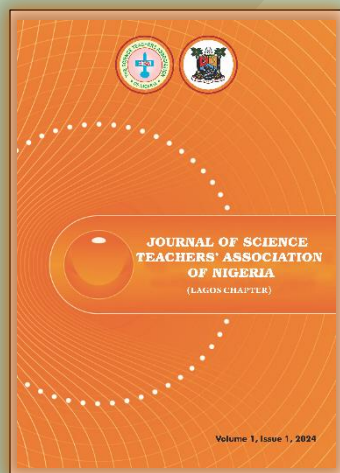




Enhancing Female Participation in Technical, Vocational Education and Training (TVET) in Nigeria

Tayelolu Opeyemi Adeleye

Department of Technical Education, SikiruAdetona College of Education, Science and Technology, Omu-Ajose



KEYWORDS:

Technical, Vocational Education and Training (TVET), Female Participation, Science, Technology, Engineering and Mathematics (STEM), Vocational and Technical Education (VTE).

WORD COUNT:

256

CORRESPONDING EMAIL ADDRESS:

yemadexapril@gmail.com

ABSTRACT

There is generally low enrolment of female students in Technical, Vocational Education and Training (TVET) in Nigeria. Despite the few progress made in the last decade in enhancing progress, equity, quality, opportunity rates and gender parity in education and Training in Nigeria, but (TVET) field continues to experience low female enrolment in Science, Technology, Engineering and Mathematics (STEM) based courses. This paper was carried out to focus on the present state of female participation in TVET and enumerate factors militating against effective contribution of female gender in all aspect of life in Nigeria. This study recommends fair and equal opportunities for both female and male to perform in TVET related subjects at schools so as to enable more female participation in TVET and STEM fields of study, and generally to the world at large. Educationists believe that no country can grow beyond its education, and for noticeable development to take place in Nigeria, there is need for good synergy between education and developments. This relationship can only have positive impact when women benefits more from the synergy because whoever educate a woman, educate a nation. This paper also recommends gender responsive approaches at all levels of education, such as having certain percentage of female being given admission for Science, Technology, Engineering and Mathematics (STEM) related courses, and encourage female enrolment in Vocational and Technical Education (VTE) based subjects at secondary school level of education, which will assist in changing their mind set towards choosing careers in Technical, Vocational and Education Training (TVET) in the Tertiary Institutions.

HOW TO CITE

Adeleye T.O. (2024). Enhancing Female Participation in Technical, Vocational Education and Training (TVET) in Nigeria. JSTAN, 1(1), pg 73-84.



Introduction

Destruction of any nation does not require war, conflict, violence and so on, but denial of it citizens of qualitative education in technology, most especially the female gender because education is a veritable tool for national development but it has illusion to female gender in Nigeria. It is observed that female gender are traditionally disadvantages with other associated problems and obstacles that hindered the right of female gender to Technical, Vocational Education and Training (TVET), which is designed to improve quality of life because it enables individual to become economically productive so as to escape poverty and marginalization. When individuals are equipped with skills, they become entrepreneurs, employable and informed citizens thereby contributing to economic development of a nation (Anaele et al, 2014).

Upholding the vision to empower vulnerable children, youth and women through education and capacity building, the Grassroots Entrepreneurship Skills Acquisition Initiative (GESAI) is assigned by UNESCO to provide accelerated second-chance education for women and girls in the '5+1' focus states (Adamawa, Cross River, Ebonyi, Lagos, Sokoto and Federal Capital Territory)", explained by Cynthia Evans, the National Coordinator of GESAI. Therefore majority of the individuals given opportunity of skill acquisition trades are male genders while female genders are deprived. The role of women's education and empowerment cannot be underestimated, because it is said when a man is educated, you educate a person, but when a woman is educated, you educate a nation. The reason is not farfetched, education starts from home and mother is the first teacher. The belief that gender equality in the world has made reasonable progress is just fallacy, because there's still a noticeable gap in the educational sphere especially in TVET in Nigeria. Human

resources development through TVET not only contributes to economic development but also leads to enhancement of social participation. The greater percentage of human resources that contributed to economic development are female genders mostly in marketing, agriculture, cloth making, education and so on.

