

Strategies for Enhancing Females Participation in Technical, Vocational Education and Training (TVET) in Nigeria

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Abstract

There is generally low enrolment of female students in Technical, Vocational Education and Training (TVET) in Nigeria. This study was carried out to determine strategies to enhance female participation in TVET in Nigeria hitherto dominated by males. The study adopted a survey research design. Three research questions were formulated to guide the study. The population of 153 comprised 95 female technical teachers, 58 female administrators in the technical colleges and skill acquisition centres in the zones covered by the study. The instrument was face-validated by three TVET experts in University of Nigeria, Nsukka. Cronbach Alpha was used to establish the reliability and a reliability coefficient of 0.85 was obtained. Mean and standard deviation were used to analyse the data collected. The strategies determined were agreed upon as enhancement strategies as well as benefits accruable if females embrace TVET. It was recommended that wives of State governors should establish women organization in technology to sensitize females on the benefits of TVET. Money should be earmarked by government and other stake holders in technical education to ensure effective running of female-enhanced TVET programme.

Keywords: Technical, Vocational Education and Training, Females in TVET, Participation, Strategies.

INTRODUCTION

Education is a veritable tool for national development. It is central to socio-economic and technological advancement of any nation. It is critical to self-sustaining and self-generating process for positive transformation of society. Ocho (2005) described education as the process through which individuals are made functional members of the society. It is a process through which the young acquire knowledge, realize their potentials and use them for self-actualization (Offorma, 2009). The role of women education and empowerment cannot be underestimated. It is said that when you educate a man, you educate a person, but when you educate a woman, you educate a nation. This is because the education of every child starts from the family and the mother is the first teacher. According to the United Nations Human Development Report (2008-2009), Nigeria is classified as a low developed country in respect of equality in educational accessibility with Female Adult Literacy Rate (ages 15 and above) of 55.1% against 73.2% male. United Nations (1979) in UNESCO (2010) noted that women alone constitute one half of the world's population, do two-thirds of the world's work, earn one tenth of the world's

income and own one hundredth of the world's property including land. Institute for Women's Policy Research (IWPR) (2013) posited that women and girls are under-represented in Career and Technical Education (CTE) programmes that prepare students for careers in high-paying occupations like Science, Technology, Engineering and Mathematics (STEM), the skilled trades, and other occupations traditionally done by men. Giving this disparity between women and men in highly skilled professions and to reduce the level of poverty in Nigeria, it is pertinent to carry women along in developmental efforts for self-sustenance through Technical, Vocational Education and Training (TVET).

Technical, Vocational Education and Training (TVET)

Technology is the scientific study and the application of scientific methods to practical tasks in industry for production of materials for the good and services of humans. It is a way of applying methods, tools, technical knowledge, machines and systems in the solution of human problems (Ezeji, 2011). Technical, Vocational Education and Training (TVET) prepare people for skillful performance on practical tasks. It involves the acquisition of skills and competencies that can help individuals to function productively in industrial and commercial occupations (Wapmuk, 2011). Technical, Vocational Education and Training (TVET) have been recognized the world over as tool for empowering people. It is the type of education which provides individuals with skills, knowledge and attitudes for effective employment in specific occupations. United Nations Educational Scientific and Cultural Organization UNESCO (2005) viewed Technical, Vocational Education and Training (TVET) as a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related science, the acquisition of knowledge, practical skills and attitude relating to occupations in various sectors of economic and social life. Technical, Vocational Education and Training (TVET) is further understood to be:

- An integral part of general education;
- A means of preparing for occupational fields and for effective participation in the world of work;
- An aspect of lifelong learning and a preparation for responsible citizenship;
- An instrument for promoting environmentally sound and suitable development
- A method of alleviating poverty

The FRN (2004) stipulated the following objectives for Technical, Vocational Education and Training (TVET):

- a) To provide trained manpower in applied science, technology and commerce particularly at sub-professional level.
- b) To provide the technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development.
- c) To produce people who can apply scientific knowledge to the improvement and solution of environmental problems for the use and convenience of man.
- d) To give an introduction to professional studies in engineering and other technologies.
- e) To give training and impart the necessary skills leading to the production of craftsmen, technicians and other skilled personnel who will be enterprising and self-reliant.
- f) To enable young men and women have an intelligent understanding of the increasing complexity of technology.

