



The Constraints of Expanding Access to Technical Education for Socio Economic Inclusion in Rivers State, Nigeria

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ABSTRACT

The study examined the constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria. Specifically, the study investigated the material and human resource and pedagogical constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria. Three research questions and hypotheses were answered and tested at a .05 level of significance. The study adopted a descriptive survey design. The population of the study comprised an estimated population of 89 male and 14 female technical education lecturers in Rivers State. The population was manageable, therefore, the entire population was used for the study without sampling. A self-made survey questionnaire was used for data collection. The instrument was structured in the pattern of a Likert 5-point rating scale of agreement. The instrument was face validated by two experts in the Department of technical education in Federal College of Education (Technical), Omoku in Rivers State. The reliability of the instrument was established with Cronbach Alpha Reliability Coefficient, which gave a reliability coefficient of .94. Copies of the instrument were administered and retrieved by the researchers within a week of administration. Mean and Standard deviation were used to answer the research questions and to ascertain the homogeneity of responses. This was presented with bar chart. On the other hand, z-test was used to test the hypotheses. The study found among others that insufficient or aging facilities, lack of suitable equipment or tools, insufficient funding for supplies or facilities, lack of competent lecturers or trainers, inadequate training for lecturers, lack of incentives for lecturers, outdated curriculum or syllabus, insufficient assessment or evaluation methods and ineffective teaching methods and strategies are the material, human and pedagogical constraints of expanding access to technical education for socio economic inclusion in Rivers State. Therefore, it was recommended among others that technical education curriculum should be innovated to include modern skills that will equip students for job opportunities in modern industries.

Keywords: Constraints, Socio economic inclusion & Technical Education

INTRODUCTION

Technical education is one of the educational programmes offered in tertiary institutions. Different authors have defined technical education, hence there are several definitions of technical education. Okorie cited in Odo et al (2017) defined technical education in a comprehensive term as those aspects of education process involving the acquisition of practical skills, attitude, understanding and knowledge relating to occupations in various sectors of economic and social life. Also, Ochogba and Deebom (2019) defined technical education as the education that provides the requisite skills needed for self-employment or for gainful employment in industries.

The aim of Technical education is to give adequate training and education to youths and adults and to enable them acquire skills necessary for success in a chosen career. Federal Republic of Nigeria (FRN) (2004) revised (2013) stated that the aims and objectives of technical education include:



- To provide courses of instruction and training in engineering, other technologies, applied sciences, business and management, leading to the production of trained manpower.
- To provide the technical knowledge and skills necessary for agricultural, industrial, commercial and economic development of Nigeria.
- To give training that imparts the necessary skills for the production of technicians, technologists and other skilled personnel who shall be enterprising and self-reliant.
- To train people who can apply scientific knowledge to solve environment problems for the convenience of man, and
- To give exposure on professional studies in the technologies.

Technical education has been an integral part of national development strategies in many societies because of its impact on productivity and socio-economic development. Socio economics is a social science and a branch of economics that focuses on the relationship between social behavior and economics (Tarver, 2024). Socio economics is primarily concerned with the interplay between social processes and economic activity within a society.

Irrespective of the significance of technical education, Ibeneme (2007) lamented that Nigerians do not seem to accord technical education the attention it deserves. Corroborating this view, Aina (2006) asserted that since the introduction of technical education in Nigeria educational system, enrolment in its programmes has remained low. This development has posed inherent danger to technological and national development. Technical education is so misunderstood, that it has become difficult to administer the programme to meet “societal ever changing needs (Toby, 2000 as cited in Oviawe, 2017).

Despite successive governments’ efforts in promoting this type of education, the enrolment is still very poor as compared to enrolment into general education programmes. On the average, Oviawe (2017) opined that students’ enrolment in technical college is only about one per cent (1%) of enrolments in general secondary schools. The implication of this trend is that there is dearth in the production of technicians and craftsmen in the country which may have an adverse implication on Nigeria’s manpower and socio-economic inclusion.

However, previous research shows that expanding access to technical education is constraint by some factors. Uwaifo (2010) stated that technical education programme has witnessed formidable challenges ranging from poor funding to inadequate facilities both quantitatively and qualitatively, non-availability of adequate human capacity, brain drain, poor staff training, university/industry partnerships, defective curricula, traditional approach to teaching, poor equipped workshops, poor monitoring standards and inadequate information and communication technology. Also, Okoye and Okwelle (2013) lamented that the constraints of technical education include inadequate funding, inadequate infrastructure, and poor power supply, shortage of qualified teachers, inadequate curriculum planning and implementation.