Gender is the state of being male or female with reference to socially and culturally defined characteristics of masculinity or femininity. Also gender is used to refer to the socially constructed relationship between women and men in particular society. Although gender role of men and women in one society may differ from those in another society. The concept of gender recognised that men and women are not in a homogeneous group. UNESCO (2010) refers to gender as those characteristics of men and women that are socially determined and are always distinguished from those that are generally or biologically determine (sex). Gender- differentiated performance implied that there are some activities or tasks in which males excel more than female.

Gender differences are social constructs inculcated based on a specific society's particular perception of the physical difference and the assured taste, tendencies and capabilities of men and women. Societies determine what resources when men and women will access jointly or separately, what work men and women shall perform and what rewards, what types of knowledge are appropriate for men and women and how and where this knowledge is acquired. Gender relationship differs based on culture, religion, ethnicity and classes that men and women belong, each institutions has its own gender culture, that is the relationships between women and men, for example, who hold more powerful position have position have access to more resources, and has a stronger network that can



be used to their benefits.

It is estimated that women total to one half of the world's population, and they represent two thirds of the world's workers, but ironically earn one tenth of the world's income and own one hundredth of property (Adelakun, Oviawe & Barfa, 2015). According to the above data, women play effective roles in economics development of the world but they play little or minute roles in technological advancement. The inequality can be linked to unequal access to training opportunities. For example, a study conducted in Nigeria found out that females participation in TVET and Science, Engineering and Technology (SET) show that female genders are still underutilized and occupy the middle or lower status, in spite of the recent steady progression from this status over time (Udeani&Ejikeme,2001). This is confirmed by another study which reported that a large percentage of women are found mainly in poorly paid jobs and several others go into early marriages, prostitution and child labour (Adelakun et al, 2015). Moreso, a study by UNESCO (2010) concurs with this fact by pointing out that male students outnumber the female students in 91% of countries globally, despite increased in parity in enrolment in higher education and in Science Technology Engineering and Mathematics (STEM) disciplines.

Moreover, in the developed world, countries such as United Kingdom experience low rates of female participation in STEM related subjects and occupational choice (National Academics Press, 2007). This lacuna is attributed to gender inequality in the curriculum, classroom pedagogy and failure to offer support for development of self-esteem by the education system, confidence and aspiration of female learners at the formative stage (Johnson and Kendrick, 2005 cited in

Watermeyer, and Stevenson, n.d). Female under representation in TVET is becoming an issue both in developed and developing countries, Nigeria included. 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 (age 15 and above) of 55.1% against 73.2% male. United Nation (2015) in UNESCO (2023) 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) noted that women and girls are underrepresented 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 in highly skilled professions, it is necessary to carry women along in developmental programmes for self-sustenance. Oganwu (1996) cited by Owodunni, A. S, Igwe C. O, Sanni, T. A & Onatunde E. K (2018) equally points out those Nigerian women and other African women have been denied and dishonoured by the belief that every woman is supposed to consider motherhood as their principal purpose in life. That is, women are created for producing children, cooking food, mending and washing clothes, taking care of men and children, submissive to male authority. In corroborating the above fact, the presidential speech made by former President Mohammed Buhari at his first inauguration on the 29th of May, 2015, he said that the role of the first lady (Aishat Buhari) is in the bedroom and kitchen but not in the First Lady's office. Also, the previous kidnapping of female students of Girls



secondary School, Chibok, Borno State on the 14th of April, 2014 and Dapchi School Girls, Yobe State on the 19th of February, 2018 and the recent kidnapping of female students of Federal University Gusau, Zamfara State to mention few has demonstrated that there's attempt to frustrate the female gender from obtaining qualitative education, which has become a mirage to the female students in the northern part of Nigeria. According to Omoregie and Ihensekien cited by Owodunni and Igwe (2016), there is still much gender inequality in Nigeria's education in spite of all steps taken by the Federal Government to give equal gender opportunity to education in Nigeria as a whole such as the provision of the Universal Free Primary Education (UPE) in 1976. But frequent attack of female student may truncate all efforts if drastic measures are not taken, Nigeria education will only be dominated by males and female will be relegated to farm, market, baby factory, prostitution and promote poverty level in the country.