Thus Technical, Vocational Education and Training (TVET) help an individual to become active citizen who contributes positively to the well-being and economic growth of the society. This implies that Technical, Vocational Education and Training (TVET) gives attention to the

development of both material and human resources. For these good yields of Technical, Vocational Education and Training (TVET) programmes, it is obvious that no nation will adequately develop its technological base if it neglects the development of its workforce. This workforce embraces males and females who ought to have equal access to maximize their potentials. This is not the case with female education and females in Technical, Vocational Education and Training (TVET) in Nigeria.

Females in Technical, Vocational Education and Training (TVET)

Females in the context of this study denote girls and women. There has been gender disparity against females. Females have less access (opportunities) to education in Nigeria as compared to males. Fewer girls enroll and complete their education than boys. (Robert, 2005, Okeke, 2002). Gender stereotyping exists in homes and school system. Most societies are patriarchal in nature, this is a situation where men are considered the most powerful. According to Napikoski (2014), patriarchal society consists of a male-dominated power structure throughout organized society and in individual relationships. United Nations Human Development Report (2008-2009) noted that inequality between genders stands out as a key policy challenge. The female gender is generally disadvantaged in access to education, employment, wage and access to land, among other things. Gender inequality is fuelled by many factors, including socio-cultural practices, low economic status, patriarchy and low education. According to Wubon (2013) education has not necessarily been a priority for the girl-child because of socio-cultural beliefs and perverted mindsets. It is believed that the place of the girl-child is in her husband's house. The male child is considered to be superior to the female-child in many aspects especially education and that is why in most cases; only the male child has access to education. In a situation where the parents are poor, they would always choose to use the little resources to train the boy-child in school and allow the girl-child to either hawk or engage in other activities.

In sub-Saharan Africa (Nigeria inclusive), the number of girls out of school each year has risen from 20 million in 1990 to 24 million in 2002 (Offorma, 2009). There exist wide variations across the States and zones with the North-east and North-west presenting the worst scenarios in Nigeria. According to United Nations Human Development Report (2008-2009) which is also corroborated by Afri-Dev.Info (2013), eight States in Northern Nigeria have the country's worst girl child education and health indices. The latest scorecard by a group of non-governmental researchers, revealed that Kebbi, Sokoto, Bauchi, Jigawa, Yobe, Zamfara, Katsina, and Gombe States have Nigeria's worst girl child education, highest female illiteracy, highest adolescent girl marriage, highest under 15 child bearing, and highest risk of maternal death and injury. The same 10 States, along with Kano State, have the highest percentage of females aged between 15 and 24 years who cannot read or write. Ebonyi in the South-east of Nigeria, for instance, is at number 12 of States with the highest percentage of girl-child not in secondary school. Similarly, for the number of adolescent girls in marriage, Bayelsa State came 13th, scoring worse than Adamawa, Benue, Taraba and Nasarawa States. This performance could further be worsened by the recent abduction of 276 female students in Chibok, North-eastern Nigeria (Ejiofor, 2014). This poor enrolment is further accentuated in female enrolment in Technical, Vocational Education and Training. It has long been known that female access to and participation in education in general and Science, Technical, Vocational Education and Training (STVET) in particular is generally poorer than that of boys. Evidence of this fact has been through various studies at national levels and by international organizations such as UNESCO and Gender and Science and Technology (GASAT). The situation has been so poor world-wide that the 4th UN Conference on Women, Beijing, 1995, had "Girl-Child Education" as one critical area of concern. According to American Association of University

