

Review

Inhibiting influences of some traditional practices in the home on girl-child's interest development in science

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Accepted 10 December, 2010

The home is the cradle for development from where the girl-child builds and develops her knowledge, inclinations and interest. Unfortunately, the home which should provide the girl-child the good environment for developing scientific skills has become an obstacle to the girl-child's scientific development. There are a continuum of parental attitudes and traditional practices in the home directed to the girl-child that are considered harmful and obstacles to girl-child's acquisition of the basic scientific skills. These practices vary from disinterestedness on the needs of the girl-child and exploitation to open hostility, over protection and excessive restriction of the girl-child, male preference, absentee parenting and early marriage and so on. The consequences of these practices on the girl-child result to emotional break down that is manifested by their lack of self-esteem, lack of self-confidence, poor self actualization and evaluation, learning difficulty, distractibility and destruction of academic ambition of the girl-child. As a result, the girl-child lacks the will power to learn difficult subjects like science and mathematics and thus, develop disinterestedness and poor attitude towards science that has helped to increased low women/girls representation in science. Educational implications are discussed and recommendations were made.

Key words: Traditional practices, girl child.

INTRODUCTION

Science and technology have been regarded world wide as the two major forces propelling the modern socio-economic development. Scientific literacy is necessary for people in this age of technology to enable everybody use, cope and adapt to the technological inventions of the time. For this reason, one of the Millennium Development Goals (MDG) gears towards scientific literacy for all to enable every Nigeria male and female to live comfortably in the 21st Century. Women/girls are worst of in scientific literacy because of the increasing women/girls low enrolment in science in schools. The irony about the situation is that women/girls need science education more than anybody.

Presently, women/girls enrolment in science is not encouraging when compared with their enrolment in other school subjects/courses like management sciences,

social science, arts and law (Ezeliora, 2006; Ejiofor, 1999; Okeke, 1992). All efforts to improve and increase women/girls' enrolment in science has not yielded the required outcome. This is clearly seen in enrolment statistics in tertiary institutions in the country. One wonders what really constitute obstacles to girls' enrolment into science and science careers. Table 1 shows the capacity enrolment of male and female students in science and technology in some Nigerian universities.

In Table 1, the number of female students in science is very low compared to the number of male students in the same course. In some courses the girls are not up to half the total number of students in the department.

Nnamdi Azikiwe University Awka is one of the new generation universities in Nigeria. Table 2 showed some improvement in enrolment of girls in science based courses but the improvement is not wonderful when compared with the rate at which girls have gotten access to formal education today. Table 2 showed that in other

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Table 1. Nominal roll of male and female students into university of Nigeria for science based courses in 1985/86.

Department	Male	Female
Agriculture	579	135
Biological Sciences	342	183
Engineering	1078	22
Environmental Science	859	233
Medicine	862	233
Health Science and Tech	76	50
Pharmaceutical Science	341	125
Physical Science	537	103
Vet. Medicine	265	23

Source: UNN Digest (1985, 1986).

areas other than sciences the number of girls' enrolment is almost equal to the number of boys in the course. More girls than boys enroll for management sciences. One may be forced to ask the question again: what are the causes of the persistent low enrolment of girls in science based courses? There is need to find out what prevents girls' enrolment in science.

Reviewed literatures attributed the low enrolment of girls/women in science to their late coming into formal education and science in particular (Alele-Williams, 1987; Okeke, 1992; Ezeliora, 1998). When formal education was introduced in Nigeria, women/girls had little or no access to it. Girls who had the opportunity to attend school had no access to science education (Okeke, 1992). Today more girls are in schools and are exposed to science education (Ejiofor, 1999; Njoku, 2001; Ezeliora, 2006) but the girls run away from science. One would expect that as the number of girls in school increases, their enrolment into science will also increase. On the other hand, reviewed literatures attributed the low enrolment of girls/women into science to the fact that science is perceived as a masculine subject and girls are afraid of science and are not intelligent to learn science because science is hard (Alele -Williams, 1987). Contrary to this view, recent studies have shown that girls in most cases perform better than boys in science examination and tests especially when they were giving equal opportunity (Ezeliora, 1995; Kasin-Oghiabor, 2005). If girls are really afraid of science then there is need to find out what causes the fear girls have for science and not for other school subjects studied in schools. Akudolu (2005) pointed out that what the girl-child needs is conducive and empowering environment to build self-confidence needed for learning science. The crux of this study is to examine some of the practices in the home that are not empowering to the girl-child and thus, constitute obstacle to the girl-child's acquisition of scientific skills and knowledge. In other words to examine the extent

enrolment in science by providing conducive the home has helped to empower the girl-child's environment that will nurture science skills and interest in the girl-child.