In the study conducted by Anaele, E. O. (2018) in Dimension of Gender Crisis in Nigeria Education, it was observed that there is low enrollment of female students in Vocational and Technical Education (VTE) courses, such as Mechanical, Automobile, Building, Woodwork, Fine-Art, Agricultural Science etc. Which has shown that there's gender disparity and crises in this aspect of education. Also, Osideinde (1999) reported that the gender ratio in the educational system indicates that males are more educated than females in Technical and Vocational Education and Training (TVET). This report was supported by Okorie (1998) who stated that there is gender gap in access to education and that women receive less education than men. He stated further that despite increase in education enrolment at various levels fewer girls participate in technical and vocational courses. Further still,

Mamba, Mwambu and Kameji (2002) and Nyerere (2009) agree that TVET delivers core entrepreneurial communication, financial and leadership skills which translate to increase wage and self-employment opportunities. TVET is essential to the world of work and is an effective means of empowering the society to engage in productive and sustainable livelihoods (Simiyu, 2009).

However, improving gender equality in TVET programme is still riddled with many challenges, therefore it is pertinent to carry females along in developmental efforts for self-sustenance through Technical, Vocational Education and Training (TVET). This paper focuses on the concept of TVET, perception of females in TVET, factors hindering female participation in TVET, ways of encouraging female participation in TVET and it provides suggestion for recommendations.

Technical, Vocational Education and Training (TVET)

Technical, Vocational Education and Training (TVET) is generally regarded as education for work; that is the type of education that prepares individuals in the society for the world of work. Federal Republic of Nigeria (FRN) (2012), viewed TVET as a comprehensive term referring to those aspects of the education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge related to occupations in various sectors of economic and social life. Furthermore, TVET prepare people for skilful performance on practical tasks. It involves the acquisition of skills and competences that can help individuals to function productively in industrial and commercial occupations (wapmuk, 2011). TVET canal so be expressed as a form of education that deals with acquisition of skills, knowledge and attitudes needed for effective productivity for self-sustainability and enable



individuals to secure employment in a specific occupation.

On a general note, TVET is meant to equip individuals with skills needed to function in an occupation; therefore it requires a unique pattern of human capital against liberal education. In conclusion, Technical Vocational Education and Training (TVET) is further understood to be stated by (Adelakun and Oviawe, 2005).

- 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 objectives of TVET as follows:

- 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 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.

Based on all the benefits of TVET programmes, It is noted that no nation can adequately developed technologically if neglect the development of its human resources which embraces males and females that should be given equal access to maximize their potentials. But the reverse is the case of females' education in Technical, Vocational Education and Training (TVET) in Nigeria.

Perception of Females Gender in Technical, Vocational Education and Training (TVET)

The term gender is used to refer to socially constructed relationship between women and men in a particular society. Biologically, sex refers to a state of being a male or female while gender as a social identity changes over time and space. Therefore female as a concept denotes girls and women, and there has been gender disparity against females. Female in Nigeria have a basic human right to be educated, but the right does not have the free will to operate in the education system in the country especially in (TVET) programmes. According to UNESCO Institute for Statistics, in 2018 Females have fewer opportunities to education in comparison with males. The literacy rate of females aged 15 and above in Nigeria was only 52.65%, which was about 18.6% below the literacy rate for male aged 15 and above. Even though primary education is officially free and compulsory, about 10.5 million of the country's children aged 5-14 years are not in school, disproportionately affecting more girls than boys, (UNICEF, 2018). "This deprivation of education rights is severer among the women and girls who were married before their 18-year birthday. I was heartbroken and felt the necessity and urgency of GESA's work while seeing the statistics reported by the National Demographic and Health Survey 2018 (82% of women and girls who were married



before the age of 18 had no education). Thank God, the Spotlight Initiative came in timely.” According to Napikoski (2014), patriarchal society consists of a male-dominated power structure throughout organized society and in individual relationships.

