World Journal of Research and Review (WJRR)
ISSN:2455-3956, Volume-5, Issue-6, December 2017 Pages 51-61

Analysis of Available Educational Facilities of Basic Technology in Junior Secondary/ Schools in Edo State Nigeria

AGBONGHALE GODWIN ONOSELEASE

Abstract— **This article examined the analysis of educational facilities of Basic Technology in Junior Secondary Schools Edo State, Nigeria. A research question was formulated to guide the study. Ten year secondary school students were used as a pilot of study while the checklist of facilities was adopted from the Ministry of Education Science, Technical and Vocational Division (2005)approved lists of tools/equipment in junior secondary schools and administered to the respondents, collected back and analyzed with percentages. The researcher employed survey research design. The results of the study showed there were grossly inadequate equipment/tools in various junior secondary schools in Edo State, Nigeria. The influence of educational facilities on junior secondary school students' academic performance in Basic Technology was not encouraging but there is a ray of light in a dark tunnel and recommendations were proffered.**

Index Terms— **Educational, Facilities, Junior Secondary Schools, Basic Technology Introduction.**

I. Introduction

At all levels of the nation's educational system, and for all known and existing school types, educational facilities are an indispensable factor in the attainment of educational goals for the purpose of this article, the term educational facilities would be taken to represent all the physical materials such as objects, products, constructions, aids, gadgets, tools, equipment and the likes which the teachers utilize to reinforce the impact of verbal expressions in the teaching and learning of Basic Technology in junior secondary schools.

The preponderance of teacher talk in classroom instruction involves only the learners' sense of hearing, which practice could be boring after a while. The utilization of educational facilities on the other hand, calls into play the senses of sight and touch additionally. The use of educational facilities guarantees more effective learning as the learner, in addition to merely hearing, also sees and does. It is necessary not only to have the facilities in our schools, but for them to be effectively utilized in the classroom. Educational facilities makes learning more interesting, more real and more lively. They facilitate retention of the learned contents and helps teachers to conserve energy by limiting the use of spoken words, hence it is often said that "a picture is with a thousand words". The educational facilities were in short supply at all levels of education (mkpa, 2014)

Educational Facilities Challenges in Basic Technology in Junior Secondary Schools

AGBONGHALE GODWIN ONOSELEASE, Department of Vocational and Technical Education, Ambrose Alli University, Ekpoma

For the junior secondary schools in Nigeria to achieve its set vision, mission and goals, meaningful teaching, learning and research cannot take place with adequate educational facilities both in quantity and quality. Such educational facilities as buildings, equipment, tools, workshops, laboratories, libraries, information technology consumables, among others are purposefully needed to house the Basic technology subject mounted by the government. Educational facilities are required for optimum sustainable academic growth and development in addition to enhancing equality of opportunities and access to tertiary education. (Obielumani, 2016)

Nwagu 2007 and Obielumani (2016) observed that the shortage of educational facilities characterized almost all levels of African's educational system excluding South Africa. Where some facilities are produced they are grossly inadequate. This situation has a lot of implications for the carrying capacity of the tertiary education. They stressed further that problem of facilities can cause over crowded classes leading to overwork and stress which can lead to damage to health; unsafe and unsanitary of school buildings and the dearth of teaching materials, constitute a major factor affecting the productivity of teachers and their students alike. Facilities are no longer found in secondary schools, when these are available they are absolute, not utilized and vandalized. The resultant harvest from this is that many students of science and technology have little or no exposure to experiments and practical experiences. These workshops have been taken over by cockroaches and rodents, as "tenants". Alternative to practical is now the voque, thereby making the teachers' knowledge to be almost the same level with the student's. this is because there is nothing new the teachers are offering the students because of lack or shortage of these vital facilities.

The Aims of Technology Education are as Follows:

(a) To provide trained manpower in applied science technology and commerce at sub-professional grades;

(b) To provide the technical manpower and vocational skills necessary for agriculture, industrial, commercial and economic development;

(c) To provide people who can apply scientific knowledge to the improvement and solution of environmental problems for the use and convenience of man;

(d) To give training and impact the necessary skills leading to the production of crafts man, technicians and other skilled personnel who will be enterprising and self-reliant, and

(e) complexity of technology (federal Government of Nigeria,2004)

The Goals of Junior Secondary Schools

The goals of junior secondary schools are as follows:

1. it is government intention to provide adequate preparation for useful living within the society
2. For higher education.

