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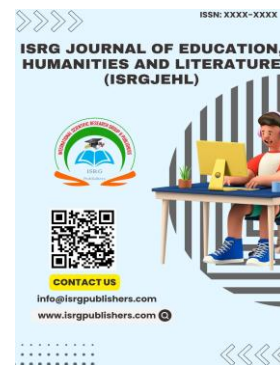
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Reequipping As Strategies For Overcoming Challenges Clogging The Wheel Of TVET For Sustainable Economic Development In Tertiary Institutions

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Abstract

The serious neglect noticed concerning Technical and Vocational Education and Training (TVET) called for this study "reequipping as strategies for overcoming challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions." Two research questions guided the study and three null hypotheses were formulated. Descriptive survey research design was adopted. The population was 69 TVET lecturers and census sampling technique employed. A five-point response options questionnaire was used for data collection, and it was validated by three experts. The reliability of the instrument was established using Cronbach's alpha which yielded coefficient of 0.83. Mean was used to answer the research questions, while one-way analysis of variance (ANOVA) and t-test were used to test the null hypotheses at 0.05 level of significance. Findings revealed that the challenges clogging the wheel of TVET was at a very high level, and the strategies for overcoming the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions were at a very high level. Therefore, it was concluded that if the strategies are adopted, the various challenges clogging the wheel of TVET for sustainable economic development will be overcome. This means that the learners and the nation will benefit from the TVET contents to achieve sustainable economic development. Among other vital points, it was recommended that TVET should be reequipped via adequate financing for Nigeria to empower her citizens with lifelong and high demanding skills for sustainable economic development.

Keywords: Reequipping TVET, strategies for overcoming challenges, sustainable economic development, and tertiary institutions.

Introduction

Education is a process of imparting and acquiring knowledge, experiences and skills that bring positive changes in individuals and societies. Education develops values and ideals such as honesty, selflessness, tolerance, dedication, and hard-work and personal integrity in individuals for good citizenship of all. Technical and Vocational Education and Training (TVET) is involved with the acquisition of skills, competencies, and knowledge for the changing world of work (UNESCO-UNEVOC, 2019). TVET is an incredibly diverse sub-sector of education and training. It comprises formal, non-formal, and informal learning. It develops skills, competencies and knowledge from basic to advanced levels and shapes people's attitudes for skills and employment. TVET harnesses and improves skills for innovation, working, lifelong learning, and living, as well as for a contribution to human, socio-economic, environmental, and technological aspects of development from public and private vocational institutes, and tertiary institutions (UNESCO-UNEVOC, 2019).

Similarly, TVET is structured as a set of approaches to learning, both to prepare students for the world-of-work, for well-being later in adult life. Additionally, TVET can contribute significantly to skills development and also to human resource strategies and policies that are targeted to serve the different needs of the national and international labour markets. In particular, as the experience of numerous countries shows, successful TVET can serve as an effective function in skills development, both traditionally and in new trades and industries for sustainable economic development. It can also build societal, group, and individual re-adjustment after catastrophe, conflicts and strengthens resilience and social capital development (Igberaharha, 2021). Unfortunately, after many years of existence, Nigeria as nation seems to have been seriously threatened with unemployment, poverty, social and economic instability, insecurity, corruption, insurgents, banditry, underdevelopment, environmental challenges and unscrupulous leadership amongst others even with the presence of TVET (Onwusa, 2021). TVET is also appears to have been challenged with low enrolment and inadequate skilled workforce, obsolete instructional facility, inadequate funding, poor staffing, poor linkages with industry and general deficiency in quality. In addition, evaluation in all sectors of education tends to be by conventional examinations, which generally does not factor in practical techniques in meeting industry needs for sustainable economic development. The disastrous situation may not have been unconnected with the views of Okoye and Okwelle, (2013), Onyesom and Ashibogwu (2013) who observed inadequate funding of TVET; inadequate infrastructures; poor power supply; shortage of qualified TVET teachers/instructors; poor supervision, non-recognition of higher qualification of TVET programmes; inadequate curriculum planning and implementation as some of the challenges weakling TVET's strength (Ismail, Adnan, Masek, Hassan, Hashim & Ismail, 2018).