Meanwhile, as a country that is classified as a developing country, Nigeria is expected to have holistic growth in areas as important as technology. But with the numerous constraint bedeviling technical education, one would wonder if it will be possible for Nigeria to develop its technology sector. No wonder there has been reports about apathy towards technical education programme, which manifests in low enrollment and access. If Nigeria must solve important issues around the technology sector, there is need to expand access to technical education and this will be possible when the constraints bedeviling technical education in every state are identified. It is against this backdrop that the researcher deemed it fit to investigate the constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria.

Purpose of the Study

The study examined the constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria. Specifically, the study sought to:



1. Determine the material resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria.
2. Examined the human resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria.
3. Investigated the pedagogical constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria.

Research questions

1. What are the material resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria?
2. What are the human resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria?
3. What are the pedagogical constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria?

Hypotheses

The following hypotheses were tested at .05 level of significance:

1. There is no significant difference between the mean responses of male and female technical education lecturers on the material resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria.
2. There is no significant difference between the mean responses of male and female technical education lecturers on the human resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria.
3. There is no significant difference between the mean responses of male and female technical education lecturers on the pedagogical constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria.

METHODOLOGY

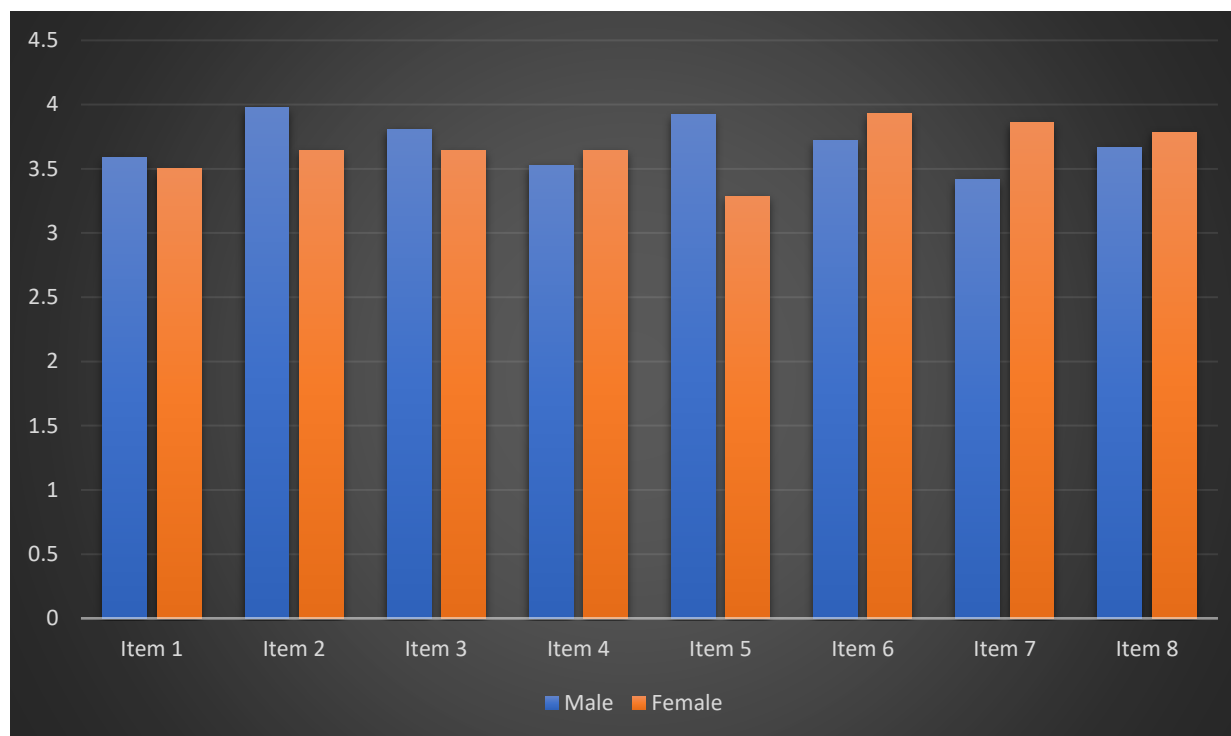
The study was carried out in Rivers State, and the research design adopted was descriptive survey design. The population of the study comprised 89 male and 14 female technical education lecturers in Rivers State. The population was manageable, therefore, the entire population was used for the study without sampling. A self-made survey questionnaire tagged “Constraints of Expanding access to Technical Education for Socio Economic Inclusion (CETESI)” was used for data collection. The instrument was structured in the pattern of a Likert 5-point rating scale of agreement. The instrument was face validated by two experts in the Department of technical education in Federal College of Education (Technical), Omoku in Rivers State. The instrument was validated in reference to: wordings, sentence construction/construct, ambiguity, appropriateness and relevance. The instrument was pilot tested on 8 technical education lecturers who were not part of the population. The reliability of the instrument was established with Cronbach Alpha Reliability Coefficient, which gave a reliability coefficient of .94. Copies of the instrument were administered and retrieved by the researchers within a week of administration. Mean and Standard deviation were used to answer the research questions and to ascertain the homogeneity of responses. This was presented with bar chart. On the other hand, z-test was used to test the hypotheses. The valued judgment made during the study was that Mean scores < 3.00 were rejected while Mean scores ≥ 3.00 were accepted. More so, z-calculated values $< z$ -critical values were accepted which means that there was no significant differences between the responses, while z-calculated values $\geq z$ -critical values were rejected, hence there was a significant difference between the mean responses of the groups.

