



## IMPACT OF CORONA VIRUS (COVID-19) PANDEMIC ON TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (TVET)

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**Abstract:** *The purpose of this study was to investigate the impact of corona virus (COVID-19) pandemic on TVET. The study was conducted in TVET institutions in Enugu State of Nigeria. The population for the study was 1000 students. A simple random sampling technique was used to select a sample of 110 respondents made up of 80 male and 30 female students from selected TVET institutions in Enugu State of Nigeria. The instrument for data collection was structured questionnaire constructed by the researcher. The instrument has two sections. Section 1 deals with the bio data of the respondents, while section 2 deals with the research questions. The instrument was distributed and collected from the respondent through electronic media. The return rate of the instrument was 98%. Three experts from faculty of education, University of Nigeria Nsukka validated the instruments from their homes via electronic media. A pilot study of ten male and six female students were conducted. Cronbach Alpha technique was used to test for the reliability. The reliability coefficient of the instrument was 0.79. This showed that instrument was reliable enough. Two research questions and two null hypotheses guided the study. Mean and standard deviation were used to answer the research questions, while t-test was employed to test the null hypotheses at 0.05 level of significance. The study revealed that corona virus (COVID-19) has a great impact on TVET institutions and students. It was recommended that all players in the TVET institutions, the government, industries and everybody with combine effort should make ceaseless efforts to fight corona virus (COVID-19) pandemic to a stop.*

**Key words:** TVET, corona virus (COVID-19) pandemic

### Introduction

In the knowledge society of the 21<sup>st</sup> century, dominated by information and communication technology, and where labor market demands are

constantly changing, providing relevant TVET programs to both boys and girls is deemed central to the effort to foster sustainable national development. TVET means Technical and Vocational Education

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and Training. TVET refers to “aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupants in various sectors of economic and social life” (UNESCO and ILO, 2001). It involves technical knowledge and practical skills for self employment and employability.

The principal objective of Technical and Vocational Education and Training (TVET) is to train youths and adults alike, readying them for the labor market. With technical revolution and innovations in science and technology, labor market needs have significantly evolved. New challenges must be met in order to match the education proposed with vocational demands. TVET is a complex and multi-dimensional field that offer the youth the opportunity for self-employment, but corona virus (COVID-19) pandemic outbreak had impacted so much on TVET (UNESCO, 2020)

The global Corona virus (COVID-19) pandemic outbreak impacts not only our health, lives and economies, but also the labour market and education sector especially TVET. Many countries have already implemented temporary measures to slow down the spread of the virus, which includes closing public institutions and schools. As of 18<sup>th</sup> May, 2020, more than 1.2 billion learners were affected by the closures of schools, training institutions (TVET institutions) and universities. Consequently, different forms of online learning and collaboration have become the focus of attention in an effort to ensure continuity of learning. (Powell, 2020),

While some institutions and members of community may have already garnered valuable experience with online learning strategies and are set-up to offer large-scale online solutions without much delay, TVET institutions are facing some difficulties in carrying out some of their practical oriented training on-line since most of their training need hands on machine/equipment experience in the workshop. A survey carried out jointly by ILO, UNESCO and the World Bank Group showed that COVID-19 pandemic has a great impact on education. Technical and Vocational Education and Training (TVET) programs has been affected by the pandemic (UNESCO, 2020)

More than 1.2 billion students globally are affected by school closure amid COVID-19. Learning is often being done remotely, through the internet. However, the degree to which learning can still take place outside the classroom, including TVET, is often limited by lack of access to electricity, internet connectivity, the inadequate preparation of instructors and students for remote education (learning platforms) and time constraints.

The hallmark of TVET is to focus on practical skills and work-readiness. Practical skills are often acquired through learning-by-doing, which occurs in school-based workshops and laboratories or through hands-on experience at the workplace (Johanson, 2014). Remote learning approaches are weak substitute for students’ practical exercises when they require the use of equipment and materials that not usually found inside their homes In general, TVET programs are mainly based on learning-by-doing. In contrast, programs that can switch to remote learning more easily are those with a stronger emphasis on



work-specific skills that do not require manual practical activities. TVET programs which are practical oriented cannot be easily learned through remote learning.

