

PERCEPTION OF ADMINISTRATORS AND TEACHERS REGARDING INSUFFICIENT PRACTICAL EQUIPMENT FOR SUSTAINABLE DEVELOPMENT IN GOVERNMENT TECHNICAL COLLEGES IN GOMBE STATE

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Abstract

This paper is titled, "Perception of Administrators and Teachers regarding Insufficient Practical Equipment for Sustainable Development in Government Technical Colleges in Gombe State", the paper has two purposes, two research questions and one hypothesis. In design, the study was a descriptive survey. The population for the study consisted of eleven (11) administrators and thirty-eight (38) technical teachers from three technical colleges within Gombe state. The instrument used for data collection was a structured questionnaire titled "problems in welding and fabrication, (PWF)" on a four-point Likert type scale of strongly agreed to strongly disagree. The instrument was subjected to both face and content validation from three experts; the data was analyzed using mean, standard deviation and grand mean and Pearson Product Moment Correlation. Z-test was used for testing the hypothesis at 0.05 level of significance. Results showed that, both administrators and teachers agreed that there is insufficient learning equipment in the technical colleges; the hypothesis shows that there is a significant difference between the perceptions of the administrators and the teachers. It was recommended that Each lesson should be accompanied by a practical class suitable for the topic, Proper inventory should be taken for both consumables and non-consumables regularly.

Introduction

Perception is everywhere, and they form an important part of learning experiences and shaping our behavior, it is the organization, identification and the interpretation in order to represent and understand the presented information or environment. Studies Isa 2019 has shown that the elements of a productive perception between a school administrator and a teacher exist when “they recognize they cannot help all students unless they work together collaboratively, and they constantly seek tangible evidence that students have acquired intended knowledge” (DoFour, 2019).

Administrators can create such conditions where they endeavor to create a shared leadership, provide teachers and faculty members with productive and effective support and collaboration programs, and choose effective professional development opportunities. DoFour suggested that school improvements cannot rest solely on the school administrator, but through the empowerment of others. Principals have the daunting tasks of providing teachers with the tools needed for their individual and collective successes while effectively balancing decisions that can affect the productivity of the school as a whole. These tasks cannot be done alone, which mandates the examination of factors that will provide the best relationships with teachers to make this task less daunting and more achievable for educational leaders.

One of the issues of great controversy among educators today is the issue of sustainability of the poor state of equipment and facilities in our technical schools. A school of thought argues that the problem is that of inadequate equipment required for teaching the students that is responsible for the quality of graduate the university produce, while another school of thought believes that it is the manner of utilization and sustainability of the available equipment and facilities in the schools. Whichever be the case, our technical schools are finding it difficult to perform practical in the workshops due to unavailability and sustainability of the already available ones.

Federal ministry of education, science and technology in 2015 decided to enhance the academic performance of students in different institution by equipping the schools with standard equipment, facilities, tools and machines through several interventions. But Okoro (2018) pointed out that the facilities which include the buildings, equipment, tools and school materials available are inadequate for effective use in these schools. Therefore, Okoro concluded that one of the major problems in our technical schools in Nigeria is lack of materials, equipment and its sustainability. Also, in agreement to Okoro’s opinion, Oranu (2019), Osakwe (2019) supported that lack of physical facilities are the major problems of technical schools in Nigeria.

To achieve the goals of equipping students to live effectively in the age of science and technology, the practice of sustainable schools equipment, facilities and fund need to change (Nwana, 2020). Afolabi (2017) noted that, in creating a more sustainable learning environment, the federal government is directing its attention and resources to the development of an engineering infrastructure that will enable Nigerians design, fabricate and mass - produce basic equipment, machine, tools and engines within the shortest possible time.

It is evident therefore, that inadequate provision of equipment and facilities can be attributed to the low level of funding of technical colleges in Nigeria and this made it impossible to actually attain the desired carrying capacity in Nigerian system of education. It is also clear that proper maintenance of equipment in our workshop cannot be carried out

without adequate fund. Consequently, the workshops and laboratories as a means of aiding the teachers of technical education are not properly equipped or sustained for national development, hence the reason for this research.