The goals of basis technology in junior secondary schools

The goals of basis technology in junior secondary school are as follows:

1. To provide pre-vocational orientation for further training in technology;
2. To provide basic technology literacy for everyday living; and
3. To stimulate creativity and to meet these goals, Basic technology curriculum has been extended to cover subjects such as woodwork, metalwork ,electricity, electronics, auto-mechanics, building construction, food processing and agricultural mechanization, Rubber, plastics, ceramics technology and technical drawing (federal Government of Nigeria, 2004).

II. Statement of the Problem

There are public feelings in our institution of learning about inadequate provision of workshop practice in the junior secondary school Basic Technology courses or subjects. There are shortages of technical teaches for the 6-3-3-4 systems of education despite arrangement efforts in the training of technical teachers both home and abroad (Olaitan,2006). Other problems bother in the area inadequate funding , basic infrastructural facilities and condition of schools library. After about thirty-two years of implementation of this educational system, There seems to be lapses and problems that have rendered the accomplishment of its envisaged objectives unattainable Hence, this study is geared towards the analysis of available educational facilities of Basic Technology in Junior secondary schools in Edo state, Nigeria.

III. Purpose of the Study

The purpose of the study is to investigate the analysis of available educational facilities on Basic technology subject in Junior secondary schools Edo state, Nigeria. Specifically, the study seeks to determine the analysis of available educational facilities of Basic technology subject in Junior secondary schools in Edo state, Nigeria.

Research Question

For the purpose of this study, one research question was raised:

1. What are the available educational facilities for teaching and learning of Basic technology in Junior secondary schools in Edo state, Nigeria?

IV. Method of the Study

Design of the study

The researcher adopted survey research design for the study because of the opinion of the respondents were sought.

Population of the study

The population of the study comprised 59 teachers of Basic technology subject in junior secondary schools. This information was received from post primary education Board Benin city.

Sample and sampling Techniques

There was no sample and sampling techniques because the total number of 59 Basic technology teachers were used for the study.

Instrument for the study

Percentage was used to analyse data collected from Basic Technology teachers which sought answers from one research question towards the influence of available educational facilities on junior secondary school students academic performance of Basic technology subject.

Validity of the instrument

The checklists of educational facilities used for this study were not validated because they were adopted from the ministry of education (science, technical and vocational division) (2005) approved lists of tools equipment of junior secondary schools Edo state, Nigeria.

Method of Data Collection And Analysis

The instruments was administered to the respondents with the help of research assistants. They were collected back and analysed with percentage. Results and discussion.

V. Results and Discussion

Table 1: ClassificationRespondents of Influence of the Available Educational Facilities on Junior Secondary School Students' Academic Performance of Basic Technology in Edo State.
Electrical Installation and Maintenance Works