The female gender is generally disadvantaged in access to education, employment, wage and land acquisition just to mention few. The challenges militating against female equality include socio-cultural practices, low economic status, patriarchy and low education. According to Wubon (2013), education has not necessarily been apriority for the girl-child because of social-cultural beliefs and perverted mind sets. The traditional belief of some Nigerians is that the places of female children are in their husband houses, while the male children are given access to education. For instance, the below average living families prefer educating the male children with their little resources and with the hope of promoting the family names when they are successful after schooling. While they allow the female children to either hawk, produce babies, prostitution and so on. The number of out of school girls is increasing tremendously both in North-east and North-west of Nigeria.

According to United Nations Human Development Report (2008 – 2009) which is also corroborated by Afri-Development Information (2013), eight states in Northern Nigeria have the country's worst female children education and health indices. There cents core card by a group of non-governmental researchers revealed that Kebbi, Sokoto, Bauchi, Jigawa, Yobe, Zamfara, Katsina, and Gombe states have Nigeria's worst female children education, highest female illiteracy, highest adolescent girl marriage, highest under 15years child bearing and highest risk of maternal death. Ebonyi in the South-east of Nigeria is at number 10th state with the highest percentage of female children out of school. The abduction of female students of Chibok and Dapchi in the North-eastern part of Nigeria further worsen the situation and obviously contributed to out of school female children saga,

because investigation conducted by Adeleye, T. O. (2023) in their findings show that most of the remaining female children in the above named secondary school were scared of pursuing their education after the incident, some parents also were afraid of losing their daughters if allow them go back to school Therefore, it has now become a disturbing and embarrassing situation to government and concerned individuals; this 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 childcare industry and 86percent in the health aide Industry). In high wages, high skill fields, they fall well below the 25 percent in the field commonly practiced by men (women account for 10percent of students in the construction and repair industry, and 16percent 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. There's need to improve women and girls literacy in science and technology related fields because of the importance of their educational role in the family which make them a major determinant of the behavior of present and future generations. The female inequality in TVET is reasonably greater when compare to other fields of education, with the female children lagging behind the male children opportunity, participation and performance. This conspicuous gender disparity demands females' participation in Technical, Vocational Education and Training (TVET)

Factors Militating Against Female Participation

The factors militating against females (women



and girls) participation in TVET related courses are numerous and similar for both developed and developing countries. These factors range from cultural, social, religion and institutional curricular related factors. For better understanding, some cultural and social norms influence the choices of female students in studying TVET courses, such factors have been identified as one major cause behind the lower proportion of women in STEM fields (UNESCO –UNEVOC, 2010). These cultural and social norms had been observed as major determinant depriving female genders opportunities to participate in TVET associated courses.

These conventional conceptions that adumbrate TVET courses as masculine or strenuous has greatly influence the participation of female students. For instance, TVET courses such as metalwork, woodwork, automobile to mention few are classified as strenuous and eventually become no go area for female students in TVET studying institutions in Nigeria. In corroboration of this fact, since 2008, no female students has ever been admitted for metalwork, woodwork, automobile technology at the researcher's place of work (Sikiru Adetona College of Education, Science and Technology, Omu-Ajose) formerly known as (Tai Solarin College of Education, Omu-Ijebu) in Ogun State. This indicates that some TVET courses are perceived masculine or strenuous, therefore standing as obstacle for female students enrolment, while other TVET courses such as electrical/electronic, building technology etc. experience very low turnout of females enrolment yearly. At secondary school level of education, science subjects that are a prerequisite of studying TVET related courses in Nigerian tertiary institutions, but these science subjects are perceived mentally and psychologically strenuous at secondary schools where career choices start. Hence female students are cleverly made to believe that they are not, physically, mentally and psychologically fit to

study TVET related courses. For instance, the higher rate of women pursuing professions such as teaching may be due to perception that such professions allow more flexibility to balance family and work responsibilities (World Bank, 2012).

This can also be linked with different ways in which boys and girls are treated in our society, girls are expected to be more accomplished in linguistic and social skills boys are supposed to be better in science, mathematics, mechanical and other problems solving tasks as pointed out by Minton & Schneider in Nguyen (2000). This stereotyping should be discouraged by using successful women in TVET courses as role model, for the female students and in return it will encourage more female participation in TVET. Also, there is need for instructors and lecturers to encourage female students during practical demonstration, because if they are supported and motivated they can bring different dimensions, qualities and skills to technology and engineering, which in returns will contribute to economic development and national growth.