Statement of the Problem

A close look at the ways technical education practical is being handled in most of our technical schools indicates that students were made to merely see technical education as a dirty work because nobody wants to get his/her clothes dirty or marred with oil, sand and other contaminants. However, it is viewed by Esme (2017), Aromolaran (2015), that proper conduct and involvement of students in practical has become less valued, students are likely to be passive listeners even in the workshop, as they watch teachers carry out the teaching theoretically or carry out demonstration (Anele, 2018).

Since technical education means hands-on learning, every institution needs hand-on learning materials. Most of the technical colleges in Gombe state do not have workshops while some of them are small in size. There are not the required number of practical workpieces, although some equipment are old or worn out which makes it unsuitable for use. Other problems encountered by students in carrying out practical in technical schools include: Lack of good practical supervision, Lack of practical manuals, inadequate qualified physics teachers in secondary schools, Lack of motivation, Poor laboratory condition, and Poor practical apparatus Nwana (2020), Olkun (2018)

The problem now is, how can we sustain equipment that is not adequate or insufficient? How can productivity be enhanced with little or no facilities? You cannot sustain what you don't have much less of maintaining it. From the foregoing therefore, Many students of technical colleges believed that technical education is not viewed with an advanced eye. As such, many are falling behind or are taught half way. Therefore, the researchers deemed it fit to find out the Perception of Administrators and Teachers regarding Insufficient Practical Equipment for sustainable development in Government Technical Colleges in Gombe State.

Purpose of the Study

The main purpose of this research work is to find out the Perception of Administrators and Teachers regarding Insufficient Practical Equipment for Sustainable Development in Government Technical Colleges in Gombe State.

Specifically, the study intends to;

- i) To identify the main problem of insufficient equipment and facilities for practical classes in technical education.

Research question

- i) What are the main problem of insufficient equipment and facilities for practical classes in technical education?

Hypothesis

Ho₁ There is no significant difference between the mean rating of the perception of administrators' and teachers of technical colleges regarding the problems of insufficient practical equipment in technical colleges in Gombe state.

Literature Review

According to Barth (2016), “the nature of relationships among the adults within a school has a greater influence on the character and quality of that school and on student accomplishment than anything else” (p. 9). Relationships are everywhere; they form an important part of our learning experiences and shape our behaviour (Kleptsova & Balabanov, 2016), thus the universal nature of relationships establishes an assumption that they directly or indirectly affect the learning experiences everywhere. Communication, collaboration, trust, and high levels of motivation and commitment all contribute towards simplifying the complexities of any relationship (Barth, 2016; Conner, 2015; Gonzales, 2014).

In a study by Usman (2015), it shows that, there is “inadequate number of teachers” and “less number of competent technical Teachers/Instructors” in the training institutions. It also revealed that, “the lacks of in-service programme for Technical Teachers to upgrade their skills deteriorate problem.” And there is “Poor salaries and incentives for Technical Teachers” in technical and vocational schools in Nigeria.

In another related study by Shi (2015), it shows that there are issues and problems in the current development of vocational education in China, the study found that vocational education is currently considered at the best stages of development in history. The study also discussed many of the challenges and problems of the different dimensions of vocational education in China during its development, such as quantity at the expense of quality, development goals, lifelong vocational education system, and the establishment of model institutions.

In another related study by Arimonu, (2016) who opined that there are issues and challenges facing technical and vocational education in Nigeria. From the point of view of a national group of skills, self sufficiency, craftsmen and technicians in the fields of technical and vocational education. In Nigeria, from their point of view, the study found many challenges and problems, such as school curricula and lack of harmony with the labour market. Lack of motivation for teachers, insufficient facilities and funding, and the migration of minds, bad training staff, venality and corruption.

From the above literature review and citation, it is obvious that most of the researchers have done about the problems and solutions of the vocational and technical education system. None of them mentioned the insufficiency of practical materials especially in the vocational and technical education system. Hence the research.

Research Methodology

The study was a descriptive survey. This choice was found to be appropriate for the study because of its flexibility in the use of a sample when the population is large. Descriptive study according to Ali (2019) which says that a survey design is preferable when developing information based on opinion, attitudes and perceptions of individuals in a group.

