

THE PARTICIPATION OF THE FEMALE SEX IN TECHNICAL EDUCATION: A CASE STUDY OF EASTERN POLYTECHNIC, KENEMA

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Abstract

This paper employed a case study approach to discuss the status of the female sex's enrollment in technical education in Sierra Leone. It also finds out reasons for their low participation in the technical sector of education as well as strategies that can be employed to reverse the trend. The article is divided into two sections. The first section using primary data for the past five years brings out the enrollment patterns according to sex at the various Faculties in the institution. Female students still look upon education and vocational careers as their realms and none of them have enrolled for the technical areas of study. The second section of the paper finds out from focused group discussions using students and technical educators at the institution, why there is a continuing negative attitude and participation in these subjects. The article reveals that there are challenges facing technical education and that much more have to be done to encourage education at the tertiary level for girls in the Eastern Region of the country.

Introduction

For many centuries, there has been a tendency to “a universal devaluation of women,” Deble (1980). Women's roles have been traditionally linked to the home and it has always been assumed that they can find happiness and fulfillment only as mothers and wives. Nash (1991) recalls that the modern media even stereotyped women as in most movies of the 1950s and 1960s the "typical" family portrayed in prime-time programmes showed the father working in an office while mother stayed at home with two or three children. While this scenario by no means accurately portrayed every modern household, it did closely reflect the values and ideals of a majority of women even in modern households.

The situation has changed markedly over the last 30 years with the gender balance in the workforce expected to shift still further in the twenty first century, (Johnson and Packer, 1987). Deble (1989) is of the opinion that it is formal education which contributes in large measure not only to the elimination of the idea that women are inferior but also to the improvement of their actual status. Despite their growing visibility in the workplace, women continue to be concentrated, in nearly the same proportion today as in the 1960s, in "traditionally female" occupations such as clerical work, nursing, teaching, food service, library work, retail sales, and domestic work. According to Stenberg and Tuchscher (1992) in America, where women are more empowered than in developing countries, women represented 80% of all administrative support workers (including clerical) in 1989, but only about 9% of all precision production, craft, repair workers and other jobs in the technical fields,, jobs considered nontraditional for their gender.

By the time of independence, education had been functioning in Sierra Leone for about two hundred years, and a definite tradition faithfully modeled after the English educational system had been set up. Sumner (1960) states that the educational tradition in Sierra Leone has been that boys should train for the technical courses and girls should be content to learn the skills that will help them to be good wives and mothers. The Missions set the tradition of girls learning vocational work like knitting, sewing and crocheting and the boys being engaged in technical work like sawmilling, printing, agriculture and carpentry and joinery.

Despite the calls for a change in the educational system, it was not until 1995 that Sierra Leone came up with the New Education Policy. In this document, technical education is stated as the area that has been neglected. The current policy of education realizes that technical occupations remain strongly gender segregated and that technical education is in a unique position to prepare women for various occupations because of its direct link between school and work. The objectives of technical education according to the New Education Policy for Sierra Leone (1995) include.

- To encourage women and girls to participate in national development through the acquisition of technical skills.
- To correct the present geographical imbalance in distribution of technical resources.

Thus the first objective specifically talks about the female sex being encouraged to participate in non-traditional courses and careers. As a step towards improving on technical education, the Polytechnic Act (2001) established Polytechnics throughout the country. They were to serve as teaching, learning and research institutions. They were also to maintain faculties in Education, Engineering and Technology among others. The Polytechnic came into being from a merger of the former Bunumbu Teachers College, Kailahun and the Government Technical Institute in Kenema in August 2001. It is the only higher education institution in the eastern region of the country, a region made up of three districts. Within five years of existence, it has succeeded in reviewing existing programmes and has added new ones in all of the Faculties. The Faculty of Engineering and Technology maintains three departments and offers certificate and diploma courses. It will soon start its degree programmes. With the establishment of the Polytechnic, it is expected that males as well as females will be able to access technical education and help reduce geographical imbalance in access to technical education.

Methodology

The objectives of the paper were to discuss the enrollment status of female students in technical education in the Eastern Province of Sierra Leone. Secondary data for the past five years at the only tertiary education institution in the region was used to bring out the enrollment patterns according to sex at the various Faculties. Primary data using focused group discussions was employed to find out reasons for low participation of the female student in the technical sector of education. These were using the Eastern Polytechnic as a case study.