RESULT AND DISCUSSION OF FINDINGS

Research Question 1

What are the material resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria?

Figure 1: Graphical representation of Mean Scores on the Material Resource Constraints of Expanding Access to Technical Education for Socio Economic Inclusion



Source: Field Survey, 2026

Figure 1 on the material resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria shows that the mean scores of all the items for the two male and female lecturers were above 3.00, which is the acceptable mean value. Therefore, in answer to research question 1, the material resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria include insufficient or aging facilities, lack of suitable equipment or tools, insufficient funding for supplies or facilities, limited access to internet and digital resources, high cost of textbooks and learning materials, limited availability of specialized software and hardware and inadequate distribution of educational materials and equipment. This is in line with Uwaifo (2010) stated that technical education programme has witnessed formidable challenges ranging from poor funding to inadequate facilities both quantitatively and qualitatively, non-availability of adequate human capacity, brain drain, poor staff training, university/industry partnerships, defective curricula, traditional approach to teaching, poor equipped workshops, poor monitoring standards and inadequate information and communication technology. Also, Nwogu and Nwanoruo (2011) cited in Onwusa (2021) stated that the challenges of technical education are numerous, which include inadequate human and material resources in terms of quality and quantity; poor funding of technical education, inadequacies in infrastructural facilities, poor quality preparation of lesson by technical education teachers and social vices.

Research Question 2

What are the human resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria?

Figure 2: Graphical representation of Mean Scores on the Human Resource Constraints of Expanding Access to Technical Education for Socio Economic Inclusion