Meanwhile, if properly reequipped, TVET could be strategically positioned to tackle poverty alleviation, weak economic growth and low productivity, social inequality, instability and insecurity, the menace of environmental decadence and poor knowledge of green practices for sustainable economic development (Ukata & Nmehielle 2023; Onwusa, 2021).

Reequipping Technical and Vocational Education and Training seems to be the only strategy Nigeria can catch up with developed countries in terms of digital technological and sustainable

economic development. The United Nations youth envoy to Nigeria, Ms. Jayathma Wickramanayake, during her visit, harped on this global reality as an important modality towards achieving the Sustainable Development Goal four (This day live, 2018).

Accordingly, This day live (2018) posited that to reduce unemployment, poverty and hunger, as well as violence, their attention must be reduced from the preference for education for 'job seeking' and focus on reequipping Technical and Vocational Education and Training for 'self-reliance, job and wealth creation. There is no gainsaying that developed countries such as Japan, China, USA and Germany have attained a tremendous height in terms of industrialization, employment and sustainable economic development as a result of consistent investment and access to TVET skills by its citizens (Okwelle & Deebom, 2017). National Universities Commission (NUC) who maintains oversight functions over the universities; the National Board for Technical Education (NBTE) oversees the polytechnics; and the National Commission for Colleges of Education (NCCE) takes charge of the Colleges of Education (Ndukwe & Allen, 2018). These agencies established by the government and have developed the Minimum Academic Standards (MAS) as benchmark for Quality Assurance and institutional self-assessment that serve as reequipping of TVET should reassess themselves and make institutions running TVET live up to expectation (Onyesom & Ashibogwu, 2013).

There are various strategies TVET can be reequipped for sustainable economic development. Various literatures concludes that China became the manufacturing hub of the world through her organized TVET system and acknowledged as the second world largest economy. Although the White House Office Trade and Manufacturing Policy (2018) described the developmental path taken by China as economic aggression, there were still commendable acknowledgements of enterprise proliferations in China where over 300 entrepreneurial parks housing about 24,000 enterprises exist. Likewise, Xinyu (2019) reported that the unemployment rate in China urban areas was at 3.8% in 2018, yet 980 Million Yuan were spent on giving vocational training to the jobless. TVET undoubtedly plays commendable roles in the labour market of China as such the necessity to reequipping as strategies for submerging challenges clogging the wheel of TVET for sustainable economic development. Similarly, the significant impact to the labour market potentials of TVET was the German-style reequipping strategy of vocational education called Dual TVET where there is two-fold education in which schools and firms share responsibilities of providing TVET through apprenticeship training (Remington, 2017). The major strides of German dual system are in the supply of highly skilled labour in accordance with the demand of the highly technologically driven economy, making certain the quickest transition from school to work thereby ensuring that the youth unemployment remains low. Also, the unemployment rate of Germany stood at 3.1% in August 2019, but, TVET automatically helps to improve the economic and the labour-market in Germany (Remington 2018 & Remington, 2017).

Germany reequipped TVET with one of the objectives of the programme for promote the vocational education of gifted young people and to raise the standard of vocational education and training to improve the German industrialized system Likewise, in August 2019, Malaysians' unemployment rate was reported to be 3.4%. Malaysian TVET style was reequipped through embedded three models which are; a liberal model where industries dictate the skills and knowledge; the bureaucratic model where the power

rests with the government and the dual system noted for partnership between institutions and industries. It implies that in the fusion of the three models, Malaysia seeks to utilize the full benefits of TVET and achieve the envisaged industrial revolution (Onwusa, 2021). In Denmark, efforts were made by the government to increase the number of training places and reequipping their practical element.