Moreover, many cultures still believe in stereotyping conception that females are expected to take care of home and immediate families. These social and cultural norms prevented women and girls from engaging in productive skills jobs/trades, and when they do, they are expected to balance work and home responsibilities. Millions of women who are heads of families need to continue working to support themselves and dependants. Where families face poverty and deprivation, women's earning often make significant difference in well being of children, and this is what TVET is advocating for Klevit and Bach (1996) in Owodunni, A. S, et-al. (2018) state that stereotype is powerful in serving as a screen to observations of reality. Whenever a belief is confirmed in the behaviour of any female member of the society, the belief is adjudicated but when



the behavior of a male member of a group is contrary to the belief, it is abolished people have being frustrated and confused because of the notion of men's and women's responsibilities of the past are incompatible with the realities of contemporary living. The assumption that the world of work is a man's world, while home is women's domain is losing credibility, because angry women with aspiration have strongly condemned it by challenging men in various fields and raising their shoulders high. Increasing numbers of women engaging in labour fields and it enables them to function both as home maker and wage earner.

Religion is known to be moral teaching that helps in moulding and shaping one conduct. Kelly, (1984) in Adeleye, T. O. (2023) viewed Islam as a force against women education; it discourages female gender from participating in technical and vocational courses. According to STAN (1992), in Owodunni, A. S. et-al (2018) a good number of students surveyed agreed that superstition and traditional beliefs prevent females from participating in technical and vocational education professions by lowering their aspirations. Furthermore, the Boko Haram in surgeance operating in the Northern part of Nigeria cited Islam as the main reason for attacking and abducting female students of Chibok and Dapchi towns, they carried out the satanic action to scare the female students from receiving qualitative education. Some female students were later released after Federal Government of Nigeria has paid ransom, and the released females were taken abroad for further education.

Although it is a known fact that Islam is a religion of peace therefore no true Muslim will engage in such an evil act like that of Boko Haram insurgence. The Boko Haram insurgence only used Islam as cover up, but the fact still remains that some people use religion to prevent female students from participating in TVET programmes.

The recent attacked on students of technical school, Kankaraal so confirmed the use of religion in preventing students' participation in TVET related courses.

In conclusion, curricular is related to the subjects comprising a course of study in a school or college. Some of these subjects are not friendly with female genders due to the difficult tasks involved. The curricular is designed in such a way that it accommodates male students needs, hence overlooking the needs of female students. Recent visit to Government, Science and Technical Colleges in Ogun State clearly revealed the state of equipment, machines and tools. Also learning materials are far within the reach of female students, and where available, they are not sufficient for the use of all students. It now becomes survival of the fittest, and the fittest are always the male students. For instance, in India, girls undertaking engineering disciplines admitted that they were slightly handicapped due to loss physical strength when working in some of the laboratories and workshops (Nguyen, 2000). Therefore, there's need for curricula and learning material to undergo further rigorous review from a gender perspective to ensure that they do not perpetuate gender stereotype.

Ways of Enhancing Females Participation in TVET

Females in the context of this study denote girls and women; females have less opportunity to Technical, Vocational Education and Training. The major task of reducing gender gap in TVET is pegged on the governments initiatives and support. Government at all levels in Nigeria should address the institutionalizing of gender responsive action various sectors with focus on improving female participation in TVET.

Therefore, it is imperative that steps should be taken to ensure full involvement of female students in TVET as well as other related science courses. The promotion of such policy as noted by



UNHDR (2008 – 2009) among girls and women who form slightly more than the 50% of the potential labour force will guarantee expended employment opportunities for the females. Also, the involvement of female students in school and home maintenance work provides avenue for the development of technology, which also serves as practical demonstration of the theoretical knowledge picked up in the classroom situations, which will impact female participations in TVET positively. Teachers are major stakeholders in TVET institutions, so they should be given adequate pre and in-service training. In gender-responsive teaching strategies so that female and male students can develop their full potential in TVET related courses, most especially in higher levels of education where students look to their teachers as role models as they begin to shape career perspectives and choices. Also, promoting more female role models in TVET is another strategy that can be used to attract female students into TVET fields. The female students need value encouragement to join TVET fields and this will seem a lot more important especially when it is from their peers, teaches, parents or employers.