Women (AAUW) (2011), women tend to be overwhelmingly clustered in low wage, low skill fields (they constitute 98 percent of students in the cosmetology industry, 87 percent in the child care industry, and 86 percent in the health aide industry). In high wage, high skill fields, they fall well below the 25 percent in the field commonly practiced by men (women account for 10 percent of students in the construction and repair industry, 9 percent in the automotive industry, and 16 percent in engineering). According to Federico Mayor in Hoffmann-Barthes, Nair and Malpede (2006), in a world increasingly shaped by science and technology, scientific and technological literacy is a universal requirement. It is vital to improve scientific and technological literacy among women and girls, whose unique educational function within the family make them such a major determinant of the attitude of present and future generations. The gender gap in TVET is far greater than that in other fields of education, with the girls lagging very far behind the boys in access, participation and performance. Concerned by what they termed the wide differing ratio between boys and girls in technical education, stakeholders spanning over 40 colleges of technology under the aegis of Women in Technical Education and Employment (WITED), in Nigeria convened at the Yaba College of Technology (YABATECH), Lagos to chart the way forward for addressing this gap. According to (Asomba, 2012), the wife of Lagos State Governor, Dame Abimbola Fashola posited that for Nigeria to be among the industrialised nations by the year 2020, there is need for more commitment to new and innovative teaching methods and techniques that will attract females to technical education. She remarked further that science and technology has remained the bedrock of industrial development that every nation aspires to attain, stressing that it has become imperative for the Nigerian girl-child to be incorporated in the roadmap of the country's technological development. This conspicuous gender disparity demands females' participation in Technical, Vocational Education and Training (TVET).

Participation

Participation is the involvement in the process of making a decision, sharing in something or the state of being related to a larger whole. Participation gives a voice. Wilcox (2003) defined participation as a process during which individuals, groups and organisations become actively involved in a project. Faughnan and Kellagher in Reynolds and Healy (1993) defined participation as taking part in activities in a way designed to influence events whether in areas of policy formulation, implementation or evaluation. Females cannot effectively participate in Technical, Vocational Education and Training (TVET) until strategies are devised and properly implemented.

Strategy

The concept of strategy has been borrowed from the military which often refers to maneuvering troops into position before the enemy is actually engaged, once the enemy has been engaged, attention shifts to tactics. Strategy also refers to the means by which policy is effected (Nickols, 2012). According to Wenzhong (2014), strategy refers to planning and managing an operation for a particular purpose such as in a war. A business strategy is the pattern of decisions and actions that are taken by the business to achieve its goals. Newman and Logan in Arnolde and Nicolas (1986) posited that strategies are forward-looking plans that anticipate change and initiate actions to take advantage of opportunities that are integrated into the concept or mission of the company. There is need to adopt some strategies to enhance female participation in Technical, Vocational Education and Training (TVET).

Problem

There is gender inequality between male and female access to education. It is ironic to say that women alone that constitute one half of the world's population and do two-thirds of the world's work earn one tenth of the world's income and own one hundredth of the world's

property including land. A large number are found in poorly paid jobs and several others go into early marriages, prostitution, child labour to mention but a few. This constitutes a menace in the country considering its economic, health and social implications. Gault in Institute for Women's Policy Research (IWPR) (2013) stated that it is important that training for higher-paying occupations includes women and girls, and that girls are introduced to non-traditional careers at a young age. This study is therefore designed to determine the strategies to enhance female participation in Technical, Vocational Education and Training (TVET) in Nigeria.

Research Questions

The following research questions guided the study;

1. What are the strategies that would enhance female participation in TVET programmes?
2. What are the benefits of TVET to females?
3. What are the challenges of training females in TVET?

METHODOLOGY

The study was conducted using descriptive survey research design. A survey research design according to Anyakoha (2009) uses questionnaires, interviews, observations in order to determine the opinions, attitudes, preferences and perceptions of persons. The study was carried out in the North-west, North-east, North-central, South-east and South-south geopolitical zones of Nigeria.

The population of 153 comprised of 95 female technical teachers, 58 female administrators in the technical colleges and skill acquisition centres in the zones covered by the study. No sampling was carried out since the population is of manageable size.

The instrument used to collect data for the study was a structured questionnaire. It was developed by the researchers after review of available literature on female education and females in TVET in Nigeria. The instrument is divided into three sections A, B and C. Section A sought information on the strategies that would enhance female participation in TVET programmes, section B dwelt on the benefits of TVET to females while section C was on the challenges of training females in TVET. The instrument is based on five-point Likert scale of Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D) and Strongly Disagree (SD) with numerical values of 5, 4, 3, 2 and 1 respectively. The instrument was face-validated by five experts in TVET and tested for reliability using Cronbach alpha and a reliability coefficient of 0.85 was obtained.