The reform implies substantial changes in structure and contents such as emphasis on social and personal skills to achieved national development through TVET (Zite & Deebom, 2017). Kenya reequipped her TVET through the 8-4-4 system with emphasis on technical and vocational education to ensure that graduating students at every level have some scientific and practical knowledge that can be utilized for self-employments, salaried employment or further training (Zite & Deebom, 2017).

UNESCO-UNEVOC (2006) identified and suggested three main types of TVET programmes namely formal, non-formal and informal TVET to be strengthened. According to the organizations, formal TVET refers to organized vocational education programmes provided within an approved public educational or training institution and it is structured (in terms of curriculum, learning objectives and learning time) such that it constitutes a continuous “ladder” where one level leads to the next and finally leads to certification. Non-formal TVET is the type of vocational education and training which takes place outside the formal school system either on a regular or intermittent basis. It has the advantage of shorter duration, is occupation-specific and its main emphasis is on the acquisition of practical skills for direct employment. On the other hand, Informal TVET is the type of vocational education that is provided by craftsmen of different (Ndukwe & Allen, 2018). Overall, studies validate and continually applaud the labour market potentials of TVET achieved if reequipped with the appropriate strategies. In addition, there seems to be a great gap between the two providers of TVET (public and private) in Nigeria. The private sector provides trainings that are directly profitable to its sustainability of the system, often inconsistent with the public sector (Akoojee, 2016). The public sector on the hand faces great challenges of meeting with the system demands, management and funding of TVET alone without a clear guideline on exploring the roles of the private sectors. There is need for the government to adopt UNESCO’s recommendation of transforming its role to a regulator and not the sole provider of TVET for advancement and sustainable economic development. There is need for private public partnership (PPP) model for skills development and to revive and strengthen TVET sector in Africa. There is also need for collaboration between the TVET institutions and industries as reequipping strategies that would keep the learners abreast with new trends in the changing workplaces. Students with interests and skills should be admitted into TVET institutions (Bello & Muhammad, 2021; This day live, 2018). Furthermore, reequipping TVET also fosters gender equality campaigns across policy documents.

The issues of traditional and non-traditional occupations with respect to the female counterpart was bridged by granting equal access to career paths making TVET an inclusive education (Onwusa, 2021). One of the critical strategic indices in the training and development of occupational capacity in TVET is the availability and adequacy of competent trainers or teachers. In TVET, teachers are highly significant in establishing the level of excellence of TVET results (Igheraharha, 2021). UNESCO-UNEVOC (2019) reported that “TVET teachers in developing

countries frequently fail to meet the demands of the world of work. The teachers’ poor pedagogical skills significantly decrease the process of know-how transfer to the students, with the result that education in its entirety loses its effectiveness. The nexus concerning the relevance of practical and vocational training should improve to the extent that it can bring about a new framework in the qualifications of the teacher (Chakroun, 2019).

The justification for this study, “reequipping as strategies for overcoming challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions.” was because, it exposed the challenges clogging the wheel of TVET and strategies for submerging the challenges for sustainable economic development. Also, although there are related literature to this study, there is no exact study like this in contents and scope with the same moderated factors. Therefore, this investigation is extraordinary among others and a new path in the body of knowledge. The contents scope of this study was limited to challenges clogging the wheel of TVET and strategies for submerging the challenges for sustainable economic development. The subjects for this study are male and female TVET lecturers with different levels of educational attainment and years of teaching experience in state and federal public tertiary institutions in Rivers State.