INFLUENCE OF THE HOME IN THE DEVELOPMENT OF THE GIRL-CHILD

The home is the cradle of civilization for every child. It is the first school of socialization experienced by any child including the girl-child from birth. The home has great influence on the growth and development of the child. Childhood experiences are mostly influenced by family/home. Thus, Uzoka (1980), Slater and Power (1987), Okafor (1988), Nwachukwu (1993) and Okonkwo (2001) traced any academic, psychological and social problems of the child to the home. Childhood is a very essential period in the development of every individual. It is the formative stage for all knowledge and for development of interest. Rubin (2002) stated that most interests that lead to career seem to start in early childhood. Woolnough (1991) also noted that experience of childhood at home and school influence the child's attitude and interest in anything. Care must be taken on the type of experience the child is exposed.

In the homes, the girls are exposed to the experiences of traditional norms, values and practices. These traditional values and practices are basically attitudinal and are transmitted from generation to generation as code of conduct for the society. However, these practices are designed to sustain patriarchy gender inequality in the society as a way to preserve the social well being of children and women. Invariably, it is the fundamental rights of women and children that are mostly violated by these practices. These traditional norms and practices have powerful influence on the girl-child.

With the recent concerns on human rights, most of these practices are not suitable for social and healthy growth of the girl -child in the society. Rather they increase the burden of the developmental tasks for the girl-child. The girl-child is particularly vulnerable to these practices as she suffers doubly as a result of societal marginalization first as a female and secondly as a child. These traditional practices are synonymous with gender-based violence against women (Olataru -Olagbeji, 2006). These traditional practices as they may be called are the code of conducts in the homes. These traditional practices have successfully provided two different developmental grounds in the same home for the growth of the boy-child and the girl-child.

SOME TRADITIONAL PRACTICES AND THEIR INFLUENCE ON THE GIRL-CHILD

There is a whole continuum of traditional practices in the

Table 2. Nominal roll of male and female students in science based courses in Nnamdi Azikiwe University, Awka from 2000 - 2004 Sessions.

Session	2000/2001		2001/2002		2002/03		2003/2004	
	M	F	M	F	M	F	M	F
Gender								
Engineering	567	120	947	162	798	104	508	87
Environmental	-	-	267	136	177	95	121	82
Natural Science	411	371	942	942	771	629	588	614
Medicine	105	39	100	46	115	62	-	-
Law	49	37	-	-	82	39	56	55
Management Science	306	352	345	499	278	480	202	437

Source: Planning Unit, Nnamdi Azikiwe University, Awka (2006).

home towards the girl-child that are considered harmful and abusive to the development of the girl-child. Parents imbibe these practices, values and norms and practice them to the detriment of their girl-child with confidence that they are being done for the good of the girl-child as a way of training, having themselves gone through such practice (Ezika, 2004).

Male preference

Male preference is a nationwide accepted practice in Nigerian homes that is detrimental to the educational, social and psychological well being of the girl-child. Male-child is perceived as an asset, highly treasured in the family because he will perpetuate the family name. The female child because she will be married out to another family is treated with contempt and indifference. This practice is the genesis of the life long exclusion of girl/women from the social mainstreaming. Girls/women are regarded as second citizens and thus, are not trained to develop their nature given potentials as they are considered to be of low intelligent incapable of making sound and rational decisions for themselves or for others. Invariably, they are not expected to study hard subjects like science. This view was the reason why science was not taught in girls' secondary schools in the early days of formal education in Nigeria. (Okeke, 1992). For the same reason, parents have low expectation of the girl-child to do science or succeed as scientist. Furthermore, to perpetuate the superiority of the male child over the girl-child, the girl-child is trained to put herself below her male siblings. This practice has helped to undermine her self-esteem and self-actualisation. The female child is socialized to be passive, inconspicuous, emotional, dependent and aspires to be a good mother, wife and house-keeper (Ezeokana, 1999). With this disposition of mind on the part of the girl-child, Maslow's theory of motivation for academic, social and psychological development is totally destroyed in the girl-child. She is made to feel nobody and unimportant. As a result she sees herself unfit to learn abstract subject like science.

However, the boy-child is unwittingly described by parents as strong and brave while the girl is made to feel

sweet and weak. The boys are made to feel stronger and superior to the girls. The boys are prepared to face challenges and tackle difficult tasks while the girls are protected and restricted from such challenges and are kept indoors in the home. These attitudinal behaviours of parents towards the girl-child at home have a lot of negative consequences on the girl-child attitude and perception of difficult and abstract tasks which they transfer to science. Having made to have low self esteem, the girl-child lacks the will power and conviction that she can learn abstract and difficult subject like science and excel it. Instead, she greets science with poor attitude, without interest at first hearing of it.

