



## **Re-Equipping Technical Vocational Education and Training (TVET) Programme through Innovative Research for Manpower Development in Kogi State**

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### **Abstract**

*This study dealt with re-equipping Technical Vocational Education and Training (TVET) programme through innovative research for manpower development in Nigeria. In spite of the importance of Education in National Development, Technical Vocational Education has not been accorded the desired attention in terms of research for sustainable development in Kogi State. Two research questions and two hypotheses were postulated for this study. The population consisted of 50 in all, ten (10) Technical Vocational Education teachers, 32 students of senior secondary school and 6 lecturers tertiary institutions in Kogi State, irrespective of gender, qualification, age and length of teaching experience. A descriptive survey was employed and sample for the study comprised of 38 respondents. Random sampling technique was used 04 lecturers were selected, 06 technical vocational education teachers and 28 students of senior secondary school. The instrument (Questionnaire) for data collection was adopted and faced validated by 03 experts, 02 from College of Education Technical and 01 from Federal University of Technology. A pilot test to determine their reliability was carried out. This was done to highlight possible weaknesses associated with the proceeding of the research and the instrument. The subjects were picked from the study population but not the actual sample for the study. The reliability was obtained using spearman Brown prophecy*

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*formula involving the correlation between the scores of the subjects in the even and odd items. The value of the correlation was calculated at 0.75, which made the instrument suitable for the study. Based on finding, recommendations were made that there should be continuous research and workshop that will promote mutual exchange of knowledge and experience. Government and institutions should formulate policies that will enhance conducive environment for teaching, learning and re-equipping Technical Vocational Education and Training programme.*

**Key words:** Technical Vocational Education and Training (TVET) Innovative, Research Re-equipping, Manpower Development.

## **Introduction**

Technical-Vocational Education and Training (TVET) is an aspect of Educational System involving pre-service instruction which may be occupation-specific. According to Hadi (2016) TVET is an area that merits high investment priority. Unfortunately, this area has suffered low attention severe that in many institutions workshops cannot maintained, equipment has not been replaced; materials for practical are woefully inadequate. Vocational and Technical Education is any for Education whose primary purpose is to prepare persons for employment in an organized occupation. Thus, in a context of economic uncertainty and rapid technological change, this must seek to improve the quality and flexibility manpower.

Experience shows that this is more easily achieved when students has benefited from well and solid Technological Training United Nation Education Scientific and Culture Organisation (UNESCO, 2012) concluded that TVET shall produce through the institution of industrial education, technical education and vocational education, more job creators than job seekers.

### **The Vision and Mission of TVET are:**

1. To eliminate unemployment by equipping the teaming youth that are out of school and adult with salable skills.
2. To acquire appropriate skills abilities and competencies both mental and physical as equipment for the individual to live in and contribute to the development of the society. Towards achieving and in fulfillment of the mission, Federal Republic of Nigeria (FRN, 2013) some objectives of TVET are to:



3. Expand the productive base of the economy through increased and equipped institutions that offers agricultural, industrial, technical and other vocational training.
4. Develop new infrastructural facilities to complement the existing ones to provide conducive environments for teaching and learning.

The conceptual aspect of achieving the purpose of National development as prescribed in the national policy document concerning TVET could be improved through innovative research. Thus, innovative research is defined as the use of new method, ideas or device to the application of better solution that meet new requirement and existing market needs. This is accomplished through more-effective products, processes, services, technologies and business models that are available to market and society (Aliyu & Tukur, 20140).

Consequently, innovative research in a general term is a means to first introduce into reality something better than before which opens up a new area for others to achieve an improvement. Adinoyi (2013) cited in Suleiman and Akpale (2010) emphasized that in developing countries, sustainable access to technology and products are best achieved through innovative research. For TVET to be meaningful and successful in Nigeria, then research must be effectively exploited. In another dimension, Enesi (2010) observed that the innovation as a tool do disrupting patterns of poverty has gained momentum among major international development sectors such as Department For Internal Development (DFID) and United States Agency for International Developments (USAID's). Enesi went further to note that networks have been established to support innovation in development. Investment funds have also been established to identify and catalyze innovative research in developing countries. Accordingly, academic research and its contribution to business development is much broader that originating new product ideas or new technology-based companies. The main contribution of tertiary institutions in this process is to educate and scientifically train people. They will also be able to make good assumptions about where to seek solutions to problem arising in the development process Omeiza (2010). This is why Joshua and Victor(2010) advocated that time has come for Nigerian institutions and government to re-equip TVET programme for delivery of core services, such as teaching and research among others.