The moderating variables include; educational attainment, institution ownership (federal and state), and years of teaching experience. Institution ownership will be federal and state tertiary institutions. This is because lecturers in federal institution may be familiar with reequipping TVET for sustainable economic development in tertiary institutions than those in the state (Ukata & Silas-Dikibo, 2023). Educational attainment as a moderating factor is the level of education a lecturer attained as at the time of this investigation. This may be National Diploma (ND), Higher National Diploma (HND), Bachelor of Science (B.Sc.), Bachelor of Education (B.Ed.), Master of Science (M.Sc.), Master of Education (M.Ed.), and Doctor of Philosophy (PhD). The institutions ownership are federal and state governments. They are tertiary institutions owned by federal and state governments that run TVET. The federal institution is Federal College of Education (Technical) Omoku (FCET- Omoku), while the state institutions are Rivers State University (RSU), Ignatius Ajuru University of Education (IAUE), Kensaro Wiwa Polytechnic (KENPOLY) and Captain Elechi Amadi Polytechnic (CEAPOLY). These are the only government’s tertiary institutions that runs TVET programme. The researcher decided to use these variables because they are likely to influence the subject.

For example, a lecturer with Doctor of Philosophy (PhD) may know better than a lecturer with Master of Science and Bachelor of Science challenges clogging the wheel of TVET and strategies for submerging the challenges for sustainable economic development, while federal institution lecturers may know better than the state tertiary institutions, perhaps as a result of funding, training or otherwise (Ukata and Udeh, 2022). Taiwo and Ade-Ajayi (2015) revealed that teachers’ educational attainment can have great influence on perceived factors affecting effective teaching and learning of any programme. Taiwo and Ade-Ajayi (2015) further advanced that educational attainment of teachers can have influence on their understanding of the subject matter, selection of tools, use of appropriate instructional strategies and classroom management skills applied in teaching. Top Education Degrees (2020) averred that, institution ownership play major roles in reequipping as strategies for submerging challenges clogging the

wheel of TVET for sustainable economic development. This is because federal institutions may provide better salary packages, better teaching environments, aids, laboratories, motivation, worker-friendly policies, compensation and staff development programme than state institutions. Scholars (2013) affirmed that teaching experience and age are among the factors that influence lecturers' competencies because younger and experienced lecturers are more likely to perform at a higher level than older and less experienced ones. So, they are variables of interest in this investigation.

Statement of the Problem

TVET is a core aspect of education launched in Nigeria for a dynamic and self-reliant economy. Unfortunately, this dream seems to have remained disappointingly as demonstrated due to high rate of unemployment, poverty, low technology development, and high rate of school drop-out, weak economy and limited wage opportunities (Okoye & Okwelle, 2013). The problem of this study is that, despite many years of existence of TVET with its attendant benefits seen to have been recorded by other nations, there appears to be challenges clogging the wheel of TVET for sustainable economic development in Nigeria appears which may be connected with the views of Okoye and Okwelle, (2013), Onyesom and Ashibogwu (2013) who observed inadequate funding of TVET; inadequate infrastructures; poor power supply; shortage of qualified TVET teachers/instructors; poor supervision, non-recognition of higher qualification of TVET programmes; inadequate curriculum planning and implementation as some of the challenges (Ismail. Adnan, Masek, Hassan, Hashim, & Ismail, 2018). It seems also because of these challenges noticed, the Nigeria undergraduates are not meeting and may not meet the industry needs of the desired skills for sustainable economic development. This is the reason for this study "reequipping as strategies for submerging challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions."

Purpose of the Study

The purpose of this study was to determine reequipping as strategies for submerging challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions in Rivers state. The specific of objectives of this study are to find out:

1. Challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions.
2. Strategies for overcoming the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions.

Research Questions

The following three research questions guided the study:

1. What are the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions?
2. What are the strategies for overcoming the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant difference in lecturers' mean ratings on the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions based on (PhD, M.Sc. /M.Ed., and B.Sc./B.Ed./HND).
2. Lecturers do not differ in their mean ratings on the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions based on institution ownership (federal and state).
3. Years of teaching experience (1-5, 6-10, and above 10 years) do not influence lecturers' mean ratings on the strategies for overcoming the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions.

