ASSESSMENT OF WORKSHOP FACILITIES FOR EFFECTIVE TEACHING OF WOODWORK TECHNOLOGY IN TECHNICAL COLLEGES IN KWARA STATE

BY

SULEIMAN, Durodola Abdulganiyu

Department of Woodwork Technology, Kwara State College of Education (T), Lafiagi

Email: durodolasuleiman@gmail.com

Phone :09066792114

BAMIDELE, Samuel Tunde

Department of Educational Foundation, Kwara State College of Education (T), Lafiagi

Email: bamidelets@gmail.com

Phone :08066170922

NDASHIRU, Martins

Department of Building Education, Kwara State College of Education (T), Lafiagi.

Email: shirumartins@gmail.com; phone number: 08065854800

ABSTRACT

The study assessed workshop facilities for effective teaching of wood work technology in Senior Secondary Schools in Kwara State. Survey research design was adopted for the work. The inventory of wood workshop and Minimum Standard Board for technical education was utilized. Questionnaire was used for data collection and the data were analyzed using simple percentage. The finding of the study revealed that circular saw (Bench) radial cercal saw, toners, mortise were not available in Technical Colleges in Kwara State. It was found out that Jack Plane, Rebate plane saw and other saw were inadequate. Recommendations were made based on the findings of the research. Some of these recommendations were that the Head of Section of Wood Work Technology should asses the facilities in the work shop at the end of every month to know the damaged or missing tools report to the College Management for replacement. The Kwara State Government should create more wood work section in the remaining technical colleges, National Board for Technical Education (NBTE) in charge of evaluation of Technical college in Nigeria should take issue of workshop facilities very seriously if not, the objectives of the programme will not be achieved.

Keywords: Workshop facilities, NBTE requirements, adequate, inadequate.

INTRODUCTION

Workshop facilities are essential in wood work technology workshop so that students can practise what they have learnt in theory. When students acquire the needed practical skills while in school, they can easily set up their own workshops after graduation.

Those who will take up appointment with government ministries or industries can effectively perform well if properly guided during the practical period by the teacher. Woodwork technology involves the engagement of both teachers and students in theory and practical (Aina, 2000). Hence, this type of education provides skills, knowledge and attitudes necessary for easy employment in specific occupation (Agwupezies, 1999).

Assessment of technical and vocational education programme refers to the strengths to determine the weakness and strength of the programme using some criteria. Adesina, (1998) view assessment of technical and vocational education programme as the process of providing information to people as they designed the curricula after obtaining some data about the programme (Adeyemi, 2000) identified two types of evaluation used in shyline career development center in Dalla, Texas. These are center and process evaluation. In center evaluation, an attempt is made to get accurate information about each student in order to be recorded in computer and the information is always updated as changes occur until the end of school years of the students. In process evaluation, information is provided relative to the

programme implementation. Classroom activities are regularly monitored by trained observers and three rounds of observations are scheduled each year, in the observation the features observed include facilities and material.

Adebayo (2005) explained that Nigeria has not made significant progress in terms of technological advancement because the technology utilized in the country are mostly imported but if students of Wood Work Technology are properly trained, they can take up these challenges especially in structural work. Ajayi (1993) disclosed that lack of equipment in schools will make our students not to have ample opportunities to see and manipulate them in order to acquire the necessary knowledge and skill. Anunobi (1998) discovered that more than 60% of the staff teaching wood work technology could not perform the expected skills, despite their high level paper qualifications due to non-skill acquisition from the respective institution of higher learning.

In view of the foregoing, Aderinto (1998) further revealed that wood work technology as a course in our society has failed. This because the subject is being taught nowadays without giving impetus to students project and workshop activities due to lack of power supply and tools. In view of this, this paper is on the assessment of workshop facilities in wood work technology in order to find out how it affects teaching and learning.

Statement of the Problem

Facilities in wood workshop are used by teacher and student to make teaching and learning more practical and real. Facilities help teacher to translate abstract idea into concrete ideas. Akubue (1990) opined that the contributions of using facilities during teaching and learning attracts the attention of students and as

a result to improve their interest level, stimulate students interest to participate in the teaching and learning activities, help students to picture the reality in what has been taught and create an interactive learning environment thereby, facilitating effective teaching and learning woodwork technology.