The data were collected by the researchers and research assistants in the zones covered by the study. The researchers and assistants administered the instrument on the respondents. All the instruments administered were correctly completed, retrieved and used for data analysis.

RESULTS**Table 1: Mean Responses of Respondents on Strategies That Would Enhance Female Participation in TVET Programmes****N = 153**

S/N	Item Statement	\bar{X}	SD	Remark
1	Drawing a clear cut line between religion and education by stakeholders	4.31	0.88	Agree
2	Collaboration between government and other stakeholders to review existing curricula	4.63	0.54	Agree
3	Establishment of formal and non-formal female skill acquisition centres	4.56	0.79	Agree
4	Establishment of females in TVET development.	4.38	0.72	Agree
5	Employment of female trainers from other regions to serve as role models	4.42	0.84	Agree
6	Creating conducive environment for practicing female entrepreneurs to transact their businesses	4.68	0.48	Agree
7	Advocacy by government and policy makers for implementation of females oriented TVET programme.	4.55	0.51	Agree
8	Sensitization at all levels by government, policy makers and other stakeholders on the benefits derivable from females participation in TVET	4.36	0.66	Agree
9	Establishment of equal opportunities for both males and females in TVET	4.50	0.67	Agree
10	Implementation of the affirmative policies in favour of females, especially with admission, employment and appointment	4.05	0.53	Agree
11	Provision of starter packs for female graduates of TVET centres/schools	4.13	0.77	Agree
12	Institutionalization of child care provisions in training centres and workplace	3.94	0.87	Agree
13	Establishment of evening classes for females to fast tract gender equality in TVET	3.27	0.63	Disagree
14	Enactment and enforcement of law that ban child marriage	3.91	0.73	Agree
15	Enforcement of law that bans female child labour	4.27	0.89	Agree
16	Advocacy for public private partnership of the programme	4.13	0.67	Agree
18	Promoting synergy between girls' education and poverty alleviation programme	3.86	0.81	Agree
20	Commitment by government and stakeholders to female-enhanced TVET programme	4.36	0.66	Agree
21	Provision of adequate infrastructures and facilities	4.63	0.55	Agree
22	Free education and provision of adequate incentives for TVET trainees	4.27	0.63	Agree
23	Use of media to change stereotyped expectations	4.22	0.86	Agree
24	Increasing women's number in the state administration as source of encouragement	3.94	0.75	Agree
25	Adequate provision of scholarship/grants for TVET teachers/instructors	4.15	0.66	Agree
26	Training and re-training of TVET teachers and instructors.	4.21	0.57	Agree
27	Adequate planning and implementation of TVET programme by government	4.44	0.72	Agree
28	Career guidance and counseling on TVET be provided to all female students	3.99	0.63	Agree
29	Safeguards against gender bias in curricular presentation	3.85	0.74	Agree
30	Establishment of policies that will favour and encourage women/girls education	4.11	0.83	Agree
31	Legislating against obnoxious customs and practices which are detrimental to women's optimal functionality and wellbeing, like harmful widowhood practices	4.47	0.74	Agree
32	Enactment of law against discrimination of women in hiring and promotion.	4.25	0.72	Agree

Data presented in Table 1 with exception of item 13 show that the respondents agreed on all the items as strategies that would enhance female participation in TVET programmes based on the means which range from 3.85 to 4.68. The standard deviation values range from 0.48 to 0.89 show that the respondents are not far from each other on their responses.