Methodology

The study adopted descriptive survey research design on reequipping as strategies for overcoming challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions in Rivers state. The population of the study was all the 69 TVET lecturers from the five public tertiary institutions (two universities, two polytechnics and one college of education) in Rivers State. The populations distribution is as displayed in figure 1 using Exploded Pie in 3-D

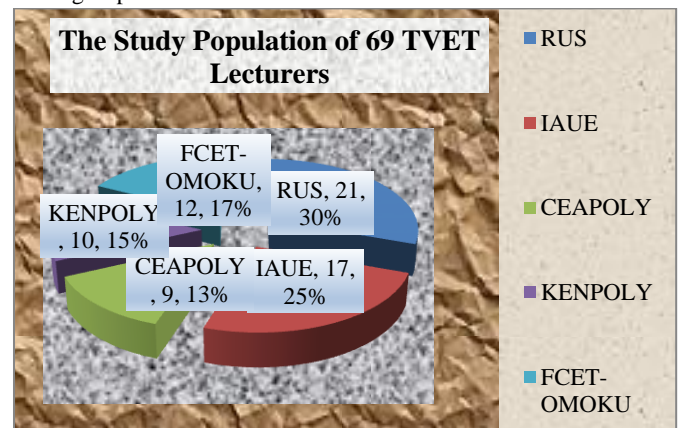


Figure 1: Source: (Researchers' creation 2023)

Census survey was adopted to sample all the 69 lecturers because it was manageable size. The instrument used for data collection was a self-designed four-point response options questionnaire titled, "Reequipping as Strategies for Overcoming Challenges Clogging the Wheel of TVET (R-SOCCW-TVET)." It contains sections 1 and 2 with 16 and 40 items on each, using scale of real number limit of (4.50 - 500), high level (3.50 - 4.49), moderate level (2.50 - 3.49), and low level (1.50 - 2.49). The questionnaire was subjected to face and contents validation by three experts from the Faculty of Education in Nnamdi Azikiwe University, Awka and Rivers State University. The measure of internal consistency and reliability of the instrument was done on 10 lecturers from the University of Uyo who were not part of the population of the study. The Cronbach's alpha was applied to compute the reliability coefficient which yielded alpha values of 0.83. This high reliability coefficient values show that the instrument was reliable for the study as recommended by Nworgu (2015) that a research instrument with a reliability index of 0.70 and above is reliable. The researchers personally administered the copies of the questionnaire to the respondents in their schools with the assistance of four research assistants who were adequately briefed on the modalities to follow. The researcher first visited each of the tertiary institutions and sought consent from the relevant Heads of

Department for the study. Thereafter, the researcher and assistants visited each school and handed over the required number of copies of the instrument to the Heads of the Department to distribute to the lecturers for completion and, revisited after five working days to retrieve the completed copies.

Sixty-six copies of the instrument were correctly filled, retrieved and used for data analysis. The validation, reliability, administration and retrieval of instrument took one month. The arithmetic mean and standard deviation were used to answer the two research questions and ascertain how homogeneous or heterogeneous the respondents' opinions were relative to the questionnaire items and the aggregated mean. The one-way analysis variance (ANOVA) and independent sample t-test were used to test the three null hypotheses at 0.05 level of significance.

The ANOVA was used for null hypotheses 1 and 3 because it measured one categorical independent variable with three levels. The independent sample t-test was used to test null hypothesis 2 because it contained one independent variable with only two levels. A null hypothesis was accepted where the calculated significant (Sig.) value, (p- value) was greater than or equal to (\geq) the alpha value of 0.05. Otherwise, the null hypothesis was rejected. The data analysis was carried out using Statistical Package for Social Sciences (SPSS) version 25.

Results Presentation

Research Question 1: What are the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions?

Table 1: Respondents' mean ratings on the challenges clogging the wheel of TVET for sustainable economic development.