Another important component of enhancing females participation in TVET is the introduction of career talks and career counseling which should be branded gender-responsive career counseling for both female and male students to have support and objective guidance as they begin to make career choice. Non-availability of career talks in our schools is becoming worrisome, because the misconceptions that TVET related courses are meant for drop outs or students with low academic intelligent quotient (I.Q). This negative impression about TVET related courses discourage serious minded female students, but when there's frequent career counselling and talks for the female students. It will assist in erasing the wrong concept from their minds and install courage that will enable them to enroll for TVET related courses and stay on the course. Haven't

said all the above, without adequate financing of TVET programs, whatever said above is effort in futility. Hence appropriate funding for equipment and resources should be allocated in order to stimulate students interest in TVET related courses, particularly among female students. Also, scholarship programmes targeted at girls and women in TVET should be implemented to increase opportunities for young girls to pursue further study in TVET.

Conclusion

This paper has succeeded in exposing the status of female participation in TVET related courses as being low. This paper also pointed out factors militating against female participation in TVET, they include bad government policy on education, stereotyping, negative attitude attributed to the field, gender bias in the curriculum and failure by the system of education. It also procures ways for enhancing female role models in teaching at higher level of education, adoption of gender-responsive teaching strategies, reviewing of the curricula, introduction career talks and counselling for females, sufficient funding of TVET programmes and scholarship programmes.

The gender-responsive interventions enable female and male students to pursue career in which they can excel in TVET. Therefore, there is need to refocus on gender responsive strategies at all educational levels. At secondary school level, teachers need to be responsive in the way they convey messages relating to TVET courses, teachers need to be supportive and encourage female students in preparation for studying TVET courses. Also, at tertiary level, engineering and technology curricula should be designed to include humanities and be more female friendly, for example by inculcating programmes that will attract female students to TVET courses.

Finally, the need for education and advantages associated with being educated as woman are



enormous, so the government, the school system, the society and other stakeholders should join hands in eliminating inequality in there centre atmen of female students in matters of Technical, Vocational Education and Training.

Recommendation

This paper recommends the following ways of enhancing females participation in TVET related courses:-

1. Implementation of public orientation campaign to encourage parents, teachers and the public at large towards female education in TVET in particular.
2. Practicing women engineers and women that have embraced career in TVET should be attached to young scholars for role modeling and mentorship, and to educate young girls on the prospects of career development in TVET and other science related courses which resulted into gender stereotyping is baseless.
3. There should be comprehensive training and retaining of teacher in gender-responsive teaching strategies so that female gender can develop their full potential in TVET related courses.
4. All barbaric cultural, religious and socio-based institutional practices which are anti-female should be legislated against and decisions reached be fully implemented. Adequate funding by government and other stakeholders in education and technological development should be carried out to ensure effective running of female in TVET programme.
5. Government should as a matter of urgency convoke a conference of stakeholders in education and women leaders to address the conspicuous gap existing between males and females.
6. Female students seeking admission to study TVET related courses should be given preferential treatment during admission.

7. State and Federal Government should introduce scholarship policies for female students in TVET tertiary institutions so as to encourage more female participation in TVET programmes.

References

- Adelakun,O Oviawe, J.,B Barfa.G. (2015), Strategies for Enhancing Female Participation in Technical Vocational Education and Training. *Advances in Social Science Research Journal*, 2(4). Dol: 10,14738/assrj.24.1041.
- Adeleye, T. O (2023), Gender Inequality in Technical And Vocational Education and Training: A Trending Issue in Electrical/Electronics Technology Education in Nigeria. A Book of reading in Honour of Adeola Lukman Kiadese (Phd) Fgsan.
- Afri-Dev,info (2013), Nigeria Girl Child Education Scorecard Highlighting Forced Marriage of Underage Girls and Trends in Adolescent Child Bearing. Retrieved 24/05/2014 from <http://www.afridev.info/sites/default/files/2013%20Nigeria%20Day%of%20Girl>
- Anaele, E. O.; Isiorhovoja, O; Dele, A &Asoluka, C.O. (2014).Strategies for Enhancing Female Participation in Apprenticeship in Technical Occupations, *Indian Journal of Applied Research* 4, 2, 27-30
- Benell, P. (1996). General versus vocational secondary education in developing country; A review of raiste of return evidence. *The Journal of Development Studies* 33(2) 230-247
- Federal Republic of Nigeria (FRN) (2204). National Policy on Education (revised



edition). Lagos: Nigerian Educational Research and Development Council press.