S/N	Equipment/Tools	Number Required	Number Available	Percent-age available	Decision
	MAINTENANCE EQUIPMENT				
1.	Work benches	10	1	10%	Not Adequate
2.	Crow bars	4	_	0%	Not Adequate
3.	Conduit bending machines with necessary accessories	4	_	0%	Not Adequate
4.	Conduit threading machines	2	_	0%	Not Adequate
5.	Conduit vices	5	1	20%	Not Adequate
6.	Clamps	2	1	5%	Not Adequate
7.	Winding machines	2	_	0%	Not Adequate
8.	Battery chargers	2	1	50%	Not Adequate
9.	Grease guns	2	1	50%	Not Adequate
10.	Wiring boards	5	1	20%	Not Adequate
11.	Oil cans	5	1	20%	Not Adequate
12.	Ladders (adjustable)	4	_	0%	Not Adequate
13.	Blow lamps	6	_	0%	Not Adequate
14.	Pots and ladles	4	_	0%	Not Adequate
15.	Goggles	10	1	10%	Not Adequate
16.	Electric soldering Irons 15/45 watts	20each	2	10%	Not-Adequate
17.	Soldering bits	10	3	30%	Not Adequate
18.	Gas welding sets	1	_	0%	Not Adequate
19.	Ac and Dc ammeters	35	_	0%	Not Adequate
20.	Ac and Dc voltmeters	35	_	0%	Not Adequate
21.	Ac and Dc avometers	20	_	0%	Not Adequate
22.	Waltmeters	10	_	0%	Not Adequate
23.	Megers	5	_	0%	Not Adequate
24.	Tachometers	5	_	0%	Not Adequate
25.	Energy meters	5	_	0%	Not Adequate
26.	Neon testers and voltage check testers	15	_	0%	Not adequate
27.	Steel rules	30	5	16.67%	Not Adequate
28.	Oscilloscopes	2	_	0%	Not Adequate
29.	Hydrometers	10	2	20%	Not Adequate
30.	Ohmmeters	30	1	33.33%	Not Adequate
31.	Spirit levels	35	5	14.29%	Not Adequate
32.	Micrometers (assorted)	5	2	40%	Not Adequate
33.	Tang testers (Chips) on Ohmmeters	5	1	20%	Not Adequate
34.	Growlers	5	1	20%	Not Adequate
35.	Bridge mergers	4	2	50%	Adequate
	HAND TOOLS				
36.	Flat screw drivers set (small)	5 sets	2	40%	Adequate
37.	Flat screw drivers set (medium)	20	2	10%	Not Adequate
38.	Flat screw drivers set (large)	20	3	15%	Not-Adequate
39.	Phillips screw drivers set	10 sets	1	10%	Not-Adequate
40.	Jeweler's screw drivers	10 sets	_	0%	Not Adequate
41.	Alley keys	10 sets	_	0%	Not Adequate
42.	Strippers	5 sets	_	0%	Not Adequate
43.	Long nose pliers	20	2	10%	Not Adequate

44.	Combination pliers	20	1	5%	Not Adequate
45.	Cutters	20	2	10%	Not Adequate
46.	Hacksaws	20	3	15%	Not Adequate
47.	Hacksaw/blades	10 packets	_	0%	Not Adequate
48.	Hammers (assorted)	40	2	5%	Not Adequate
49.	Mallets (rubbers, raw hide and wooden)	5 sets each	1	20%	Not Adequate
50.	Spanners (flats, ring and wooden)	3 sets each	_	0%	Not Adequate
51.	Flat files 250mm (rough)	35	2	5.71%	Not Adequate
52.	Flat files 250mm (smooth)	35	4	11.43%	Not Adequate
53.	Hand files 250mm (rough)	35	5	14.29%	Not Adequate
54.	Hand files 250mm (smooth)	35	2	5.71%	Not Adequate
55.	Three square files 250mm (rough)	20	5	25%	Not Adequate
56.	Three square files 250mm (smooth)	20	6	30%	Not Adequate
57.	Square files 250mm (rough)	20	5	25%	Not Adequate
58.	Square files 250mm (smooth)	20	2	10%	Not Adequate
59.	Round files 250mm (rough)	20	_	0%	Not Adequate
60.	Round files 250mm(smooth)	20	_	0%	Not Adequate
61.	Warden files	4 sets	1	25%	Not Adequate
62.	Chisels (cold)	4 sets	_	0%	Not Adequate
63.	Taps1 and wrenches	2 sets	_	0%	Not Adequate
64.	Dies and stock	4 boxes	_	0%	Not Adequate
65.	Drills	2	_	0%	Not Adequate
66.	Hand and machines reamers	5	_	0%	Not Adequate
67.	Screw extractors	20	_	0%	Not Adequate
68.	Testing screw drivers	20	_	0%	Not Adequate
69.	Electrician's/Electronics knives	2 packets	_	0%	Not Adequate
70.	Raw plugs	10	_	0%	Not Adequate
71.	Pipe wrenches	20	_	0%	Not Adequate
72.	Gimlets	20	_	0%	Not Adequate
73.	Centre punches	20	1	5%	Not Adequate
74.	Scribers	20	1	5%	NotAdequate
75.	Bells and battery set	4	1	25%	Not Adequate
76.	Compressing tools	10	1	10%	Not Adequate
77.	Ringing tools	10	2	0%	Not Adequate
78.	Crumping tools	10	_	0%	Not Adequate
	OTHER EQUIPMENT				
79.	Resistors (assorted)	100	5	2%	Not Adequate
80.	Rheostats	30	2	6.67%	Not Adequate
81.	Inductors (assorted)	70	10	14.29%	Not Adequate
82.	Capacitors (assorted)	70	10	14.29%	Not Adequate
83.	Transformers (assorted)	10	_	0%	Not Adequate
84.	Dc motors	10	_	0%	Not Adequate
85.	Dc generators	10	_	0%	Not Adequate
86.	Ac motors (single and 3 phase starters assorted)	90	_	0%	Not Adequate
	OTHER UTILITIES				
87.	Fire extinguisher	1	1	100%	Adequate
88.	Sand bucket	8	2	25%	NotAdequate
89.	Water buckets	8	5	62.5%	Adequate
90.	First aid boxes	2	2	100%	Adequate
	AUDIO VISUALS				
91.	Overhead projectors with screen	1	1	100%	Adequate
92.	Slide projectors	1	0	0%	Not Adequate