When students in woodwork technology are trained without facilities, they find it difficult to practice the practical aspect of the course after graduation. The worst of it is that they will not be able to establish or set up wood workshop. Alake (1991) pointed out that the goal of vocational and technical colleges is to prepare students for successful employment in the labour market and this condition can be met through a well-equipped workshops with relevant training facilities.

Purpose of the Study

The purpose of the study is to assess workshop facilities for effective teaching of wood work technology in technical colleges in Kwara State Specifically, the study intends to:

1. Determine the adequacy of wood work machines used for teaching wood work technology.
2. Find out available wood work hand tools used for teaching woodwork technology.
3. Find out available maintenance equipment used for teaching woodwork technology.

Research Questions

The following research questions were developed to guide the study:-

1. How adequate are the woodwork machines used for teaching woodwork technology in technical colleges?

2. What is the availability status of hand tools used for teaching woodwork technology in technical colleges?
3. Which of the maintenance equipment are available for teaching of woodwork technology in technical colleges?

Methodology

Quantitative research method was used for the study. A survey research design was adopted for the work. The study was carried out in one out of the five technical colleges Kwara State; Because Erin-Ile is the only technical college that offers woodwork. The inventory of wood workshop and minimum standard for technical colleges produced by National Board for Technical Education (NBTE) were used for study. NBTE is a board established by Nigeria government to monitor the activities of technical colleges in the country.

The instrument used for data collection was questionnaire developed by the researcher. Section A sought information on wood work machine while Section B sought information on hand tools while section C sought information on maintenance equipment.

Method of Data Analysis

Data were analyzed using frequency count and percentage items having above 5% were regarded as adequate while those below were regarded as inadequate and 0% means not available.

Results and discussions

Research Question I

How adequate are the woodwork machine used for teaching woodwork technology?

Detailed Result is given in Table I

The result of analysis show in table I revealed that the following woodwork machines were not adequate these include radial circular saw, compressor and spraying unit, tenoner mortise (Chisel and Chain), Jig Saw press of (school size) and circular saw

Table 1: Percentage of wood working machines used for teaching woodwork in technical college of education. Machines recommended by NBTE and quantity machine available call at Erinle Technical College.

S/N	**Machine**	**NBTE Required Quantity**	**Quantity Available**	%	**Remark**
1	Circular. saw (Bench Surface	1	-	0	Not adequate
2	Surface	1	1	100	Adequate
3	Wood lathe with accessories	1	1	40	Not adequate
4	Band saw	1	1	100	Adequate
5	Radial circular saw	1	-	0	Not adequate
6	Compressor and spraying unit	1	-	0	Not adequate
7	Universal wood working machine.	1	2	100	Adequate

8	Tenoer	1	-	0	Not adequate
9	Mortise (chisel and chain)	1	1	0	Not adequate
10.	Sanders (Drum, disc and belt)	1	1	100	Adequate
11.	Crosscut sawing machine	1	1	100	Adequate
12	Drilling machine	1	1	100	Adequate
13	Jig saw machine	1	-	0	Not adequate
14	Pressor (school size	1	-	0	Not adequate

Research Question 2

What is the availability status of hand tools used for teaching woodwork technology in

technical colleges?

S/N	**Hand tools**	**NBTE required Quantity**	**Available Quantity**	%	**Remark**
1	Jack plane	35	**14**	40	Not adequate
2	Smutting plane	35	14	49	Not adequate
3	Black plane	15	1	6.67	Not adequate
4	Shoulder plane	15	1	6.67	Not adequate

5	Rebate plane	15	1	6.7	Not adequate
6	Multi plough plane	3	1	6.67	Not adequate
7	Grooving/plough plane	3	2	66.67	Not adequate
8	Bull nose plane	3	2	66.7	Not adequate
9	Compass plane	3	2	6.67	Not adequate
10.	Jointing plane	3	2	6.67	Not adequate
11.	Side plane	3	0	0	Not adequate
12	Rip saw	15	6	40	Not adequate
13	Gross cut/hand saw	15	15	100	Not adequate
14	Ten on saw	15	9	60	Not adequate
15	Panel saw	15	4	2.67	Not adequate
16	Coping saw	15		40	Not adequate
17	Nest of saw coppers saw	15	4	26.67	Not adequate
18.	Key hole saw	10	2	20	Not adequate
19	Fret saw	10	2	20	Not adequate
20	Chisel (different sets)	112	21	18.75	Not adequate
21	Gimlet	10	1	10	Not adequate
22	Priving/stinking tools screw	10	9	90	Not adequate

	driver (set of 6)				
23	Mallet	35	7	20	Not adequate
24	Claw hammer	35	5	20	Not adequate
25	Panel hammer	35	5	14.29	Not adequate
26	Warrington hummer	20	21	14.29	Not adequate
27.	Bradawl cramps	20	3	19	Not adequate
28	Sash (set)	10	3	30	Not adequate