Institute for women's Policy Research (IWPR) (2013). Women and Girls still Missing from Career and Technical Education in High Paying Fields, Some States Showing Progress. retrieved 15/05/2014 from <http://www.iwpr.org/press-room/press-releases/women-and-girls-still-missing-from-career-and-technical-education-in-high-paying-fields-some-states-showing-progress>.

Molestan, R & Reddy V. (2011). Women's Participation in Industrial Science, Engineering and Technology, Human Science Research Council.

Nguyen, D. (2000). The Status of Women in Engineering Education International Journal of Engineering Education, 16(4), 286-291. TEMPUS Publications: Great Britain.

Napikoski L. (2014) Patriarchal Society. Retrieved on 26/05/2014 <http://womenhistory.about.com/od/feminism/a/patriarchal.htm>

Nyerere, J. (2009). Technical & vocational education training (TVET) sector mapping in Kenya for the Dutch Schokland TVET programmed. Endukan Foundation.

Owodunni, A. S, Igwe C. O, Sanni, T. A & Onatunde E. K (2018) Gender Inequality in Technical and Vocational Education Training: A challenge to female education in Nigeria. Journal of Nigerian Association of Teachers of technology JONATT (September, 2016) 11 (3), 200-208. ISSN: 1118-4558 (Print)

The American Association of University Women (AAUW) (2011). Career and technical Education for Women and Girls. Retrieved on 20/05/2014 from <http://www.aauw.org/files/on-career-and-tech-ed-112.pdf> 2013/02/position-on-career-and-tech-ed-112.pdf.

Udeani, U. & Ejikeme, C. (2011). A decade into the 21st Century: Nigerian Women Scientists and Engineers highly Under-represented in Academia. The African Symposium, 11(2)99-105.

UNESCO (2023), The Second-Chance Education for Women and Girls in Nigeria. <https://www.iiep.unesco.org>. (Accessed 4th March, 2025)

UNESCO (2018), Gender Desks on the Frontline of Girls' Education in Nigeria. <https://www.unesco.org>. (Accessed 4th March, 2025)

UNESCO. (2010). Women and Girls' Access to and Participation in Science and Technology Paris: gender UNESCO. <http://www.uis.unesco.org/ScienceTechnology/Documents/unesco-egm-science-tech-gender-2010-en.pdf> (Accessed 30 July, 2014).

UNESCO (2010). Women and Sustainable Development. Retrieved on September 8th, 2014 from <http://www.unesco.org/education/tisf/mods/theme-c/mod12.html?panel=1>

UNESCO-UNEVOC (2010). Case Studies of TVET in selected Countries. Improving the Participation of Female Students TVET programmes Formerly Dominated by Males: The Experience of Selected Colleges and Technical Schools in the Philippines. Nehema, M.



- UNESCO-UNEVOC (2010).Improving the participation of Female Students in TVET programmes Formerly Dominated by Males: The Experience of Selected Colleges and Technical Schools in the Philippines. Bonn: UNESCO.
- Watermeyer, R .and Stevenson,V. (n.d) Discovering Women in STEM: Girls into Science, Technology, Engineering and Maths. Cardiff University. UK. *Open Journal of Gender, Science and Technology*. P.26-46. <http://genderandset.open.ac.uk>.
- World Bank. (2012). Toward gender Equality in East Asia and Pacific. Acompanion to the World Development Report. Washington DC:WorldBank;<http://sistersources.worldbank.org/EASTASIAPACIFICEXT/Reources/2263001339798342386/eap-gender-full-conference.pdf>(Accessed 5 June, 2014).
- Wubon (2013). Girl-Child Education: Important for National Development. Daily Independent, Nigeria Newspaper Retrieved 20/05/2014 from <http://dailyindependentnig.com/2013/04/girl-child-education-important-for-national-development/>