The study was carried out within Gombe metropolis and was carried out in all the technical schools within Gombe metropolitan area. Gombe state is one of the six states in the North-east geo-political zone in Nigeria.

The population for the study consisted of eleven (11) administrators and thirty-eight (38) technical teachers randomly selected from three technical colleges within Gombe state.

Therefore, the entire population for the study was forty-nine (49). Since the population of the administrators was manageable, no sampling was used but a simple random sampling was used to select the 38 technical teachers from the three schools.

The instrument used for data collection was a structured questionnaire titled “problems in welding and fabrication, (PWF)” based on the research question. The questionnaire was designed with 20 items statement for both the administrators and teachers on a four-point likert type scale of strongly agrees=4 points, agreed=3 points disagreed=2 and strongly disagreed=1 point.

To ensure correctness of the contents and grammar, the instrument was subjected to both face and content validation from three experts from the Abubakar Tafawa Balewa University Bauchi department of Technology Education. Their corrections and inputs formed the basis for the modification of the final draft. In testing for the reliability of the instrument, a reliability coefficient alfa was calculated using the cronbach Alfa (α), the instrument yielded a reliability coefficient of 0.78, this shows that the instrument is reliable to measure what it is supposed to measure.

The questionnaire was administered to the respondents personally with the aid of the teachers in each technical school where the respondents were asked to tick the option that meets their best option. A return rate of 95% was recorded because 5 of the questionnaires were missing from the students’ side.

After collecting the questionnaires from the respondents, the data was analyzed using mean, standard deviation and grand mean in answering for research question 1 and Z-test was used for testing the hypothesis at 0.05 level of significance. Items with the mean rating of 2.50 and above were considered as agreed while items with mean rating below 2.50 were considered as disagreed. For testing the hypothesis, it will be said that, if the z-calculated is more than the z-critical value, the null hypothesis was rejected but when the z-calculated is less than the z-critical value, then, the null hypothesis was accepted.

Results

Research question 1; What are the main problem of insufficient equipment and facilities for practical classes in technical colleges in Gombe state?

Table 1: responses of administrators and teacher regarding problem of insufficient equipment and facilities for practical classes in technical colleges in Gombe state.

S/no	Item statement	Administrators N=11		Teacher N=38		GX	Remark
		X ₁	SD ₁	X ₂	SD ₂		
1	Practical classes are important for every practical subject with theoretical class.	4.04	0.95	4.11	0.98	4.08	Agreed
2	institutions of learning have sufficient practical equipment	2.22	0.81	2.12	0.76	2.17	Disagreed
3	practical classes are held in every technical college	2.00	0.56	2.16	0.82	2.08	Disagreed

4	practical equipment are highly utilized in the institutions	1.76	0.23	2.32	0.97	2.04	Disagreed
5	students will benefit in their working life if they are giving practical classes along with theoretical lessons	3.90	1.08	3.75	1.08	3.33	Agreed
6	technical educations needs to learn hand in hand with theory development	3.72	1.07	3.81	1.01	3.77	Agreed
7	curriculum for technical education is not integrated with practical classes for each topic	4.10	1.04	3.98	1.13	4.04	Agreed
8	practical and analytical skills will be fully developed to meet the demands of local skills when thought correctly	3.92	1.02	3.93	1.08	3.93	Agreed
9	Inadequate supply of instructional materials, class size and inadequate training facilities, weak links with local industries.	3.80	0.88	4.06	1.06	3.93	Agreed
10	integrating ICT into teaching assist the teachers in teaching practical classes and enhance theoretical knowledge	3.68	0.97	3.75	1.11	3.72	Agreed
11	students not benefit in their working life if they are not given practical skills appropriately	2.34	0.23	2.00	0.11	2.17	Agreed
12	teachers can conduct their practical classes with required practical equipment accordingly	3.98	0.99	3.74	0.84	3.88	Agreed
13	teachers feel expected response from students in practical classes despite the lack practical equipment	3.75	0.97	3.78	0.86	3.77	Agreed
14	teachers have good environment for practical classes	2.22	0.81	2.12	0.76	2.17	Disagreed
15	there is inadequate number of teachers and less number of competent technical teachers	1.72	1.07	1.81	0.21	1.77	Disagreed
16	lack of in-service program for technical teachers prevent them from upgrading their deteriorating skills	1.00	0.04	1.89	0.88	1.41	Disagreed
17	there are no enough instructional materials for teaching practical classes	3.80	0.88	4.06	1.06	3.93	Agreed

