

Somebody Expects You Home Tonight: Exploring Safety Practices in Technical School Shops

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ABSTRACT

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The study explored safety practices in technical school shops. The area of the study was North-Eastern Nigeria. The study adopted descriptive survey research design and the population of the study comprises of 134 carpentry and joinery Teachers/Instructors, 97 workshop attendants and 783 Carpentry and Joinery Students from the 29 Technical Colleges thereby making a population size of 1014. The instrument used for data collection was a structured questionnaire on a five-point scale adapted from a previous study. The reliability coefficient of the instrument was 0.78. Mean was used to analyze the research questions. Findings from the study indicated that safety practices around Technical School shop environment, and the observation of safety practices by workshop personnel were to a moderately extents. It was recommended among others that School administrators should organize periodic reorientation programmes for carpentry and joinery workshop personnel to reeducate them on the need to strictly comply with all the safety standards guiding carpentry and joinery workshop operations.

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Introduction

As a developing country, the need for adequately trained manpower for the industrial development of Nigeria cannot be overemphasized, the over reliance on skilled labour from the neighboring countries such as Togo, Ghana, Benin Republic in areas where the locals ought to have been employed have become a thing of concern to the nation. A part from the economic lost and its detrimental consequences, it has also contributed handsomely to the current surge in the number of unemployed youths in the country. One of the key areas to look at for solution is the technical institutes that are found across the country.

Technical schools in Nigeria are post-basic education institutions established either by government or other private organizations and individuals to train and equip students with appropriate skills, knowledge and aptitude to enable them function as craftsmen/Master Craftsmen in the various industrial sectors of the economy. The trainees are prepared to function either as self-employed or paid-employees. The program is under the supervision of the National Board for Technical Education (NBTE) and it usually last for three years where a National Technical Certificate (NTC) is awarded to the deserving graduates by the National Business and Technical Examination Board (NABTEB) (National Board for Technical Education [NBTE], 2018). The graduates are also qualified to be awarded the Labour Trade Test Grade III and II by the Labour Trade Testing Center arm of the Federal Ministry of Labour and Employment.

For those that wish to go a bit further to earn a Master Craftsmen Certification, a one year Advanced National Technical Certificate (ANTC) programme is also available in some few selected science & technical colleges where students are giving further training to enable them acquire advanced knowledge and skills in their respective trades. The trades found in technical schools are usually categorized into four groups as presented in Table 1:

Table 1: Categories of Technical school trades in Nigeria

S/N	Category	Trades
1	Construction	Bricklaying, Blocklaying and Concreting, Carpentry and Joinery, Plumbing and Pipe Fittings, Painting and Decoration, Furniture and Upholstery
2	Engineering	Motor Vehicle Mechanics Work, Electrical Installation and Maintenance, Radio, Television and Electronics Work, Mechanical Engineering Crafts, Agricultural Mechanization
3	Business/Distributive	Book Keeping, Secretarial Studies
4	Miscellaneous	Catering Craft Practice

These trades are offered at both the NTC and ANTC with their distinct objectives derived from the overall framework of the program. For instance, the objective of Carpentry and Joinery crafts at technical college level which is the focal area in this study is to equip the learners with appropriate

skills that will enable them function as Carpenters and Joiners (NBTE, 2018). As carpenters, they are expected to on successful completion of the program engages in constructing formwork for concrete production, erecting wooden scaffold, providing assistance to other tradesmen to enable them discharge their duties efficiently etc. in building construction sites. With respect to their role as Joiners, they are expected to engage in producing variety of doors and windows frame, architrave, cornice and shirting molding, staircase, built-in cupboard and all other decorative woodwork on a building. Other trades have their distinct objectives which may not be necessary to be mentioned in this paper.

The realization of the above goal is hinged on the provision of adequate workshop facilities for practical exercises. According to Diraso (2006), a workshop is a facility equip with tools, equipment and other consumables dedicated to instructions, production and maintenance of articles mostly made of wood, metal, or plastic. In the view of Owaifo (2009), a workshop is a building or a room where skills, machines, parts, tools and repair work are made for our convenience. Base on these definitions, it can be seen that a workshop is a space for productive activities that are geared towards production and learning activities. Apparently, due to the nature of these activities, a workshop will naturally be hazardous since there is enormous utilization of hand tools, power tools, and machines during instructions, production and maintenance of articles.