S/N	Challenges clogging the wheel of TVET	\bar{X}	SD	Remarks
				N = 66
1	Corruption in the TVET system	4.60	0.85	Very high level
2	Irregular curriculum review	4.87	0.70	Very high level
3	Low enrolment	4.70	0.78	Very high level
4	Inadequate skilled workforce	4.71	0.62	Very high level
5	Obsolete instructional facility,	4.66	0.59	Very high level
6	Inadequate funding, poor staffing,	4.75	0.72	Very high level
7	Poor linkages with industry	4.87	0.70	Very high level
8	General deficiency in quality	4.71	0.68	Very high level
9	Inadequate infrastructures	4.53	0.71	Very high level
10	Poor power supply	4.50	0.72	Very high level
11	Shortage of qualified TVET teachers/instructors	4.50	0.65	Very high level
12	Poor supervision	4.67	0.71	Very high level
13	Non-recognition of higher qualification of TVET programmes	4.73	0.62	Very high level
14	Inadequate curriculum planning and implementation	4.50	0.65	Very high level
15	Purchase of fake equipment	4.53	0.62	Very high level
16	Poor instructional skills	4.71	0.68	Very high level
	Aggregate mean	4.65		Very high level

Table 1: Challenges clogging the wheel of TVET (Fieldwork, 2023)

Table 1 shows that all the 16 items on the challenges clogging the wheel of TVET for sustainable economic development have mean scores ranging from 4.50 to 4.87, which means that the challenges were at a very high level. In the same vein, the aggregate mean score of 4.65, shows that the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions were at a very high level. The standard deviations for the 16 listed items ranged within 0.59 to 0.85 which shows that respondents were homogeneous in their opinions.

Research Question 2: What are the strategies for overcoming the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions?

Table 2: Respondents' mean ratings on the strategies for overcoming the challenges clogging the wheel of TVET for sustainable economic development.

				N = 66
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S/N	Strategies for submerging the challenges clogging the wheel of TVET	\bar{X}	SD	Remarks
1	German dual TVET two-fold (schools and firms share duties)	4.59	0.69	Very high level
2	Adequate funding as the case of China/others	4.83	0.75	Very high level
3	Malaysian TVET style of three models	4.63	0.77	Very high level
4	Adequate up-to-date tools, facilities and equipment regularly supply	4.90	0.60	Very high level
5	Continuous training TVET lecturers	4.63	0.60	Very high level
6	Denmark style of increase in the number of training places	4.86	0.57	Very high level
7	Adequate remuneration (international best practices)	4.59	0.59	Very high level
8	Proper implementation of training grants	4.63	0.60	Very high level
9	Exposure of TVET lecturers to global educational trends (schools interfaces)	4.53	0.67	Very high level
10	TVET lecturers gaining modern ICT skills will enhance	4.63	0.60	Very high level
11	Employing the best pedagogical practices	4.86	0.57	Very high level
12	Practical professional development for TVET lecturers	4.59	0.59	Very high level
13	Availability of e-libraries	4.63	0.60	Very high level
14	Regular power supply in tertiary institutions	4.53	0.67	Very high level
15	Well-equipped laboratories and staff offices	4.57	0.59	Very high level
16	Modern workshops and conferences for skills acquisition	4.53	0.77	Very high level
17	Conducive classrooms	4.51	0.65	Very high level
18	Availability of functional ICT facilities for practical	4.53	0.62	Very high level
19	Availability of modern office gadgets	4.67	0.85	Very high level
20	Steady and efficient internet facilities	4.59	0.59	Very high level
21	Establishment of more TVET centres.	4.63	0.60	Very high level
22	Making the training fee affordable	4.53	0.67	Very high level
23	Growing awareness campaign	4.57	0.89	Very high level
24	Giving scholarship into TVET programme	4.53	0.77	Very high level
25	Effective guidance and counselling on TVET	4.71	0.58	Very high level
26	Effective internship programmes	4.63	0.60	Very high level
27	NGOs skill acquisition trainings supports	4.86	0.58	Very high level
28	Improved instructional resources	4.59	0.59	Very high level
29	Recruitment of experts and well trained business educators	4.63	0.60	Very high level
30	Better synergy between TVET institutions and industries	4.53	0.67	Very high level
31	Adherence to the curriculum implementation	4.57	0.59	Very high level
32	Adhering to accreditation rules	4.53	0.77	Very high level
33	Good management practices	4.71	0.58	Very high level
34	Improve links between industry and TVET institutions.	4.63	0.60	Very high level
35	There should be a synergy between TVET institutions	4.86	0.57	Very high level
36	Industries for practical skill readiness of TVET learners	4.59	0.59	Very high level
37	Flexibility of TVET policies.	4.63	0.60	Very high level
38	TVET lecturers should be open to in-service training.	4.53	0.67	Very high level
39	Admission should be strictly for those with interest	4.57	0.59	Very high level