Table 2: Mean Responses of Respondents on Benefits of TVET Programme to Females

N = 153

S/N	Item Statement	\bar{X}	SD	Remark
1.	TVET programme would empower women scientifically through exposure to science and technological education for the challenges of the present technological age	4.56	0.81	Agree
2.	TVET programme would empower women to contribute their quota to the growth of the nation	4.67	0.55	Agree
3.	It would empower them to know, give voice and ask for their rights	4.00	0.76	Agree
4.	It would enable them adapt themselves to the society.	4.27	0.94	Agree
5.	It enables them develop pride in their achievements.	4.38	0.77	Agree
6.	It would enable the women take decisions and accept responsibilities for taking such decisions concerning themselves	3.95	0.84	Agree
7.	It prepares them to cope with domestic and family life	3.85	0.68	Agree
8.	TVET programme empowers females to be employable	4.63	0.55	Agree
9.	TVET programme empowers females to be employers of labour	4.67	0.59	Agree
10.	It reduces the rate of falling victims to their adventurous male counterpart	3.85	0.70	Agree
11.	It enhances life expectancy	4.09	0.87	Agree
12.	Promotes smaller family size and better educated children	3.91	0.73	Agree
13.	Best investment in a country's development	4.14	0.89	Agree
14.	It makes females self-reliant people	4.68	0.89	Agree
15.	Builds up their self-confidence,	4.43	0.97	Agree
16.	Enhances female effective participation in educational activities	3.88	0.66	Agree
17.	Alleviation of unemployment	4.57	0.63	Agree
18.	Reduces underage marriages and sexual related diseases.	4.38	0.82	Agree
19.	Reduces child abuse	4.55	0.66	Agree
20.	Reduces vices: prostitution, human trafficking, girl child labour	3.87	0.84	Agree
21.	TVET programme makes them become focus in life	4.14	0.78	Agree
22.	Promotes gender equality.	4.27	0.94	Agree
23.	TVET programme makes them compete favorably with their male counterparts	4.01	0.73	Agree
24.	It improves child rearing practice, health care and prevention against killer diseases	4.31	0.86	Agree
25.	Enhances global partnership for development	4.26	0.54	Agree
26.	Improves maternal health	4.45	0.74	Agree
27.	It would help reduce maternal and infant mortality	4.29	0.86	Agree
28.	Eradicate extreme poverty and hunger	4.36	0.73	Agree

Data presented in Table 2 show that the respondents agreed on all the benefits of TVET to females based on the means which range from 3.85 to 4.68. The standard deviation shows that the respondents are close on their responses with values range from 0.55 to 0.94.

Table 3: Mean Responses of Respondents on Challenges of Training Females in TVET?

N = 153

S/N	Item Statement	X	SD	Remark
1.	Lack of female teachers and absence of female role models	4.45	0.75	Agree
2.	Security challenges in the affected regions	4.42	0.47	Agree
3.	Peer group influence to follow the status quo such as early marriage	3.81	0.65	Agree
4.	Apprehension of parents that their daughter will soon leave them for marriage	4.15	0.56	Agree
5.	Poor image and status of TVET	4.13	0.88	Agree
6.	Lack of incentives to encourage the students	4.03	0.49	Agree
7.	Failure to draw a line between religion and education by the political and religious leaders	4.25	0.68	Agree
8.	Poor parental background	4.45	0.62	Agree
9.	Lack of appropriate vocational guidance and career counselling	4.19	0.64	Agree
10.	Engagement of girls in child labour and prostitution	3.95	0.74	Agree
11.	Poor funding of vocational technical education programme	4.63	0.56	Agree
12.	Wrong perceptions/assumptions of attitudes of male teachers	4.31	0.87	Agree
13.	Poor facilities: machines, tools and equipment	4.77	0.56	Agree
14.	Situational challenge such as family commitments, lack of partner's support	4.44	0.74	Agree
15.	Inadequate electricity and water supply	4.36	0.77	Agree
16.	Discriminatory labour market practices	4.41	0.73	Agree
17.	Poor provision of instructional materials to TVET institutions	4.01	0.63	Agree
18.	Poor teacher quality and supply	4.22	0.66	Agree
19.	Poor curriculum planning of vocational technical education	3.79	0.56	Agree
20.	Poor welfare packages for vocational technical education educators	3.94	0.82	Agree
21.	Poor training and retraining programme for vocational technical education teachers and instructors	4.55	0.67	Agree
22.	Poor scholarship scheme for TVET teachers, instructors, and students	4.05	0.57	Agree
23.	Parental perceptions of costs/benefits of educating girls	4.11	0.58	Agree
24.	Poor implementation of vocational technical education curriculum	3.86	0.83	Agree
25.	Masculine image of TVET projected in text books, media and popular assumptions	4.26	0.54	Agree
26.	Inadequate workshop space	3.56	0.73	Agree
27.	Rigid selection and entry requirements	4.55	0.67	Agree
28.	Fear of intimidation and sexual harassment	4.27	0.82	Agree
29.	Lack of Mathematics/Science pre-requisites for entry to TVET programmes	4.19	0.63	Agree
30.	Fear of progressing in a male dominated field	3.93	0.85	Agree
31.	Inadequate sanitation facilities in schools such as private and separate latrines;	4.00	0.58	Agree

Data presented in Table 3 show that the respondents agreed on all the challenges of training female in TVET. The mean values range from 3.56 - 4.77 and standard deviation 0.47 – 0.8.