Status of Enrolment of Students at the Eastern Polytechnic

The purpose of the study was three-fold and -

- to find out the status of enrollment of girls in the Faculty of Engineering and Technology vis-à-vis the other Faculties.
- to find out reasons why there may be a small number of students enrolled in the programmes
- to proffer suggestions as to how such a trend may be reversed.

The table below brings out the enrollment of final year students at the Polytechnic according to sex and Faculty.

Table – 1
Final Year Students by Sex and Faculty

Faculty	2005/2006		2006/2007		2007/2008		2008/2009		2009/2010	
	M	F	M	F	M	F	M	F	M	F
Education	157	149	227	75	156	69	130	54	106	45
Engineering and Technology	91	-	121	-	91	-	13	-	53	-
Business Studies	-	30	25	21	23	14	31	33	53	39
Science	-	-	03	05	05	03	05	-	14	9

Source: Eastern Polytechnic Records

This table brings out a disturbing fact in the enrollment into the Faculty of Engineering and Technology. Despite the growth in enrollment in all the Faculties, there have not been any females enrolled in the Engineering Faculty for the past five years, since the establishment of the Polytechnic. There are female students in all the other Faculties, even in the Faculty of Science. Although, it is true that in all the Faculties, the female sex is underrepresented, yet it is only in this Faculty that their absence is so glaring. The non representation of females in a Faculty for over five years is a shocking reality.

The second part of this paper was to find out reasons for the non participation of females in technical education. Focused group discussions were therefore held with students and lecturers, both male and female, to find out reasons why there is such a low interest and poor attitude of the female sex to technical and engineering subjects. Discussions were also held on the way forward for the female sex's participation in technical and vocational subjects in Sierra Leone.

Discussion

The discussions held revealed that although the situation may be worse at the Eastern Polytechnic; the trend of low participation of female students in technical subjects is national. For most of the students, Kenema is in a conservative and rural setting where the participation of girls in education is only beginning to take root. As a result, it is not surprising that culturally, it is unheard of for women to be technicians and engineers. Some state that in the next decades, such things will not be a novelty as educated women will be bold enough to enter these for now forbidden fields.

The female students are of the opinion that the lack of interest and their poor attitude to engineering subjects can be traced to gender stereotyping. It seems that females contemplating entering nontraditional programs face numerous barriers, and one of them is gender stereotype Nash (1991), Stenberg and Tuchscherer. (1992). Their studies found out that gender stereotyping continues to have a significant impact on the female sex's participation in non traditional programmes, especially in the technical areas. These subjects are seen as leading to masculine rather than feminine jobs and careers. Female students were of the opinion that subjects that involve manual work are for the male sex and females should be interested in easy going jobs that do not involve much physical activities. It is interesting to note that male students stated that the anatomy and physiological make-up of females do not allow them to engage in jobs that are labour intensive as they are afraid that these jobs may cause serious problems especially for young women who are not yet married. One male stated that he would definitely not marry a woman who is in a technical career or in any job requiring strenuous physical activities as such a woman will be too strong physically and could beat him up when angered. They were further of the opinion that activities may hinder child-bearing. Some women and girls had positive perceptions and attitudes about careers in the technical areas but regretted that they do not possess the academic qualifications to do so. It is heartening that they realize that the few women who venture into these non-traditional fields are being rewarded with employment. A few of them stated that engineering as a profession does not compromise with the use of beauty makeup, finger nail polish or false eyelashes. Women have to wear overalls and some jobs tend to be dirty and this may go against their sex and gender make-up.

There is also a negative perception about careers related to civil engineering, automobile and electronics and electrical engineering. Men and girls are of the opinion that these jobs are not lucrative, that any one that does these subjects will be regarded by society as an apprentice until he graduates. Women stated that if men themselves are running away from such professions, women will fare even worse and they should therefore shy away from such jobs.

Lecturers in the Faculty expressed the willingness to see more female students in their Faculty. They are of the opinion that the problem starts in the schools as certain subjects are not done in same sex girls schools or even in the co-educational schools, girls are excluded from certain subjects. Vocational subjects like Home Economics and Commercial subjects are available to female students and technical subjects like Introduction to Technology and Basic Electricity are regarded as the domain of the male sex. Also, the low participation of the

female sex in the technical courses can be traced to their fear of Mathematics which starts from the Primary schools. The administrators confirm this as few if any of the ladies pass Mathematics to qualify them for entry in the Faculties of Science and Engineering. According to Erhart and Sadler (1987) females continue to be the 'forgotten half in technical education as despite countless programmes to encourage females to enter non traditional occupations their participation remain low.