### **Statement of the Problem**

One of the major problems faced by Technical Vocational Education and Training programme is inability of the teachers to carry out innovative research to develop their manpower, other problems are inadequate qualified skills and competent teachers for teaching and inability of the students to practicalized skills acquired due to lack of materials and necessary equipment. Utmost of these is fund, research and development of personnel among others. Adamu (2011) opined that the inability of Nigeria government to adequately finance technology and vocational education is a serious impediment to national growth and



development. A contemporary problems of technical and vocational education in Nigeria is the poor status of both the provider and receiver. Emphasis is on developing manpower forgetting that there must be a well-trained and well-motivated manpower to create and develop the needed manpower (Nwosu, 2000). Likewise, Olaitan and Okoro (2012) lamented that though TVET programme have been established by both federal and state government, vocational training centers built by governments, individuals and organizations, polytechnics and similar institutions established in all states, yet, there is inadequate of qualified human and resource development.

### **Purpose of the Study**

The purpose of this study was to find out the major problem faced by Technical Vocational Education Programme for inability of the teachers to carry out innovative research. The study specifically sought to:

### **Research Questions:**

The study specifically sought to:

1. Determine the effect of innovative research and technical vocation education teachers' development.
2. Determine the effect of innovative research and students' practical skills acquisition for employability.

### **Null Hypotheses**

Two hypotheses were tested at 0.05 level of significance

These hypotheses were:

1. There is no significant difference between innovative research and technical vocational teachers' development.
2. There is no significant difference between innovative research and students' practical skills acquisition.

### **Significance of Study**

The findings of the study will be made available to stakeholders in education and will be useful to both students and teachers. The identified solutions when implemented will upgrade the knowledge of teachers to properly inculcate skills and competencies into the learning of



students, will help to ameliorate the rate of unemployment of graduates because they possess the required skills for productive use in work places.

### Methodology

Survey design method was employed for this study to answer the research questions on how re-equipping TVET programme could be achieved through innovative research for skills and development in Kogi State, Nigeria. Two research questions were raised in this study and two null hypotheses were formulated and tested to provide answer to the research questions. Due to the size of the population involved in the study only 38 respondents were sampled for the study with the use of simple random sampling method. Data collection was a structured questionnaire of six (06) items developed by the researcher on a 4-point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The instrument of the study was subjected to face validation by three experts, two from College of Education Technical and one from Federal University of Technology all in Kogi State. The reliability of the instrument was carried out by pre-testing 20 respondents selected from other institutions who are not part of the sample of the study but possess the same attribute of the respondent used for the study. The reliability coefficient obtained was 0.88 Cronbach Alpha method was used to analyse the data, which was high and above the recommended accepted value of 0.75 for good reliability (Wright, 1990) therefore, the instrument was graded as reliable enough for use in data collection for the study. The researcher went to institutions used for study and administered 38 copies of the questionnaire. All the 38 copies of the instrument were properly completed and retrieved within one week. The mean, standard deviation and the t-test statistical analysis scores for the difference groups were computed and used in answering the research questions and testing the null hypothesis. The level of significance adopted for the analysis was  $p \leq 0.5$  this level of significance formed the basis for rejecting or not rejecting each of the hypotheses. For the null hypotheses, the standard for decision was to reject the null hypotheses when the p. value was less than .05 alpha level.

### Results

Analysis of the pre-test and post-test collected were used to answer the research questions using the two null hypotheses guide. Means, standard deviations and the t-test were employed in analyzing the pre-test and post-test data.

### Null Hypotheses

**Hypothesis 1:** There is no significant difference between innovative research and technical vocational teachers' development.

**Table 1:** Summary of difference between innovative research and TVE teachers' development

Variables	n	$\bar{X}$	SD	t-value	Sign	Decision
VTE teachers	38	13.84	2.86	0.22	0.02	Significant
Innovative Research	38	13.65	3.09			

$P < .05$ ;  $df = 36$  crit.  $t = 1.96$

The analysis in Table 1 produced a t-value of 0.22. When compared to the critical t-value of 1.96 at .05 confidence level with 38 degree of freedom. It was found to be greater. Based on this result, the null hypothesis was not retained. This means that there was significant influence of innovative research on TVE teachers' development.