Percentage of response of respondent on maintenance equipment use for teaching wood work technology of GTC Erinle.

The data in table 2 showed that the following hand tools were inadequate such as jack plane, smoothing plane, block plane, Robate plane, multi plough plane, panel saw, coping saw, nest of saws, fret saw, chisels, bit gimlet, mallet, hammer, bradwl and cramps.

Research Question 3

What is the maintenance equipment used for teaching wood work technology?

The result is presented in table 3 Data presented in table 3 disclosed that glue spreader, oil can, saw vices were not adequate while sharpening machine glue brushed and glue heater electric were. not available in wood workshop.

Maintenance equipment by NBTE quality/maintenance equipment available at GTC Erinle

S/N	**Maintenance Equipment**	**NBTE Required**	**Available Quantity**	%	**Remark**

		Quantity			
1	Grinding machine	1	1	100	Adequate
2	Sharpening	1	0	0	Not adequate
3	Grinding or oil stone	5	4	80	Adequate
4	Oil cans	10	3	80	Not adequate
5	Service	30	2	6.67	Not adequate
6	Bench saw setter/shaper	1	1	100	Adequate
7	Grinding for long blade surface	1	1	100	Adequate
8	Paint brusher (sets)	10	7	80	Adequate
9	Paint containers	10	7	70	Adequate
10.	Utting lenives	10	5	50	Adequate
11.	Glue spreader	30	4	13.33	Not adequate
12	Glue brusher	30	0	0	Not adequate

13	Glue heater (electric)	2	0	0	Not adequate

Discussion of Findings

Equipment is an integral part of woodwork technology for imparting practical skill to learners. The finding of the study disclosed that circular saw (Bench), radial circular saw compressor and spraying unit, tenoner and mortise (chisel and chain) jig saw machine and pressure were not available. Aleyifoino (2000) described the level of inadequacy in infrastructural provision in our technical and vocational institution. There are instances where technical students graduate without seeing or touching tools and machines. Therefore, assessment of workshop facilities in woodwork technology is very essential and recommendations to the appropriate authority for replacing the unavailable one is necessary machine and materials available in the workshop. Amodolu, (2001) emphasized that sustainable technological development cannot be achieved if school workshops have inadequate workshop facilities while Ani (1998) asserted that many technical colleges do not have necessary power tools and hand tools that are essential for senior students use. Teachers and students can only develop new technologies when they have enough hand tools and machine to practice what they have learnt in theory this will also encourage new discovery.

Conclusion

It is difficult for a learner to acquire the needed practical skills when workshop facilities are sparsely provided. Therefore, assessment of workshop facilities in woodwork technology is very essential since it is a practical oriented can establish their own wood workshops without relying on government for employment.

Government alone cannot make provision for teaching and learning woodwork technology.

Recommendations

The following recommendations were made based on the findings of the study

1. Therefore, the college and management of school should explore other avenues for acquiring workshop facilities that are neither inadequate nor available in wood workshop for senior students practical.
2. Out of the five technical college in Kwara State only GTC Erinle offers woodwork technology. Government should establish woodwork technology in the remaining four technical colleges;
3. Head of section of woodwork technology should assess the workshop at the end of every term to know the damaged mixing tools and report to the college management for replacement;
4. The store used per should facilities some vital ones that are not available such as universal woodwork machine and wood late such as with accessories etc can be improvised using locally source materials;
5. National Board for Technical Education (NBTE) in charge of evaluation of technical colleges should take issue of workshop facilities very seriously if not the objective of program will not be achieved.