**TVET has standards and its enrolment needs are set by employers not by the academic community.**

**It is aimed at self employment and upgrading of skills.** Technical and vocational education and training (TVET) interventions aim to improve the employability skills and employment of young people in low and middle income countries is today affected so much because of corona virus (COVID-19) pandemic.( UNESCO,2020).

#### **Statement of the problem**

With the corona virus spreading rapidly across the globe, TVET institutions which are doing vital and meaningful work towards sustainable development of Enugu State of Nigeria has been closed down. Corona virus (COVID-19) has done negative impact on TVET institutions and students. All TVET institutions in Enugu State of Nigeria have been closed down because of corona virus (COVID-19) pandemic and no technical and vocational education and training is going on because the training are hand-on machine practical training that involves workshop that are not found at the students' home. Hitherto the need arises to determine the impact of corona virus (COVID-19) pandemic on TVET. The problem of the study therefore is; what is the impact of Corona virus (COVID-19) on TVET in Enugu State of Nigeria.

#### **Purpose of the Study**

The general purpose of the study was to determine the impact of corona virus (COVID-19) pandemic on technical and vocational education and training

(TVET) in Enugu State. Specifically, the study sought to:

1. determine the impact of corona virus (COVID-19) pandemic on (TVET) students in Enugu State.
2. determine the impact of corona virus (COVID-19) pandemic on (TVET) institutions in Enugu State.

#### **Research Questions**

The following research questions guided the study.

1. What is the impact of corona virus (COVID-19) pandemic on (TVET) students in Enugu State?
2. What is the impact of corona virus (COVID-19) pandemic on TVET institutions in Enugu State?

#### **Null Hypotheses**

The following null hypotheses were tested at 0.05 level of significant.

**H0<sub>1</sub>:** There is no significant difference between the mean responses of male and female students on the impact of corona virus (COVID-19) pandemic on TVET students in Enugu State.

**H0<sub>2</sub>:** A significant difference does not exist between the mean responses of male and female students on the impact of corona virus (COVID-19) pandemic on TVET institutions in Enugu State

#### **Method**

The research was survey research design. This was in line with Uzoagulu (2011) who opined that a survey research design is one in which a group of people or items are studied by collecting and analyzing data from a few people or items considered to be representative of the entire population. The study was conducted among students from selected TVET



institution in Enugu State of Nigeria who were at home because of corona virus (COVID-19) pandemic lock down in Enugu State.

The population for the study was 1000 students. A simple random sampling technique was used to select a sample of 110 respondents made up of 80 male and 30 female students from selected TVET institutions in Enugu State of Nigeria. The instrument for data collection was a structured questionnaire developed by the researcher using a four point responses scale of very great extent (4), great extent (3), low extent (2) and very low extent (1). The instrument has two sections. Section 1 deals with the bio data of the respondents, while section 2 deals with the research questions. The instrument was validated by three experts from faculty of education university of Nigeria, Nsukka and its reliability ( $r=0.79$ ) coefficient was established using Cronbach Alpha measure of internal consistency. The instrument was administered to the respondents

### Research Question One

What is the impact of corona virus (COVID-19) pandemic on TVET students in Enugu State?

Table 1

Mean Ratings of Impact of Corona virus (COVID-19) Pandemic on TVET Students in Enugu State.

S/N	Item statement	X		SD		Decision	
		F	M	F	M	F	M
1	Unavailability of in-person assistance during training	3.69	3.58	0.62	0.66	GE	GE
2	Lack student-industrial attachment experience	3.70	3.60	0.60	0.47	GE	GE
3	Remote training without workshop experience	3.72	3.60	0.60	0.47	GE	GE
4	Unavailability of hands on practical during on-line training	3.69	3.58	0.62	0.66	GE	GE
5	Poor practical demonstration during on-line training	3.70	3.59	0.60	0.92	GE	GE
6	Poor technical guide during on-line training	3.72	3.60	0.60	0.63	GE	GE
<b>Grand Mean</b>		<b>3.70</b>	<b>3.59</b>	<b>0.60</b>	<b>0.44</b>	<b>GE</b>	<b>GE</b>

through electronic media. The return rate was 99%. Out of 110 instruments distributed only 109 was returned. Mean and standard deviation were used to answer the research question, while t-test statistic was used to test the null hypothesis at 0.05 level of significance and 108 degree of freedom (df). To take decision on the impact items, true limit of numbers was assigned to response options as follows: very great extent (VGE) 3.50 - 4.00, great extent (GE):2.50 - 3.49, low extent (LE):1.50 – 2.49 and very low extent (VLE):1.00 -1.49. The mean score of 2.50 and above was adopted as benchmark for acceptance point while any mean below 2.50 will not be accepted.