**Null Hypothesis 2:** There is no significant difference between innovative research and students' practical skills acquisition

**Table 2:** Summary of difference between innovative research and students' practical skills acquisition

Variables	n	$\bar{X}$	SD	t-value	Sig.	Decision
Students	38	64.66	5.82	15.54	.001	Significant
Innovative Research	38	49.63	4.79			

$P < .05$ ;  $df = 36$  crit.  $t = 1.96$

The analysis in Table 2 produced a t-value of 15.54 when compared to the critical t-value of 1.96 at .05 confidence level with 36 degree of freedom. It was found to be greater. Based on this result, the null hypothesis was rejected. This means that there was significant influence of innovative research on students' practical skills acquisition.

## Conclusion



Based on the findings that were gathered during investigation, although perceptions of respondents differ significantly, re-equipping TVET programme through innovative research for manpower promotes development (education, skills and human capital) in Kogi State, Nigeria. It was observed that our Nation's economic growth depends on our capacity to educate, innovative and build, long-term national investments in basic and innovative research and development (R&D) play an important role in the flow of market-based innovations through a complex system that ravages the combined talents of engineers, scientists and technologists, entrepreneurs, business manager and industrialists. This implies that innovation has long been recognized as an important driver of economic growth. Empirical research and surveys of business activities show that innovation leads to new and improved products and services, higher productivity and lower prices. As a result, economics that have consistently high levels of innovation also tend to have high level of growth.

### Recommendations

In the light of the findings of study, the following recommendations were made:

1. There should be research and practice that will promote a continuous, mutual exchange of knowledge and experience, not seek to retrospectively "transfer knowledge".
2. The government institutions should formulate policies that will create institutional arrangements for interdisciplinary, problems based research, in collaboration between users.
3. There should be policies that must create, stable framework conditions that will provide space and incentives to experiment with new methods and ideas.

### References

- Adamu, C. (2011). Technical and Vocational Education in Nigeria. A critical analysis. Paper presented at the Seminar on TVET in Nigeria. Abuja, Nigeria.
- Akpale, J. (2013). Actualizing vision 20/2020 through TVET New Nigeria 12(10): 8.
- Ali, A. S. and Michael C. M. (2011). Restructuring Vocational and Technical Education in the 21<sup>st</sup> century for sustainable development. *Journal of Vocational Education* 2(5), 1-6.
- Alibebe, F. (2014). Role of Vocational and technical education in national development. *Journal of Technical Teacher Education*, 1(2); 6.
- Enesi, E. (2011). Questioning two myths innovation literate. *Journal of high technology management research* 20(1), 40-51.



- Ezeji, C. (2018). *Technology Teacher Training for development in Nigeria, problems and Remedies*. Lagos: International Publishers Ltd.
- Joshua, J.A. and Victor E. A. (2009). The dynamics sustainable innovation Journeys: *Technology Analysis and Strategic Management*, 20(5); 521-536.
- Nyere, J. (2010). Nigerian Women Vocation Education, the situation so fair. *Journal of Vocational Technical Education*, 4(15), 17.
- Okoro, M. (2009). *Principal and Methods in Vocational and Technical Education: Nsukka* University Trust Publishers.
- Olaitan S. O. OkoroM. O. and Dele K. K. (2012). Vocational Technical in Nigeria; Challenges and the way forward. *Nnamdi Azikwe University Orient Journal of Education*, 2, (1), 180-189.
- Omeiza, F. (2009). Problem areas in Nigeria Education. *Nigeria Journal of Technical Education* 3(2), 13.
- Tukur, C. (2014). Enhancing industrial productivity through Technical teacher Education. *Nigeria Journal of Technology Teacher Education (NIJOTTE)*.
- Ugbomah, M. (2012). Restructuring Vocational and Technical education in the 21<sup>st</sup> century for sustainable development. *Journal of Vocational Education*. 2(5): 1-6.
- UNESCO (2012). *The State Education in Nigeria*. Abuja office.