93.	Flannel charts	2		100%	Adequate
94.	Film strip projectors	1	1	100%	Adequate
95.	Magnetic boards	1	1	100%	Adequate
96.	Chalkboard tee-squares	30	20	66.67%	Adequate
97.	Chalkboard set squares 60/45	2 each	2	100%	Adequate
98.	Meter rules	20	20	100%	Adequate
99.	Chalkboard dividers	2	2	100%	Adequate
100.	Chalkboard projectors	2	1	50%	Adequate
101.	Dusters	2	2	100%	Adequate
102.	Display boards	2	2	100%	Adequate
103.	Charts display of safety precautions	4	2	50%	Adequate
	Total	1,508	180		Not Adequate

Source: Ministry of Education (Science Technical and Vocational Division) Edo State Nigeria

Motor Vehicle Mechanics Equipment/Tools

S/N	Equipment/Tools	Number Required	Number Available	Percent-age available	Decision
1.	Hacksaw complete with blade	20	2	10%	Not Adequate
	CUTTING TOOLS				
2.	Tin shear or snips	15	-	0%	Not Adequate
	FILE HANDLES AND FILES				
3.	Round files	10	_	0%	Not Adequate
4.	Square files	10	2	20%	Not Adequate
5.	Triangular files	10	2	20%	Not Adequate
6.	Set of warden files	10	2	20%	Not Adequate
7.	Half round-various files	10	1	10%	Not Adequate
8.	File card-cutting surfaces	10	1	10%	Not Adequate
	CHISELS				
9.	Flat chisels	6	2	33.33%	Not Adequate
10.	Cross-cut chisels	3	1	33.33%	Not Adequate
11.	Diamond point chisels	3	1	33.33%	Not Adequate
	SCRAPERS				
12.	Flat scrapers	6	2	33.33%	Not Adequate
13.	Half scrapers	3	1	33.33%	Not Adequate
14.	Triangular scrapers	3	1	33.33%	Not Adequate
	DRILLING				
15.	Pillar type drilling machines	2	_	0%	Not Adequate
16.	Portable electric drills	2	_	0%	Not Adequate
17.	Breast drilling machines manual	2	_	0%	Not Adequate
18.	Breast drilling machines power	3	_	0%	Not Adequate
19.	A set of drill bits	6	1	16.67%	Not Adequate
20.	Counter boring bits	4	1	25%	Not Adequate
21.	Counter sinking bits	4	1	25%	Not Adequate
22.	Set of reamers	4	1	25%	Not Adequate
	SCREW CUTTING				
23.	Set of stock dies and tap boxes	4	_	0%	Not Adequate
24.	Round set of stock dies and taps metric sizes	4	_	0%	Not Adequate
25.	Half die nuts	2	_	0%	Not Adequate
26.	Thread die set	4	_	0%	Not Adequate
27.	Thread files	6	_	0%	Not Adequate
28.	Roller type thread restorers	8	_	0%	Not Adequate
	MEASURING TOOLS				
29.	Meter rules	20	2	10%	Not Adequate
30.	Inside calipers	5	_	0%	Not Adequate
31.	Outside calipers	5	_	0%	Not Adequate
32.	Spring types	5	1	20%	Not Adequate
33.	Spring types calipers	5	1	20%	Not Adequate
34.	Odd-leg calipers	5	_	0%	Not Adequate