### Result

Data collected for the study were analyzed and presented based on the two research questions and two hypotheses that guided the study. The details are contained in the tables 1 -4.



Note: F = Female students =30, M = Male students = 80, X =Mean, SD = Standard deviation and GE = Great extent

The data presented in Table 1 showed the mean ratings of impact of corona virus (COVID-19) pandemic on TVET students in Enugu State. The data showed that the respondents agreed to great extent (GE) that all the items indentified are impact of corona virus (COVID-19) pandemic on TVET students in Enugu State. The mean values that range from 3.58 to 3.72 for the two groups of the respondents were above the bench mark of 2.50 and the grand means of 3.70 and 3.59 respectively for

**Table 2**

**t-test of difference between the Mean Ratings of Male and Female Students on the Impact of Corona virus (COVID-19) Pandemic on TVET Students in Enugu State**

Respondent (students)	N	$\bar{X}$	SD	Df	t-cal	t-crit	Decision
Female	30	3.70	0.60	108	0.92	$\pm 1.96$	Accepted
Male	80	3.59	0.44				

Note: N = number of respondents,  $\bar{X}$  = mean, and SD = standard deviation

The data in Table 2 presents the t-test analysis of difference between the mean ratings of male and female students on the impact of corona virus (COVID-19) pandemic on TVET students in Enugu State. The t-calculated is 0.92 at 108 degree of freedom (df) and 0.05 level of significant is less than t-critical which is  $\pm 1.96$ . Since the calculated value

female and male students were also above 2.50. The closeness of the standard deviation scores of the respondents indicates less variability that exists among the respondents

**Null Hypotheses One**

There is no significant difference between the mean responses of male and female students on the impact of Corona virus (COVID-19) pandemic on TVET Students in Enugu State.

of 0.92 is less than t-critical which is  $\pm 1.96$  the hypothesis of this study is accepted. Therefore, there is no significant different between the mean responses of male and female students on the impact of corona virus (COVID-19) pandemic on TVET students in Enugu State.

**Research Question Two**

What is the impact of corona virus (COVID-19) pandemic on TVET institution in Enugu State?



**Table 3**

**Mean Ratings of the Impact of Corona virus (COVID-19) Pandemic on TVET institutions in Enugu State**

S/N	Item statement	X		SD		Decision	
		F	M	F	M	F	M
7	Interruption of TVET training activities	3.69	3.58	0.62	0.66	GE	GE
8	Poor coordination of TVET workshop practical experience	3.70	3.70	0.60	0.63	GE	GE
9	Changing the training plan of TVET	3.68	3.70	0.63	0.57	GE	GE
10	Compelling TVET to deal with remote training	3.71	3.62	0.60	0.46	GE	GE
11	Unavailability of TVET-industrial collaboration experience	3.70	3.69	0.60	0.61	GE	GE
12	The challenge of a production schedule outside TVET environment	3.71	3.61	0.60	0.47	GE	GE
<b>Grand mean</b>		<b>3.70</b>	<b>3.65</b>	<b>0.61</b>	<b>0.57</b>	<b>GE</b>	<b>GE</b>

*Note: F = Female students =30, M = Male s. =80, X= Mean ,SD= Standard deviation and GE = Great extent*

The data presented in Table 3 showed the mean ratings of impact of corona virus (COVID-19) pandemic on TVET institutions in Enugu State. The respondents agreed that corona virus (COVID-19) pandemic had an impact to great extent on TVET institutions in Enugu State. The respondents agreed that the interruption of TVET training activities, poor coordination of TVET workshop practical experience, changing the training plan of TVET, compelling TVET to deal with remote training, unavailability of TVET-industrial collaboration experience and the challenge of a production schedule outside TVET environment were the impact corona virus (COVID-19) pandemic caused on TVET institutions in Enugu State. All the items

identified have high mean value. The mean values that range from 3.58 to 3.71 which were above the bench mark of 2.50. The grand means of the two groups of respondent which were 3.70 and 3.65 respectively for the female and male students were also above 2.50. The closeness of the standard deviation scores of the respondents indicates less variability that exists among the respondents

**Null Hypotheses Two**

A significant difference does not exist between the mean responses of male and female students on the impact of corona virus (COVID-19) pandemic on TVET institutions in Enugu State.