Furthermore, when the family is low in finance, the girl-child is used to raise money for the family. The girl-child is made to stop schooling so that the available financial resource will be used to train the boy-child. In some homes, in order to make up for the financial inadequacy of the family, the girl-child is sent out to hawk in order to raise money for the family needs, not for her own needs. Some of the girls are married off at a tender age so that the bride price will be spent on the education of the boy-child and on other family needs. In some cases, the girl-child may be given off for domestic labour in urban area for a regular income to the family. In each of the above practice, the interest and development of the girl-child is secondary, jeopardized and she may end up not being educated. In each of the situations mentioned above, the girl-child suffers emotional disorientation which at times results to feeling of insecurity, poor self-esteem, destructive behaviour, poor social relationship which interfere with positive development and adjustment to life of the girl-child (Hiuzer, 2002). Generally, one major consequence of the above situation to the girl-child is lack of education. By implication, at the end most girls may not have to formal education or dropout of school, how then can they learn science? Rubin (2002) and Ezeliora (2006) opined that interest in science is cultivated at the formative year of the child. Since the home which is the major environment of the girl-child for development has not provided proper environment for the girl-child to develop positive interest in science at the early age, development of the interest in science later will be far fetched. With all these inhibiting influences, girls

unknowingly withdraw from science to other areas they feel they can do better and leave science. This among other things may have been responsible for girls' disinterestedness and low enrolment in science and science based courses and career. This invariably may also be the reason why the gap between boys and girls in science continues to widen and becomes difficult to close up in spite of all the effort to bring them into science. Though the gap is narrowing now than before, the rate at which it is coming to a close is very slow.

In the home, some parents exhibit certain attitudes without counting their consequences on the girl-child. Parents' expectation of the male child differs from those of the girl-child. At times, parents assign careers to their children according to their sex. Usually, the male child will be a medical doctor, engineer, pilot while the girl-child will be an English teacher, secretary or nurse. The children grow with these expectations and aspirations. Already from the above assignment of career by parents, the girl-child is removed from science since it is not relevant to her career and in the same way she perceives science as a subject not meant for her. From here she develops an indifference attitude towards science which is extended to learning science in school. The level of support and encouragement the boys receive from parents is enough for them to move mountain. It helps them equally to build strong self-confidence, develop interest in science as well as acquire scientific skills. When boys fail science or mathematics, the parents will show their disappointment by scolding the boy and ginger him to work hard in science and mathematics but when the girl child fail those science subjects or mathematic the parents will not border and the girl herself will not border too because she was not made to understand or appreciate the importance of science in her life. More so, the type of toys parents buy for the children have a lot of impact on the thought orientation of the children and the interest they will develop later in life. Motor, aero plane and gun are the type of toys that are bought for the boy-child while the girl-child is provided with a baby toy. The boys will tear their toys and manipulate them thus, develop scientific skill and inclination towards science but the girl-child is busy washing her baby toy, decorating it and thus, develop concern for and preservation of life. These toys have built in the boys and girls different orientation towards science in favour of the boys which they will use later in a science class.

Furthermore, the types of tasks children are exposed to do in the house go along way to develop or inhibit interest in science in the children. The boys are assigned to wash cars, change car tires or change electric bulbs in the house. They are sent on errands outside the house while the girl is assigned to wash plates and keeping the house. These assignments help to boost the boy's ego and develop confidence in risk taking while the girl-child is left to feel protected. Success of the boy in these

assignments predisposes him to learn science and understand it. While the boy is building up science skills with his daily tasks the girl is confined to the menial job of serving in the house. All these exposures and experiences in the home have a lot of influence on the children's disposition to learn and understand science in the school. At home the boys have acquired pre-requisite skills and disposition to science but the girls have not. The tendency for the girl-child to be out of science class in school is clear because she has not mastered the basic skills of inquiry reinforced by will power and self confidence required for learning and understanding science and alternatively she will leave science class for less strenuous subjects in school.

Absentee parenting

This is a situation where the biological parents are persistently absent from home due to either as a result of work pressure or escape from aggressive home condition or ignorance of parental roles and functions. This situation according to Nweze (200) over stretched the risk of developmental task for the children as they felt abandoned, deprivation and failure to respond timely to their needs. Nweze (2000) further opined that human infant hardly survives and attains balanced growth and development without adequate social, economical, material support and nurture from the parents. This can be detrimental to the girl-child's scientific development of critical thinking as she is emotionally weighed down by the absence of her parents. She is always in the house brooding over the absence of her parents while the boy-child can easily run out to play with peers and ease out the tension. Worst still for girl-child, if she has to parent her brothers and sisters in the absence of their parents, her burden becomes more. The situation will not only be too burdensome for her as she assumes a responsibility above her capacity but it will affect her educationally as she cannot cope with the two tasks. In some cases the situation may lead to school drop out or continuous examination failure for the girl-child or repeating of classes and disinterestedness in learning abstract science concepts.