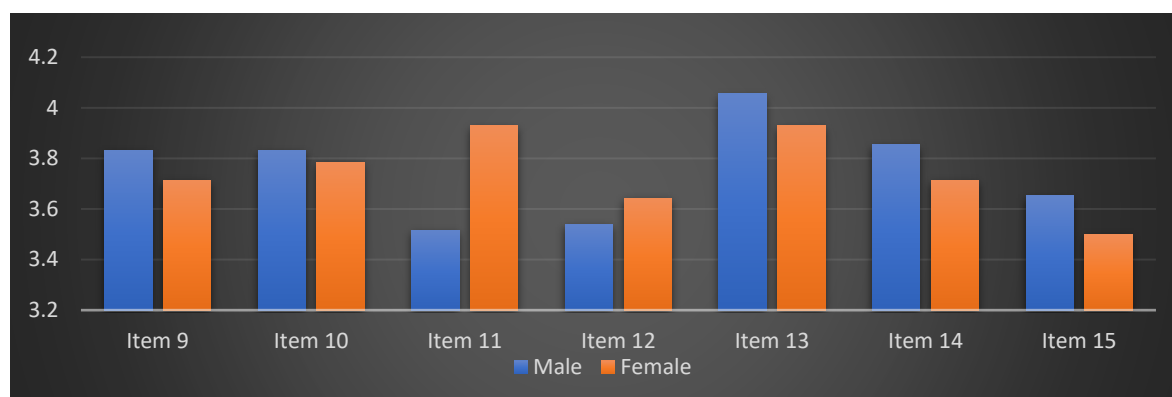


Figure 2 on the human resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria shows that the mean scores of all the items for the two male and female lecturers were above 3.00, which is the acceptable mean value. Therefore, in answer to research question 2, the human resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria include inadequate number of competent lecturers, inadequate skills development training for lecturers, lack of incentives for lecturers, limited number of lecturers with industry experience, inadequate teacher training and professional development opportunities, poor lecturer/management relationship and poor remuneration of lecturers. This is in agreement with Okoye and Okwelle (2013) who lamented that the constraints of technical education include inadequate funding, inadequate infrastructure, and poor power supply, shortage of qualified teachers, inadequate curriculum planning and implement. Also, Nwogu and Nwanoruo (2011) cited in Onwusa (2021) stated that the challenges of technical education are numerous, which include inadequate human and material resources in terms of quality and quantity; poor funding of technical education, inadequacies in infrastructural facilities, poor quality preparation of lesson by technical education teachers and social vices.

Research Question 3

What are the pedagogical constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria?

Figure 3: Graphical representation of Mean Scores on the Pedagogical Constraints of Expanding Access to Technical Education for Socio Economic Inclusion

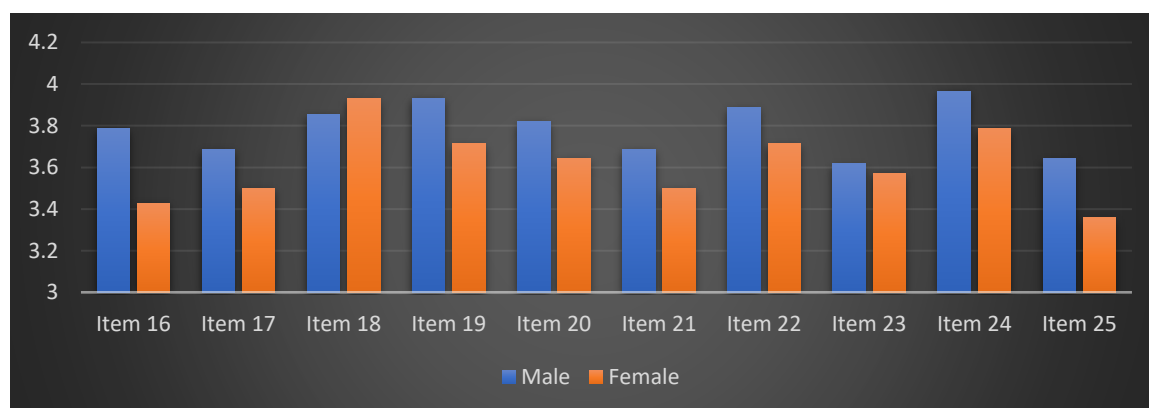


Figure 3 on the pedagogical constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria shows that the mean scores of all the items for the two male and female lecturers were above 3.00, which is the acceptable mean value. Therefore, in answer to research question 3, the pedagogical constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria include outdated curriculum or syllabus, insufficient assessment or evaluation methods,

ineffective teaching methods and strategies, limited focus on practical and applied learning, inadequate integration of technology and digital tools in teaching, limited opportunities for project based and experiential learning, limited flexibility and adaptability in teaching approaches, limited opportunities for collaborative and team based learning, inadequate integration of industry-specific skills and standards and limited focus in entrepreneurship and innovation. This is in consonance with Uwaifo (2010) who stated that technical education programme has witnessed formidable challenges ranging from poor funding to inadequate facilities both quantitatively and qualitatively, non-availability of adequate human capacity, brain drain, poor staff training, university/industry partnerships, defective curricula, traditional approach to teaching, poor equipped workshops, poor monitoring standards and inadequate information and communication technology. Also, Okoye and Okwelle (2013) lamented that the constraints of technical education include inadequate funding, inadequate infrastructure, and poor power supply, shortage of qualified teachers, inadequate curriculum planning and implement

Hypotheses

Table 1: z-test Analysis on the Constraints of Expanding access to Technical Education for Socio-Economic Inclusion

Hypothesis	Category	n	$\bar{x}$	SD	DF	z-cal	z-crit	Decision
H0 ₁	Male	89	3.7	1.3				
					101	0.09	1.96	NS
	Female	14	3.66	1.62				
H0 ₂	Male	89	3.95	1.01				
					101	0.36	1.96	NS
	Female	14	3.85	0.96				
H0 ₃	Male	89	3.77	1.08				
					101	0.04	1.96	NS
	Female	14	3.76	0.9				

The result in Table 1 shows that the z-cal for H0₁ was .09, which is less than the z-crit of 1.96, meaning that H0₁ was accepted. Thus, there was no significant difference between the mean responses of male and female technical education lecturers on the material resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria.