40	Using same admission status with other programmes.	4.53	0.77	Very high level
Aggregate Mean		4.62		Very high level

Table 2: Strategies for submerging the challenges clogging the wheel of TVET (Fieldwork, 2023)

Table 2 shows that all the 40 items on strategies for overcoming the challenges clogging the wheel of TVET for sustainable economic development have mean scores ranging from 4.51 to 4.90, which means that the strategies were at a very high level. Similarly, the aggregate mean score of 4.62 shows that the strategies for strategies for submerging the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions were at a very high level. The standard deviations for the 40 listed items ranged within 0.58 to 0.89 which shows that respondents were homogeneous in their opinions.

Testing of Hypotheses

Table 3: ANOVA summary on lecturers' mean ratings on the challenges clogging the wheel of TVET for sustainable economic development based on (PhD, M.Sc. /M.Ed., and B.Sc./B.Ed./HND).

Sources of Variance	Sum of Squares	Df	Mean Square	F-cal.	Sig.	Decision
Between Groups	3.258	2	2.529	1.388	.043	Reject H ₀₁
Within Groups	54.357	64	.877			
Total	56.615	66				

Table 3 shows a calculated F-value of 1.38 with a significant (sig.) p-value of 0.04 which is less than the alpha value of 0.05 ($0.04 < 0.05$) at degrees of freedom of 2 and 64. Therefore, the null hypothesis (H₀₁) was rejected. This means that there is significant difference in lecturers' mean ratings on the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions based educational attainment.

Table 4: The t-test of lecturers on mean ratings on the challenges clogging the wheel of TVET for sustainable economic development in based on (federal and state).

Ownership	N	Mean	SD	Df	t-value	Sig.	Decision
State	45	3.76	.92	64	.83	.045	Reject H ₀₂
Federal	17	3.83	.87				

Table 4 shows a calculated t-value of 0.83 with a significant (sig.) p-value of 0.04 which is less than the alpha value of 0.05 ($0.04 < 0.05$) at 64 degrees of freedom. Therefore, the null hypothesis two was rejected. This means that the lecturers differed in their mean ratings on the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions based on institution ownership.

Table 5: ANOVA summary on how (1-5, 6-10, and above 10 years) do not influence lecturers' mean ratings on the strategies for overcoming the challenges clogging the wheel of TVET for sustainable economic development.

Sources of Variance	Sum of Squares	Df	Mean Square	F-cal.	Sig.	Decision
Between Groups	2.358	2	1.329	1.378	.393	Accept H ₀₃
Within Groups	45.357	63	.777			
Total	46.615	65				

Table 5 shows a calculated F-value of 1.37 with a significant (sig.) p-value of 0.39 which is greater than the alpha value of 0.05 ($0.39 > 0.05$) at degrees of freedom of 2 and 64. Therefore, the null hypothesis (H₀₃) was accepted. This means that years of teaching experience do not influence lecturers' mean ratings on the strategies for overcoming the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions.