Sleep deprivation

Sleep plays an essential role in memory formation. Unfortunately, parents/guardians deprive their wards sleep at both day and night as they help them in their business. Generally the girl-child is a victim of this practice. For many parents, it is a way of training the girl-child to be hard working and responsible. Sleep deprivation has a negative impact in learning. It can exacerbate symptoms of attention deficit/hyper reactivity

disorder including distractibility, impulsivity (Dahl, 1999; Davidiller, 2002; Miller, 2002). Dahl (1999) said that sleep deprived individual is irritable and tends to become angry when faced with frustration and is less disposed to take the time to understand and learn new and difficult materials. They also experience daytime drowsiness. Invariably, the girl-child who is mostly the victims of sleep deprivation can hardly concentrate to learn science.

Marriage

Marriage is an institution and is valued more than education in most Nigerian societies. Many women are not allowed to go to school for fear they will interact with men and indulge in the forbidden act (Kasin-Oghiator, 2005). Many men believe that educated women are not good for wives because they mixed up with men in the school and she must have begotten boy friends. As a result they are looked upon as being way ward, a harlot or too wise a women to be a wife. Secondly, there is a misconception that educated women are too expensive to maintain. As a result families leave their daughters uneducated to be cheap for men to marry and maintain. These misconceptions about women education have continued to give women education a second priority attention in the family plan for the members of the same family. For this reason many girls are deprived of the opportunity to achieve their life ambition through education or develop their talent because they are women /girls. Deprivation of education results to gross scientific illiteracy. These are why we continue to have low women/girls enrolment in science. Since girls/women are the victims of marriage then women/girls scientists are deprived of development.

Implications

The relevance of science education to the girl-child can never be overemphasized. The home plays important roles in developing interest and positive attitude in the child (Woolnough, 1990). Inability of the home to help the girl-child develop the basic scientific skills most have contributed to her lack of interest in and running away from science and their subsequent low enrolment in science and science related courses and careers.

The girl-child of today is the mother of tomorrow. According to Apanya (2003) women are the mothers and lifeblood of the entire humanity. They are the first teacher, sustainer and maintainer of every household. A science literate mother will not only help her children tremendously in building interest in science and developing science skills but will inculcate scientific literacy to all her children. Where the mother is scientifically illiterate, the illiteracy cycle of the society

remains a vicious cycle and self-perpetuity (Kasin-Oghiator, 2005). This is so because the formative age of a child has critical educational implications. For this reason the impact of the mother on the child at early stage of development calls for a sound scientific education. If the girl-child is educated scientifically, a nation of scientists will be formed which will spell more development for the country. Secondly, women play important part in areas of health, social status, economic development and political awareness of the home. Every woman needs adequate science education to be able to accomplish these roles in the family.

Furthermore, the girl-child is a potential human being with specific talent waiting to be developed. Many girls are potential scientists. Failure to develop these talented scientists is a great loss and a waste of human resource to the society. Contributions of these undeveloped girl scientists would have helped in national development and an asset to humanity. The efforts of women scientists would have complemented the effort of the few men scientists for the betterment of the society. When women apply their mothering skills and feminine genius to science career, science will develop human face that will meet the needs of all categories of persons and groups and influence positive decisions on women and science, improve political, social and economic development. Olateru-Olagbeji (2006) opined that women full participation in the country's plans, policies and programmes are necessary if development that will really benefit the whole nation will take place.

RECOMMENDATIONS

Akudolu (2005) noted that violence practices against the girl-child hinder her from developing her talent and inhibits her ambitions as well as limit the full development her potentials. However, if the girl-child is treated equally with the boy-child in the homes, the girl-child will develop interest in science like the boy-child thereby reducing low enrolment of girls/women in science. All forms of gender inclusive practices should replace the violent /harmful practices in the home so as to allow boy-child and girl-child equal opportunity to grow in the home. There is need for family re-orientation on these practices that are harmful to the girl-child through media, seminar and discussions to draw the attention of parents and family members on the effects of these so called traditional practices on the growth of the girl-child. The girl-child should be taught assertive mechanism to free herself from such oppression. They should be educated on the consequences of these harmful practices in their developmental process. Lastly, Government should enforce the bill on eradication of all forms of harmful practices in the home that militate against the girl-child access to education and scientific development.

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