The occurrence of accidents to persons in a workshop happens mostly when handling or using hand tools, machines and portable power tools; stepping on or obstructions left on floor or benches, lifting or moving materials and jobs, using inflammable or corrosive liquids and gasses, inhaling vapours or fumes (Walton, 1974). Thus, for efficient and effective practical activities, the author suggested that well planned precautionary measures should be taken to prevent injury to the person concerned, injury to others, and damage to the workshop, the equipment in the workshop, the raw materials and the finished job.

These precautionary measures are applied in the workshop, it facilitates the operation and improve productivity thereby assist in the realization of the goals of the workshop programme (Ogenyi, 2014). Many workshop accidents are avoidable (Walton, 1974) if adequate safety measures are put in place to provide safe working environment and safe working techniques. Therefore, workshop personnel are duty bound to ensure that these measures are properly enforced.

Despite the effort put in place by the government and other stakeholders in safety education in Nigeria, the author observed that technical schools shop accident has been a common phenomenon. While some of the accidents are minor, others were fatal. This unwanted phenomenon can be attributed to many factors including flagrant disregard for the existing workshop safety rules and regulation by workshop personnel as well as other systemic causes which has to do with the shop

environment. Several studies were carried out in relation to safety practices in school shops (Ayodele et al., 2013; Osang et al., 2013; Afeez, 2016); however, none of these studies specifically explored the state of safety practices by school shop personnel and the state of the school shop environment. This study therefore filled this gap by exploring the state of safety practices in technical school shops in Nigeria. To achieve that, the study was guided by the following specific Questions:

RQ1: What is the state of safety practices around School shop environment?

RQ2: What is the state of safety practices by School shop personnel?

Method

Research Design

The study adopted research design. This design was considered appropriate as the current study involved collection of cross-sectional data in form of opinion for the purpose of describing and interpreting an existing situation under study (Creswell, 2012). It also serves as a most convenient vehicle through which real facts and figures can be obtained for.

Participants and Sample

The participants include Carpentry and Joinery Teachers/Instructors, Workshop Attendants and Carpentry and Joinery Students from 29 Technical colleges in North-Eastern part of Nigeria as shown in Table 2:

Table 2: Distribution of Participants

Category of Participants	Population
Teachers/Instructors	134
Workshop Attendants	97
Students	783
Total	1,014

The choice of Carpentry and Joinery Teachers/Instructors and Workshop Attendants is hinged on the fact that they are involved in the day to day activities going on the school shop therefore, in better position to respond to the instrument administered

Instrument for Data Collection

The instrument used for data collection was a structured questionnaire on a five-point scale adapted from Ogenyi (2014). Some modifications were made on the instrument and the psychometric properties of the “new” instrument were re-evaluated. Overall, the overall reliability of the instrument was established using Cronbach's Alpha Formula to measure the internal consistency. This method of reliability estimate was appropriate since the items were polytomous scored. A reliability coefficient of 0.78 was obtained.

Method of Data Analysis

Mean was used to analyze the research questions in accordance with the real limit of numbers:

4.50	-	5.00	Strongly Agree
3.50	-	4.49	Agree
2.50	-	3.49	Moderately Agree
1.50	-	2.49	Disagree
1.00	-	1.49	Strongly Disagree

Result

Research Question 1

Table 3: State of safety practices around School shop environment

S/N	Statements	Mean	Remarks
1	All the machines installed in the shops are adequately spaced	2.31	Disagree
2	Adequate space is provided for operators to work freely	2.24	Disagree
3	Adequate provision of space for work in progress	2.37	Disagree
4	Ensuring that the shop is properly cleaned after the days' work	2.78	Moderately Agree
5	Safety posters are adequately supplied and pasted on the shop walls for guidance	2.03	Disagree
6	All the machines in the shop are well labeled with safety signs	2.52	Moderately Agree
7	A special provision of separate space is made for instructional purposes	4.12	Agree
8	A well-stocked first aid box and fire extinguishers are provided and positioned appropriately	2.44	Disagree
9	Compulsory use of safety wears before beginning of work is vigorously enforced	2.32	Disagree
Cluster Mean		2.57	Moderately Agree