Discussion of Findings

Findings of the study shows that the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions were at a very high level. The finding was not at variance with views of Okoye and Okwelle, (2013), Onyesom and Ashibogwu (2013) who observed inadequate funding of TVET; inadequate infrastructures; poor power supply; shortage of qualified TVET teachers/instructors; poor supervision, non-recognition of higher qualification of TVET programmes;

inadequate curriculum planning and implementation as some of the challenges clogging the wheel of TVET for sustainable economic development. Findings of the study also shows that the strategies for overcoming the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions were at a very high level. The findings sees eye to eye with the views of Onwusa (2021), Oviawe (2018), Ndukwe and Allen (2018), Zite and Deebom (2017) who identified adequate funding as the case of China/others, Malaysian TVET style of three models, adequate remuneration (international best practices), continuous training and retraining of TVET lecturers, regular power supply, good management practices, private public partnership (PPP) model among others as strategies for submerging the challenges clogging the wheel of TVET for sustainable economic development. Findings of the study furthermore showed there was significant difference in lecturers' mean ratings on the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions based educational attainment. The finding was not at

variance with the postulations of Taiwo and Ade-Ajayi (2015) which revealed that teachers' educational attainment can have great influence on perceived factors affecting effective teaching and learning. Taiwo and Ade-Ajayi (2015) additionally advanced that educational attainment of teachers can have influence on their understanding of the subject matter, selection of tools, factors affecting the teaching and learning environment, use of appropriate instructional strategies and classroom management skills applied in teaching. Findings of the study likewise showed that lecturers differed in their mean ratings on the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions based on institution ownership. The findings concur with Top Education Degrees (2020) which averred that institution ownership play major roles in reequipping as strategies for submerging challenges clogging the wheel of TVET for sustainable economic development.

This is because federal institutions may provide better salary packages, better teaching environments, aids, laboratories, motivation, worker-friendly policies, compensation and staff development programme than state institutions. Finally, findings showed that years of teaching experience do not influence lecturers' mean ratings on the strategies for submerging the challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions in Rivers state. The findings was a variance with Scholars (2013) the affirmed that teaching experience and age are among the factors that influence lecturers' competencies because younger and experienced lecturers are more likely to perform at a higher level than older and less experienced ones. So, they are variables of interest in this investigation.

Conclusion

Based on the findings of the study, it was concluded that if the strategies submitted by this study are adopted, the various challenges clogging the wheel of TVET for sustainable economic development in tertiary institutions will be submerged. This means that the learners and the nation will benefit from the TVET contents to achieve sustainable economic development. It was also concluded that educational attainment, institution ownership have influence on the challenges clogging the wheel of TVET, while years of the teaching experience did not influence the strategies for submerging the challenges clogging the wheel of TVET for sustainable economic development.

Recommendations

Based on the findings and conclusion, the following recommendation were made:

1. TVET should be reequipped via adequately finance for Nigeria to empower her citizens with lifelong and high demanding skills in the changing world of work. The funding should be stable, sustained and possibly come from diverse sources apart from Government subventions or grants for sustainable economic development.
2. Strategies such as Malaysian TVET style of three models, adequate remuneration (international best practices), continuous training and retraining of TVET lecturers, regular power supply, good management practices, private public partnership (PPP) model among
3. Lecturers should be regularly trained and retrained through short courses, conferences, workshops by government and institutions of running TVET.

- Lecturers too should engaged in local, national and internal training through self-sponsorship, since the knowledge they will acquire belong to them
4. There should be a balance between the relevance of curricula to meet current demands of employers and flexibility to face the fast changes in the labour market. Programmes offered by TVET institutions should therefore be developed based on the market needs and opportunities of sustainable economic development. These programmes should provide market-based solutions, be flexible and adaptable to the capabilities of the learners.
5. Academic staff of TVET institutions needs to be highly remunerated, motivated and trained locally and overseas to retain them in the sector. The conditions of service for the staff of TVET institutions should be very good in order to attract qualified and experienced personnel into the sector.
6. There should be continuous rehabilitation, modernization and expansion of the physical infrastructures and facilities in the existing TVET institutions to meet the growing number of students that would be enrolled annually and meet global standards.

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