35.	Surface dividers	5	1	20%	Not Adequate
36.	Spring plates	5	1	20%	Not Adequate
37.	Vee blocks	5	1	20%	Not Adequate
38.	Scribing blocks	6	1	16.67%	Not Adequate
39.	Micrometers of various sizes such as (0-25), (25-75) and 75-100mm)	20	2	10%	Not Adequate
40.	Veneer calipers metric graduation	20	1	10%	Not Adequate
41.	Dial test indicator gauges	10	_	0%	Not Adequate
42.	One meter straight edges	10	_	0%	Not Adequate
43.	300mm parallels	10	_	0%	Not Adequate
	JOINING METALS AND METAL BEATING				
44.	Blow lamps	6	_	0%	Not Adequate
45.	Welding (oxy-acety-lene set)	4	_	0%	Not Adequate
46.	Soldering irons	10	2	20%	Not Adequate
47.	Electric soldering irons	10	2	20%	Not Adequate
48.	Brazing touch dud 1 portepak welding set (off premises welds)	5	_	0%	Not Adequate
	LUB-BAY AND TYRE / WHEEL BALANCING SERVICE				
49.	Compressor of at least 200-300 P.I.S. (3phase motor driven types)	4	-	0%	Not-Adequate
50.	Spray gun and grease	6	-	0%	Not-Adequate
51.	Hose reels	2	-	0%	Not Adequate
52.	Wheel balancer	1	-	0%	Not Adequate
53.	Airline gauges	3	-	0%	Not-Adequate
54.	Portable type inflator we-cleaners	10	-	0%	Not-Adequate
55.	Modern steam clearers complete oil fired	6	-	0%	Not-Adequate
56.	High pressure washers	6	-	0%	Not-Adequate
57.	Cable reel with water proof plugs and sockets	10	-	0%	Not-Adequate
58.	Weld master vulcanizes	4		0%	Not-Adequate
59.	Various sizes wheel braces	10	-	0%	Not-Adequate
60.	Tyre changer complete with bead breakers	10	-	0%	Not-Adequate
61.	Heavy duty tyre changer-air operated types	1	-	0%	Not Adequate
62.	Wire repair tool kit comprising: Rasps, scissors, tire knives and stitches spiral wound wire brushes etc	5	-	0%	Not-Adequate
63.	Wire brush set, fast charger with engine starting rating 6v, 12v or 24v. input 200-240AC	10	3	10%	Not-Adequate
64.	Service station set of tool kit e.g. FACOM *2100 or 2080 plus other special wrenches for removal of oil fitter canister or equivalent in other makes.	1	-	0%	Not Adequate
65.	Set of stud extractors	2	1	0%	Not-Adequate
66.	Pipe clamps or vices	10	-	0%	Not Adequate
67.	Pipe cutters	5	-	0%	Not Adequate
68.	A set of panel beater tools kit	4	-	0%	Not Adequate
69.	Wheal alignment gauges	2	-	0%	Not Adequate
70.	Plug spanners-long and short reach types	6	-	0%	Not Adequate
71.	Battery service kits	5	-	0%	Not-Adequate
	ROUTINE SERVICE				
	Each mechanic tool kit comprising of:				