**Table 4: t-test of differences between the Mean Ratings of Male and Female Students on the impact of Corona virus (COVID-19) Pandemic on TVET Institutions in Enugu State**

Respondent (students)	N	$\bar{X}$	SD	Df	t-cal	t-crit	Decision
Female	30	3.70	0.61	108	0.39	$\pm 1.96$	Accepted
Male	80	3.65	0.57				

*Note: N = number of respondents,  $\bar{X}$  = mean, and SD = standard deviation*

The data in Table 4 presents the t-test analysis of difference between the mean ratings of male and female students on the impact of corona virus (COVID-19) pandemic on TVET institutions in Enugu State. The t-calculated is 0.39 at 108 degree of freedom (df) and 0.05 level of significant was less than t-critical which is  $\pm 1.96$ . Since the calculated value of 0.39 is less than t-critical which is  $\pm 1.96$ , the hypothesis of this study is accepted. Therefore, there is no significant different between the mean responses of male and female students on the impact of corona virus (COVID-19) pandemic on TVET institutions in Enugu State.

#### **Discussion of Findings**

The findings of this study were discussed according to the two research questions and two null hypotheses that guided the study. The result of the data analyzed with reference to research question one indicated that corona virus (COVID-19) pandemic had an impact on TVET students in Enugu State to great extent. This could be seen from the ratings in Table 1. The respondents agreed that unavailability of in-person assistance during training, lack student-industrial attachment experience, remote training without workshop experience, unavailability of hands on practical during on-line training, poor practical demonstration during on-line training and poor technical guide during on-line training were

the impact caused by corona virus (COVID-19) pandemic on TVET students in Enugu State. All the items indentified had high mean ratings that were above the bench mark of 2.50. The result of the study showed that corona virus (COVID-19) pandemic has an impact on TVET students.

The result of the data analyzed with reference to research question two indicated that corona virus (COVID-19) pandemic had impact to great extent on TVET institutions in Enugu State This could be seen from the ratings in Table 3. The respondents agreed that interruption of TVET training activities, poor coordination of TVET workshop practical experience, changing the training plan of TVET, unavailability of TVET-industrial collaboration experience and the challenge of a production schedule outside TVET environment were the impact caused by corona virus (COVID-19) pandemic on TVET institutions in Enugu State All the items indentified had high mean ratings that were above the bench mark of 2.50. The grand mean for the two groups of the respondents in all the research questions were above 2.50, showing that corona virus (COVID-19) pandemic had an impact on TVET institutions in Enugu State. Th finding was in agreement with Powell (2020) who reported that corona virus (COVID-19) pandemic has caused a great impact and total close down of schools and



training institutions in many countries. The closeness of the responses as shown by the entire standard deviation (SD) indicates homogeneity in their responses. Testing of the two hypotheses as shown in tables 2 and 4 revealed that the t-calculated in all the hypotheses were less than t-critical. This shows that there is no significant difference between the mean responses of male and female students on the impact of corona virus (COVID-19) pandemic on TVET students and institutions in Enugu State.

### Conclusion

Corona virus (COVID-19) has affected education around the world. It has caused great harm to Nigeria schools and training institution. The emergence of corona virus (COVID-19) and its increasing incidence in Nigeria has affected the educational system of the country. It has put severe pressure on TVET in Enugu State of Nigeria. Corona virus (COVID-19) outbreak has caused an academic and training downturn in Nigeria schools and training institutions. With the corona virus spreading rapidly, TVET institutions in Enugu State have been affected negatively. The educational and training disruptions are being escalated. However, the result of this study further indicated that corona virus (COVID-19) pandemic had made negative impact on TVET students and institutions in Enugu State.

### Recommendations

Based on the result of this study, the following recommendations were made:

1. All players in the TVET institutions, the government, industries and everybody with combine effort should make ceaseless efforts to fight corona virus (COVID-19) pandemic to a stop.

2. The government and good philanthropic should invest more on TVET.
3. The education and training policy makers, educational institutions and TVET curriculum developers should think on how to convert most of TVET training programmes to distance training programmes.

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