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18	practical equipment are necessary for hands-on learning	3.92	1.02	3.92	1.02	3.92	Agreed
19	practical test are taken after periodic test in technical college.	1.34	0.21	1.00	1.11	1.17	Disagreed
20	practical classes are available in all technical colleges	4.04	0.95	4.11	0.90	4.08	Agreed

From table 1 above, it can be seen that the responses of both the administrators and teachers tends to agreed that Practical classes are important for every practical subject with theoretical class, technical educations needs to learn hand in hand with theory development, curriculum for technical education is not integrated with practical classes for each topic, inadequate supply of instructional materials, class size and inadequate training facilities, weak links with local industries, there are no enough instructional materials for teaching practical classes, practical classes are available in all technical colleges. The level of agreement was shown by the grand mean of 4.08, 3.77, 4.04, 3.83, 3.93 and 4.08 respectively

Hypothesis

Ho₁ There is no significant difference between the mean rating of the perception of administrators' and teachers of technical colleges regarding the problems of insufficient practical equipment in technical colleges in Gombe state

Table 2; result of z-test showing the responses on the mean rating of the perception of administrators' and teachers regarding insufficient practical equipment in technical colleges in Gombe state

Respondents	N	Mean	SD	Df	z-cal	z-crit	Decision
Administrators	11	3.06	0.57	47	2.08	1.96	Accepted
Teachers	38	3.12	0.61				

Table 3 shows the mean responses for the administrators was 3.06 while the teachers had a mean response of 3.12 yielding a calculated z-value of 2.08. The calculated z- value is greater than the z-crit of 1.96 at 47 degree of freedom and 0.05 level of significance. The hypothesis is therefore *rejected*; meaning there is a significant difference between the perception of the administrators and the teacher regarding of insufficient practical equipment in technical colleges in Gombe state.

Discussion of Results

From table 1 above, the study revealed that inadequate supply of instructional materials, large class sizes, inadequate training facilities, weak linkages with local industries for hands-on- experience for both instructors and trainees lead to ineffective and inefficient training of students while emphasis is placed on passing final examination, practical classes are not held after theory cases, even the available tools and equipment are not utilized much less, sustained. This inadequacy in preparation for the job market brought workplace challenges to the graduates and a setback to national development Suzy (2017). This is in line with what Dasmani (2019) opined. Dasmani believed that the

only challenges facing the development and sustainability of our technical colleges are that of inadequate supply of instructional materials, large class sizes, inadequate training facilities affects the quality of practicals that is carried out the technical colleges.

The findings of this study also have shown that, there is “inadequate number of teachers” and “less number of competent technical Teachers/Instructors” in the training institutions as such, national development is therefore threatened. It also revealed that, “the lack of in-service program for Technical Teachers to upgrade their skills affects the way teachers deliver their lessons.” So also, is the issue of “Poor salaries and incentives for Technical Teachers” in technical colleges in Gombe state. This is line with the opinion of Isah (2019) and Mbaiorga (2018) who opined that technical teachers are in short supply in technical schools in Gombe and this is due to the fact that right from the entry level, very few teachers opt for technical education they prefer to read other courses for marketable reasons. Even the ones that are available, they hardly go for rather in-service training. This means that if teachers are not satisfied with their pay, no remuneration and motivation, the quality of teaching will be greatly affected.

Conclusion

Technical and vocational education is very important in the educational development of Nigeria. Many trades are taught in technical colleges, most of which are practical oriented. Problems of insufficient practical equipment have been an issue which has been lingering over time and if not attended to, the quality of our graduates from the technical colleges will be really affected. There is therefore the need for a holistic approach by all parties involved because technical education needs to be sustained for national development.

Recommendations

The following recommendations were put forward for considerations

1. Each lesson should be accompanied by a practical class suitable for the topic
2. Proper inventory should be taken for both consumables and non-consumables regularly
3. Industries should align their needed practical's with curriculum for technical schools

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