Also, the result in Table 1 shows that the z-cal for H0₂ was .36, which is less than the z-crit of 1.96, meaning that H0₂ was accepted. Thus, there was no significant difference between the mean responses of male and female technical education lecturers on the human resource constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria.

More so, the result in Table 1 shows that the z-cal for H0₃ was .04, which is less than the z-crit of 1.96, meaning that H0₄ was accepted. Thus, there was no significant difference between the mean responses of male and female technical education lecturers on the pedagogical constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria.

CONCLUSIONS

The study deduced that insufficient or aging facilities, lack of suitable equipment or tools, insufficient funding for supplies or facilities, limited access to internet and digital resources, high cost of textbooks and learning materials, limited availability of specialized software and hardware and inadequate distribution of educational materials and equipment, inadequate number of competent lecturers, inadequate skills development training for lecturers, lack of incentives for lecturers, limited number of lecturers with industry experience, inadequate



teacher training and professional development, poor lecturer/management relationship and poor remuneration of lecturers, outdated curriculum or syllabus, insufficient assessment or evaluation methods, ineffective teaching methods and strategies, limited focus on practical and applied learning, inadequate integration of technology and digital tools in teaching, limited opportunities for project based and experiential learning, limited flexibility and adaptability in teaching approaches, limited opportunities for collaborative and team based learning, inadequate integration of industry-specific skills and standards and limited focus in entrepreneurship and innovation are the material, human and pedagogical constraints of expanding access to technical education for socio economic inclusion in Rivers State, Nigeria.

RECOMMENDATIONS

The following recommendations are made:

1. Management of technical education departments should partner with related industries within their area in order for students to utilize or learn with their facilities during field trip activities.
2. Management of technical education department should regularly invite experts in the various fields in technical education to conduct training for technical education lecturers.
3. Technical education curriculum should be innovated to include modern skills that will equip students for job opportunities in modern industries.

REFERENCES

1. Aina, O. (2006). Technical and vocational education in Nigeria: the way forward. A paper presented at ETF zonal sanitation workshop on the importance of technical and vocational education in Nigeria
2. Federal Republic of Nigeria (2013). *National Policy on Education (Revised Ed)*. Nigerian Educational Research and Development Council.
3. Ibeneme, O.T., & Udeh, M.E. (2021). Practical skill needs of technical college graduates of motor vehicle mechanics for employment in Anambra and Enugu States. *African Journal of Educational Management, Teaching and Entrepreneurship Studies*, 3(May-August), 150-157
4. Ochogba, C. O. & Deebom, M. T. (2019). The role of plant layout in the implementation of technical education programmes in Rivers State, Nigeria. *British International Journal of Education and Social Sciences*, 6(1), 20-25.
5. Odo., J.U., Okafor, W.C., Odo, A.L., Ejikeugwu, L.N., & Ugwuoke, C.N. (2017). Technical education – the key to sustainable technological development. *Universal Journal of Educational Research*, 5(11), 1878-1884.
6. Onwusa, S.C. (2021). The issues, challenges and strategies to strengthen Technical, Vocational Education and Training in Nigeria. *International Journal of Research and Innovation in Social Science* V(V), 48-59
7. Oviawe, J.I. (2017). Fostering students' enrolment in technical education programmes through career guidance and occupational awareness. *Education Journal*, 6(4), 125-132.
8. Tarver, E. (2024). What is social economics, and how does it impact society?. <https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.investopedia.com/terms/s/social-economics.asp&ved>
9. Uwaifo, V. (2010). Technical education and its challenges in Nigeria in the 21st century. <https://www.researchgate.net/publication/228374887-Technical-education-and-its-challenges-in-Nigeria-in-the-21-st-Century>