72.	Tool box with keys	10	-	0%	Not Adequate
73.	Set of files	2	-	0%	Not-Adequate
74.	Set of warden files	4	1	25%	Not-Adequate
75.	Flat chisels	10	1	10%	Not-Adequate
76.	Cross-cut chisels	10	1	10%	Not-Adequate
77.	Diamond point chisels	10	2	20%	Not-Adequate
78.	Set of hallow punches at least 6 sizes	15	1	6.67%	Not-Adequate
79.	Ball pen hammer	20	2	10%	Not-Adequate
80.	Plastic-nylon-rubber mallets or hammer	20	2	10%	Not-Adequate
81.	Hack saws complete with 10 blades	20	2	10%	Not-Adequate
82.	Three(3) meter engineers rule centre punches 8-33 – (1/2" drive) – sockets	8	-	0%	Not-Adequate
83.	Spanners set complete with ratchet, brace, extension, U.J hand lies 6-22mm open ended flat	10	-	0%	Not-Adequate
84.	Spanners	25	2	8%	Not-Adequate
85.	6-22mm combination ring and flat open ended	15	2	13.33%	Not-Adequate
86.	Emery stones or blocks	10	1	10%	Not-Adequate
87.	Plug spanners	10	1	10%	Not-Adequate
88.	Set of magnetic spanners set of Allen keys and oil cans	10	-	0%	Not-Adequate
89.	Mole grips	2	-	0%	Not-Adequate
90.	Stilson wrench with sizes	10	-	0%	Not-Adequate
91.	Length flat screw drivers 4 in a set	15	-	0%	Not-Adequate
92.	Star or Philips screw drivers	15	1	46.67%	Not-Adequate
93.	File cards	5	-	0%	Not-Adequate
94.	Soldering irons	10	2	10%	
95.	Spark plug files	15	2	13.33%	Not-Adequate
96.	Set of feeler gauges	5	1	2%	Not-Adequate
97.	Combination pliers	15	1	6.67%	Not-Adequate
98.	Long-nose pliers	15	1	6.67%	Not-Adequate
99.	Wire cutter and shippers	10	1	10%	Not-Adequate
	GENERAL SERVICE AND RECONDITIONING				
100	Diesel test bench complete in Lucas 24,000 injector tester.	1	-	0%	Not Adequate
101	Injectors nozzle view Busch C.A.V - Lucas 237,000	2	-	0%	Not-Adequate
102	Electrical test benches Busch or Lucas 237,000	2	-	0%	Not-Adequate
103	Boring bar complete honing machines	2	-	0%	Not-Adequate
104	Bottle-jacks hydraulic-light	3	-	0%	Not-Adequate
105	Vehicle types	1	-	0%	Not Adequate
106	Bottle jacks hydraulic-heavy duty	1	1	0%	Not Adequate
107	Ram up to 6 tens capacity	1	1	0%	Not Adequate
10.	Portable engine hoists	1	-	0%	Not-Adequate
109	Trolley jacks	2	-	0%	Not-Adequate
110	Dynamometers	2	-	0%	Not-Adequate
111.	Motor scope (engine analyzer's)	1	-	0%	Not Adequate
112.	Timing lights	2		0%	Not-Adequate
113.	Tachometers	1	-	0%	Not Adequate
114.	Dwell testers	1	-	0%	Not Adequate
115.	Hydraulic press	2	-	0%	Not Adequate

116.	Inspection pits	1	-	0%	Not Adequate
117.	Armature growers	2	-	0%	Not-Adequate
118	Compression gauges	2	-	0%	Not-Adequate
119	Ammeters	5	1	20%	Not-Adequate
120	Voltmeters	5	1	20%	Not Adequate
121	Ohmmeters or Anemometers	5	1	20%	Not-Adequate
122	Pickavant clutch jigs	2	-	0%	Not Adequate
123	Clutch aligning jigs	1	-	0%	Not Adequate
124	Various pullers and extractors, Lucas instructional chassis	1	-	0%	Not Adequate
125	Valve spring compressor kits and coils spring compressors	2	-	0%	Not Adequate
126	Torque wrench pre-set types	1	-	0%	Not Adequate
127	Metric graduation	1	-	0%	Not Adequate
128	Torque wrench dial types metric graduation	2	-	0%	Not-Adequate
129	Hydraulic nipples forming tools	10	-	0%	Not-Adequate
130	Flatting tools for steel tubing	10	-	0%	Not-Adequate
131	Small bore pipe bending tools	10	-	0%	Not-Adequate
	EQUIPMENT FOR AUTO STARTER MOTORS		-		
132	Initial motors	1	-	0%	Not Adequate
133	Pre-engaged motors	1	-	0%	Not Adequate
134	Axial motors	1	-	0%	Not Adequate
135	C0-axial motors	1	-	0%	Not Adequate
136	Spring starters	2	-	0%	Not-Adequate
137	Hand tools (kits)	10	1	10%	Not-Adequate
138	Under-cutting machines	5	-	0%	Not-Adequate
139	Bench-testing machines	5	1	20%	Not-Adequate
140	High-rate discharge testers	1	1	0%	Not Adequate
141	Lathe machines	2	1	50%	Adequate
142	Test lamps	5	1	20%	Not-Adequate
143	Cadmium sticks	2	-	0%	Not-Adequate
144	Audio visual aids	5	2	40%	Not-Adequate
145	Films strips	15	5	33.33%	Not-Adequate
146	Avometers	5	1	20%	Not-Adequate
147	Filler gauges	8	-	0%	Not-Adequate
	Total	942	78		

Source: National Board for Technical Education (NBTE) (2008)