REFERENCE

Adebayo, S.A (2005), Evaluation of the Adequacy and Utilization of Automobile Technology Teaching Facilities Colleges in Lagos State. A Journal of School of Vocational Education Federal College of Education (Technical), Akola, Lagos. Vol. 2.

Adekola, Y.B (1993). Reward and Punishment in School Learning, Department of Education, ABU, Zaria.

Aderinto, A (1998). Staffing Problems in vocational and Continuing Education Centre. A paper presented at the National Seminar on Vocational and Continuing Education, University of Ibadan.

Adesina, S. (1998). The Development of Modern Education in Nigeria. Ibadan: Heinemann Education, Book Ltd.

Adeyemi, J.K. (2000). "Academic Manpower Needs of Nigeria Universities" Higher Education Review 32(2), Spring, 36-44.

Agent, D.A (2004). Education in Nigeria, Paper Presented at the International Conference on Comparative Education for Nigeria, University of Lagos.

Agusiobo, O.N. (2000). Vocational Guidance. Unpublished Manuscript. Department of Vocational Technical Education, University of Nigeria, Nsukka.

Agwu, M.F. (1998). Essentials of Foundation of Education Thought and Practice, Ibadan, NERC.

Agwunezie, F.U. (1999). Resources Management in Business Education Programme Towards Utilizing the Great Potentials of Woman. Business Education Journal, 3(2), 25-27.

Aina, O. (2000). Nigeria Technical and Vocational Education in the Near Future: A

paper presented at Abuja: 31st October-2nd November 2000.

Aina, O. (2000). Trends in Vocational Technical Education in Nigerian. An Unpublished paper at the International Conference on Vocational Education held between 20th-24th September at F.C.E (T) Akoka.

Ajayi, B.R. (1993) The State of Workshop Tools and Equipment Available for Technical Teacher Training Programme at the Tertiary Institutions in Nigeria. Unpublished M.Ed Thesis. Department of Vocational Education, University of Nigeria, Nsukka.

Akisehinde, S.I. (1990). Professional Growth of Vocational and Technical Teachers: Challenges, Benefits and Concerns: Nigerian Vocational Journal Volume III.

Akpan, M.P. (2000). Towards the Attainment of Qualitative Vocational Education in Nigerian: The way Forward: Journal of Education and Society4(1) 35-39.

Akpan, V.C.J (1999). Management and Funding Vocational Business Education in Nigerian Problems and Prospects. Nigerian. Journal of Vocational Teacher Education 2(2) 14-21

Akubue, A.U. (1990). The In-service Needs of Secondary School Principals in Instructional Supervision: A Case Study of Anambra State.

Alake, F.C. (1991). Constraints and Strategy in Vocational Education, Federal Ministry if Education.

Aleyideino, S.O. (2000). Teacher Production, Utilization and Turnover Pattern in the Educational system in Nigeria. In Isyaku, K; Anikwese, C.M, Maiyanga, A.A and Olokun, G. (eds) Teacher Production Utilization and Turnover Patterns in Nigeria, Kaduna; NCCE.

Amadi, A. (1990). "Technological Education in Nigeria Progress and Prospects"

Paper Presented at Special Seminar in Honour of Professor Aliu Babatunde Fafunwa Honourable Minister for Education and Youth Development on 17th-19th January 1999.

Ameka, A.A. (1999). Evaluation of Teachers Education Degree Programme of the Federal Universities and Polytechnics. Unpublished M.Ed Thesis. Department of Vocational Teacher Education, University of Nigeria, Nsukka.

Amodulu, H.C.D. (2001). Science and Technology. Enugu: Hacofam Educational Book.

Ani, C.I. (1998). Procurement Management and Maintenance of the School Plant: The Nigeria Perspective, Awka: Meks Publisher Ltd.

Ani, S.C., Olaitan, S.O., Akubilo and Amadi C.C. (1989)(eds). Approaches to Creative Teaching. Onitsha: Summer Educational Publishers.

Anizona, N. (2000). Strategies to Promote Active Learning in Students. Retrieved on 8/4/06 from http:www.accdEdu/Spe/iie/master/adjuntcmini-Activelearning.pdf.

Anunobi, S.C. (1992). An Assessment of the Availability and Use of Introductory Technology Equipment in Secondary School in River State. Unpublished M.Ed Thesis, Department of Vocational Teacher Education, University of Nigeria, Nsukka.