate women fully in all processes of national development has drawn world attention to the contributions of women and the inadequacy of education and training provided for them-especially in science. It is against this background that this write-up x-rays several issues in-relation to women participation in science and technology. The following questions guided the study:

- 1) What are the indices of gender inequality?
- 2) What are the causes of gender inequality?
- 3) What are the strategies for inculcating gender equality in science teaching?
- 4) What are the implications to national development?

The Indices of Gender Inequality

Many people have noted differently factors and attitudes that indicate the presence of gender inequality in our educational systems especially in the sciences (Chemistry and Physics). Egwuaoje (2002) who found that female participation in science subjects in the North is low and that female staff strength in all science subjects investigated was less than 30 percent and Physics had the least. Fafunwa (1997) showed that the educational

opportunities available to the girls were domestic science, with marriage preparations. Again, Williams (1987), Osibodu (1985) and Balogun (1984) in Egwuafoje, (2002) also affirmed that girls were not given the same educational opportunities as the boys and that they were discouraged from taking advanced courses in subjects such as Physics, Mathematics and Engineering which were considered unfeminine. Agu (1999) is of the opinion that gender differentia! does not concentrate only on the enrolment pattern but is seen in all aspects of schooling viz curricular discussions, teachers' attitudes, classroom practices, school organization and administration. Specifically the aspects of the curricula found to be discriminatory and administration patterns, teacher attitude or interaction patterns with students in the classroom.

The overall effect is that girls avoid science courses especially in the physical sciences. Many girls who have the intellectual and mechanical aptitude to do well may never attempt Chemistry or Physics, and very few risk taking honours courses in the "hard" sciences. The few female students who do fight the prevailing attitude that maths and science are unsuitable for women enter classes occupied and focused on boys (Selles, 1978).

This review of gender inequality in the Nigerian education system and science in particular reveal that it has ever existed and is still existing and should be discouraged.

Causes of Gender Inequality

Boys are generally assertive. This assertive nature of boys has its origin from nurture. The general observation in Nigeria is that boys are visualized as stronger, superior, and more intelligent than girls. This attitude is inculcated into the boys and girls right from childhood. The boys are made to understand that they are potential heads and 'must' preside over all mix-sex activities. The girls are trained to be submissive, homely, potential wives and are not supposed to ask for reasons why of things. These feminine qualities go contrary to scientific attitudes such as curiosity, objectivity, inquisitiveness etc. The boys gradually develop science process skills and attitudes while they manipulate objects and explore the environment.

The result of this assertiveness agrees with Stanworth's (1983) observation that boys are more likely than girls to ask questions, for example make heavier demands on the teacher's time or offer information. There is a tendency for boys to demand more of the teacher and hence receive more than their share of attention. This is because they perceive science as 'boys' subject and they see the relevance, to their future careers. The girls (minority in science) on the other hand hold perceptions of scientists and mathematicians as being highly intellectual, inflexible and socially isolated-traits which may not be highly valued in their culture.

It is difficult for many minority children to visualize a future for themselves in science or technology because most of the minority role models in the media — especially television have been athletes, musicians, comics, domestics, law enforcement officers and low-level support personnel. Such stereotyping helps to create a low academic self-concept projected through the attitude of "I'm not smart enough to do well in science" (De Anna Banks, 1988).

According to Selles (1978), society's stereotypic view is that women "innately" lack the talent and interest required to master either maths or science. We laughingly accept that women who are science inclined are the less attractive or will be less attractive to men. The female role models unwillingly teach girls that helplessness and ignorance in dealing with science and math are "feminine" assets.

The media programmes - especially television contribute a great deal in widening this gap. One can hardly see programmes on renowned female scientists and technologists. I once watched an interview of a successful women motor mechanic in Lagos. This type of programme is really motivating ;iml should be encouraged.

The teachers have their own quota in encouraging sex inequality through their dealings with students in the class. Selles also observed that teachers often accept girls' passivity and unassertiveness - especially in arithmetic and science as being normal. They call on boys more, and allow them to dominate discussions, problem-solving experiences, and the use of classroom materials, expect better performance from boys, plan their science experiences to suit boys. The boys are made heads of groups such as excursion, discussion, field trips, manual labour, senior prefects etc. while the girls deputize because girls are supposed and are expected to be ruled. This discourages and frustrates them; they thus resort to all round dependency. Again difficult and probing questions are directed to boys more than to the girls who are always in pitiable state. The teachers can also encourage this by showing affection to female students who are dull and hating the more assertive and extrovert girls who will always ask questions. Some male teachers are not left out of this race as they go into relationships with some female students and later award marks to them. This discourages even the serious science students who

may see their efforts as futile and this will eventually affect their future.

Strategies for Improvement

Gender equality can be achieved in science teaching if the following areas are addressed:

- Equal learning opportunities should be created for all students by the teacher being sensitive to differences in male and female communication and learning patterns.

To this effect, the National Policy on Education (NPE, 1981) stipulated a number of measures for effective science learning for all citizens - male or female.

The teachers should distribute the same strength of questions, encouragements, comments, work and responsibilities equally to both boys and girls,

The female science teachers should present themselves as role models and monitors. This is necessary because the manner and way some teachers struggle with their science teaching also give the students the impression that the subjects are very difficult. Some comments like "you will make a good wife" should be avoided in science teaching as the girls will definitely see the goal of education as getting married. The over all effect of this is that girls eventually fail to see the necessity of their studying science and pursuing careers in science and as such they drop them for other options.

- Scholarships and other awards should be given to female science students, scientists and technologists. This should be aired periodically through the mass media to encourage and lure students into science.

In the informal setting, girls should be allowed to play, and manipulate objects in the natural environment.

On the whole, career guidance should be provided to the students early enough in order to channel their thoughts adequately.

Implications to National Development

Women are inevitable tool for all round development of mankind. Their education is of fundamental importance to enhance their role and active participation in national development. Women produce most of the food in the rural areas. Their access to science and technology education will lead to research into improved varieties which will eventually lead to improved productivity.

Again, the popular slogan that "if you educate a woman, you have educated a nation" applies because a woman scientist' will equally produce 'children scientists' so for us to move this country, into meeting the demands of this 21st century and above, all hands should be on deck in producing as many female 'scientists as possible. The proliferation of industries, environmental pollution and their resultant hazards required that everyone is educated in science.

Women participate actively in all fields of human endeavours and to fail to take advantage of the potentials of women in science and technology results to a waste of human resources. This hinders national development. Science teaching should, therefore provide opportunity for women to develop their potentials as science and technology help to develop necessary skills, attitudes and tools to make life comfortable, peaceful, safe and progressive.

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