Research Question 2

Table 4: State of safety practices by School shop personnel

S/N	Statements	Mean	Remarks
10	I only operate a machine when I am told to do so	3.66	Agree
11	I only work with properly guarded equipment	3.82	Agree
12	I strive to practice orderliness in the shop	2.55	Moderately Agree
13	I make use of safety wears whenever I am in the shop	2.10	Disagree
14	I always avoid wears that are likely to cause hazards whenever I am in the shop	2.49	Disagree
15	I don't lean on a machine being operated by someone else	3.68	Agree
16	I don't use hand to stop a machine in use	4.32	Agree
17	I avoid touching the moving part of a machine	4.57	Strongly Agree
18	I avoid spilling oil on the floor of the workshop	3.71	Agree
19	I always know the location of the nearest fire alarm	2.36	Disagree
20	I can never leave a machine while still running until I shut it down	3.04	Moderately Agree
21	I usually return all tools to the store after the days use	3.11	Moderately Agree
22	I avoid playing in the shop	2.63	Moderately Agree
23	It is my job to always ensure that a first aid box is available in the shop	2.10	Disagree
24	I always report cases of accident promptly to my supervisor	3.83	Agree
Cluster Mean		3.20	Moderately Agree

The data obtained for answering research question 1 is presented in Table 3. The data indicated that the nine items presented have mean value ranging between 2.03 to 4.12. Six items (1,2,3,5,8, & 9) fell under the category of Disagree, while two items (4 & 6), and one item (7) were Moderately Agreed and Agreed respectively. The cluster mean was 2.57. Based on the analysis above, it can be concluded that the respondents agreed to the existence of safety practices identified around Technical School shop environment to a moderate extent.

The data presented in Table 4 indicated that one item (17) was Strongly Agreed, while six items (10, 11, 15, 16, 18 & 24); four items (12, 20, 21, & 22); and four other items (13, 14, 19, & 23) were Agreed, Moderately Agreed, and Disagreed respectively. The cluster mean was 3.20 is an indication that the respondents agreed that the observance by Workshop personnel of all the safety practices identified is to a moderate extent.

Discussion of Findings

Finding for research question one indicated that the existence of safety practices identified around Technical School shop environment is to a moderate extent. This may not be unconnected with the fact that the physical condition of a facility is key to its efficiency and effectiveness in discharging its functions. Where the facility is not in good shape, it become hazardous thereby becoming a potential source of accident in the workshop. This finding is in agreement with Ezema (2004) who is the opinion that for safety to be ensured in a workshop there is need for planning for good layout and machines and equipment.

With regards to the research question two, the findings show that the observance by Workshop personnel of all the safety practices identified is to a moderate extent. This finding corroborated Diraso (2006) who reported that most of the accidents in the workshop were caused due to careless behaviour and unsafe act by the workshop personnel. For instance, when a woodworker overload machine, or failed to conduct regular inspection, he/she is endangering his life, the machine, and those of his co-workers as some guards may be displaced and form a potential source of hazard.

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Result and Discussion

Research Question 1

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Conclusion

Having studied the status of safety practices in Technical School Shops, it can be concluded that the actualization of the goals of programs that are operational in Technical Colleges will largely depends on the effective enforcement of safety practices in and around the workshop by the authority concerned. The positive effect in a long run can manifest in the quality of the graduate output in terms of acquisition of requisite employability skills.

The researcher acknowledged some limitations which may require some precautions in generalization of the findings. For instance, the area covered represents just one out of the six geo-political zones of the country. Also, the research design was a descriptive survey and the instrument used was close-ended which may not allow the respondents to express their feelings beyond the contents of the instrument. Overall, the study provides a pointer on the condition of our Technical School shops in relation to safety practices. Further studies with an expanded area and mixed method will bring out some salient issues that will assist greatly in this direction. The researcher acknowledged some limitations which may require some precautions in generalization of the findings. For instance, the area covered represents just one out of the six geo-political zones of the country. Also, the research design was a descriptive survey and the instrument used was close-ended which may not allow the respondents to express their feelings beyond the contents of the instrument. Overall, the study provides a pointer on the condition of our Technical School shops in relation to safety practices. Further studies with an expanded area and mixed method will bring out some salient issues that will assist greatly in this direction.

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