DISCUSSION OF RESULTS

The findings presented in Table 1 show the strategies that would enhance female participation in TVET programmes. The respondents agreed with all the strategies identified. This is in line with AAUW (2011) and Obaji (2005) that raising national awareness on girl-child education and commitment by government and stakeholders to female-enhanced TVET programme through advocacy and sensitization of policy makers at all levels, parents, school authorities, other leaders and girls themselves among others would enhance the participation of females in Technical, Vocational Education and Training (TVET). This also agrees with Anaele,

Isiorhovoja, Dele and Asoluka (2014) that females need to be encouraged to participate in Technical, Vocational Education and Training (TVET).

The findings in Table 2 indicated that the respondents agreed with the benefits of TVET to women/girls. This is in line with Philips and Godiya (2007), World Bank Group (2014) that girls with little or no education are far more likely to be married early, suffer domestic violence, live in poverty, and lack have no say over household spending or their own health care than better-educated ones, which harms them, their children, and communities.

This is also in agreement with Oniye (2008) that education would empower the women scientifically through exposure to science and technological education for the challenges of the present technological age and information, communication technology break through unfolding worldwide thereby making them contribute their quota to the economic growth of the nation. It would also help women to reduce maternal and infant mortality through improved nutrition, improved child rearing practice, health care and prevention against killer diseases.

In Table 3, it was also found that there are challenges implementing female-enhanced Technical, Vocational Education and Training (TVET) in Nigeria. Some of these include situational challenges, family commitments, lack of partner support; social-cultural norms and traditions by which women are maintained and Institutional barriers like lack of role model, lack of child care facilities and masculine image of Technical, Vocational Education and Training (TVET) programme which pose serious setback to the development of Technical, Vocational Education and Training (TVET) in Nigeria. This is in agreement with Evans (1995) and United Nations Children Education Fund (UNICEF) (2002) that female in TVET can only be enhanced through tackling all these challenges in Nigeria.

Implications

The findings of this study have implications for the government that education reforms need to be guided by law that will facilitate equal opportunities for females and males in education more importantly in Technical, Vocational Education and Training (TVET). This will ensure that females can no longer be left behind. Every law and tradition contrary to this position must be legislated against, in addition government has to ensure that Technical, Vocational Education and Training (TVET) is free for females. The strong implication of these moves for the females is to address the problem of poverty that results to teenage pregnancies, early marriage, child trafficking, and child labour among others.

CONCLUSION

From the findings, the researchers concluded that more still needs to be done to promote gender equality in access to Technical, Vocational Education and Training (TVET) in Nigeria. Female participation in Technical, Vocational Education and Training (TVET) programme which prepares them for high-skill, high-wage, and high-demand jobs is critical to ensuring their economic security and to close the wage gap.

Government and other stakeholders in education and training need to buckle up to bridge the existing gap so that female will participate fully, contribute meaningfully and live fulfilled lives in TVET. This will in return boost the nation's human capital development index and the right step to be among the top 20 highly industrialised nations in the year 2020.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

1. Government should as a matter of urgency convoke a conference of stake holders in education and women leaders to address the conspicuous gap existing between males and females in TVET and chart the way forward.
2. Wives of State governors should establish women organization in technology to serve as a platform to attract fund and provide adequate sensitization of benefits to female in Technical, Vocational Education and Training (TVET).
3. Money should be earmarked by government and other stake holders in education and technological development to ensure effective running of female-in-TVET programme
4. All harmful cultural, religious and social-based institutional practices which are anti-female should be legislated against and decisions reached fully implemented.
5. Implementation of the affirmative action policies should be done in favour of females, especially when it has to do with admission, employment, appointment and other incentives.

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