The lack of role models is another factor stated as relating to the poor attitude of students to engineering and technical jobs. Sierra Leoneans are not used to seeing female technical educators. Presently, the Faculty can boast of only one female technical educator. Erhart and Sadler (1987) lament that females in technical careers are few and this serves to reinforce the negative perception the sex continues to hold about technical programmes. Some male students in the Faculty are of the opinion that female students may find such jobs very difficult as initiative counts more than mere recall of knowledge which women are better at. For them, women want to be told everything and leaving them to accomplish such practical and self motivating tasks will be difficult for women.

Female students express the opinion that such jobs usually take women far from their homes causing long separation from their families. Also, as technical subjects lead to male-dominated careers, women may find it difficult progressing in a male dominated world and may face sexual harassment. Also, their husbands and lovers may be wary of them working in such male dominated areas.

The Way Forward

Low participation and poor attitude of the female sex to technical and engineering courses are universal, Spender and Sarah (1980), Buzzel (1993) and Erhart and Sadler (1987) Sierra Leone, like other countries, has to adopt special programmes and strategies to encourage girls to participate in this sector of education. Non-participation means that the third Millennium Development Goals, equity in education for both sexes is not been achieved. Also, the non-participation of women and girls in the middle level manpower of the nation mean the non achievement of the objectives of education and especially reversing the age-old negative attitude to technical education.

Strategies that were discussed include instituting positive affirmative actions to encourage the female sex to participate in technical education. It was suggested that such funding could be provided by public or private organizations to develop and support programmes at the secondary and tertiary levels that promote the enrollment, and retention in technical education of the female sex. Specifically, technical educators suggested that at the secondary level, there must be introduction to career and technical programmes for girls that facilitate and promote their transition to a full range of post-secondary options. Some male technical students recommended that the Government and tertiary institutions should go back to the colleges and encourage female students to go back to the schools to teach Mathematics, Science and technical subjects. Female graduates in their courses could form an association to help sensitize girls on the importance of females taking up careers in the technical fields.

Another suggestion was that affirmative action could also encourage girls to come in with lower qualifications, so long as they are show interest in the courses. Non-formal sectors should also start a more positive drive to employ and train females in these sectors and it is these girls that could later be encouraged to study and gain certificates in their already chosen careers. Sensitization also have to involve all stake-holders as the Government has to establish workshop centres where both sexes are to be encouraged to attend and learn a trade. This will help to produce a more literate, numerate and enterprising lower middle level workforce and thus speed up national development to early increase interest in this sector.

Incentives in the form of scholarships, work kits and even money to set up their own workshops could be specially made available for females who choose to go to these fields. As in other countries, stereotyping females have to be challenged by the mass media and even enacting laws that make particular work-place unattractive to the female sex. Mass sensitization have to be made to show that biologically women can do

technical jobs and this will not impair child-bearing and that men ought to be proud of wives who participate in such a neglected field.

Almost all the participants in the focused group discussions emphasized that Guidance and Counselling services must be done more effectively in the schools to counsel on areas such as life skills development, career exploration, and transferable skills. A male technical educator is of the opinion that most of the policies on technical education is still rhetoric and that the policies have still not been actualized not only for females but even for the males. Including females in the forgotten careers is a necessity if Sierra Leone is to enter the twenty first century.

Conclusion

Developing a more literate and enterprising middle level workforce is seen as essential to speeding up national development. Technical education is an essential sector of development as it helps to produce a more literate, numerate and enterprising lower middle level workforce. Where there is gender imbalance, the goals and objectives of education cannot be achieved. A major objective of technical education is to encourage women and girls to participate in national development through the acquisition of technical skills. Participation and achievement in career and technical education must not be limited by gender segregation. Harassment or barriers that prevent girls and women from becoming self-sufficient or engaged in careers that will make them independent economically must be eradicated. The Government has come up with a broad policy statement that females are to be encouraged to participate in technical education. As of now, stakeholders have not implemented any programmes to actualize the policy. Despite the fact that women still constitute a small minority in male-dominant programmes in most of the world attempts and successes are being recorded. In the Eastern Region of Sierra Leone, no woman has entered for a career in the technical areas at the only polytechnic in the region, and it is important that such an important policy failure should be rectified.

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