Block Laying and Concreting, Carpentry and Joinery Equipment / Tools

S/No.	Equipment/Tools	Number Required:	Number Available	Percentage available	Decision
1	Brick/Block trowels	25	2	8%	Not –Adequate
2	Point trowels	25	1	4%	Not –Adequate
3	Plastering trowels	25	1	4%	Not –Adequate
4	Spirit levels	20	-	0%	Not –Adequate
5	Plumb bulbs	20	-	0%	Not-Adequate
6	Iron squares	20	-	0%	Not-Adequate
7	Builder's squares	25	-	0%	Not-Adequate
8	Chisels	20	-	0%	Not –Adequate
9	Club hammers	20	-	0%	Not-Adequate
10	Sledge hammers	25	-	0%	Not-Adequate
11	Lines	25	10	40%	Not-Adequate
12	Corners blocks	25	1	4%	Not-Adequate
13	Floats (wooden)	10	1	10%	Not-Adequate
14	Hawks	30	1	3.33%	Not-Adequate
15	Straight edges	20	10	50%	Adequate
16	Spot boards	20	-	0%	Not –Adequate
17	Head pans	20	-	0%	Not-Adequate

18	Machetes	10	-	0%	Not-Adequate
19	Hoes	20	1	5%	Not-Adequate
20	Shovels	20	2	10%	Not-Adequate
21	Spades	20	1	5%	Not-Adequate
22	Wheelbarrows	10	-	0%	Not Adequate
23	Pix axes	20	-	0%	Not-Adequate
24	Tap measures (30 meters)	20	-	0%	Not-Adequate
25	Rules	20	1	5%	Not-Adequate
26	Tilting mixers	1	-	0%	Not –Adequate
27	Non tilting mixers	1	-	0%	Not-Adequate
28	Moulds	10 each	1	0%	Not-Adequate
29	Leveling instruments dumpy levels and engineering precision levels	10	-	0%	Not-Adequate
30	Leveling staff	20	-	0%	Not-Adequate
31	Mechanical	2	-	0%	Not-Adequate
32	Site squares	2	-	0%	Not-Adequate
	Total	561	32		

Carpentry and Joinery Workshop Equipment/Tools

33	Paint brushes (sets)	10	1	10%	Not-Adequate
34	Paint containers	10	2	20%	Not-Adequate
35	Putty knives	10	1	10%	Not-Adequate
	GLUING				
36	Glue pot and jacket (for animal glue)	4	-	0%	Not-Adequate
37	Glue spreaders	10	-	0%	Not-Adequate
38	Glue brushers	20	1	5%	Not-Adequate
	MEASURING/MAKING TOOLS				
39	Making gauges	20	2	10%	Not-Adequate
40	Mortice gauges	20	2	10%	Not-Adequate
41	Combine (marking/mortice) gauges	10	-	0%	Not-Adequate
42	Cutting gauges	10	1	1%	Not-Adequate
43	Marking knives	30	1	3.33%	Not-Adequate
44	Veneer knives	30	1	3.33%	Not-Adequate
45	Try-squares	15	1	6.67%	Adequate
46	Meter squares	25	1	4%	Not-Adequate
47	Sliding levels	20	-	0%	Not-Adequate
48	Straight edges	20	3	15%	Not-Adequate
49	Four-fold wooden rules (metric)	24	5	20.83%	Not-Adequate
50	Tapes measure (metric) steel rules	30	4	13.33%	Not-Adequate
51	Steel rules	20	-	0%	Not-Adequate
	PLANES				
52	Jack planes	25	-	0%	Not-Adequate
53	Smoothing planes	10	-	0%	Not-Adequate
54	Block planes	10	-	0%	Not-Adequate
55	Shoulder planes	10	-	0%	Not-Adequate
56	Rebate planes	10	-	0%	Not-Adequate
57	Multi-plough planes	10	-	0%	Not-Adequate
58	Grooving plough planes	10	1	10%	Not-Adequate
59	Bull-nose planes	10	1	10%	Not-Adequate
60	Compass planes	5	-	10%	Not-Adequate
61	Jointing planes	5	-	10%	Not-Adequate
62	Router planes	5	-	10%	Not-Adequate
63	Spokes haves (straight/ round)	10 each	-	10%	Not-Adequate
	SAW				
64	Rips saws	25	5	20%	Not Adequate
65	Cross cut/hand saws	25	5	20%	Not-Adequate

66	Tenon saws	20	6	30%	Not-Adequate
67	Panel saws	15	7	46.67%	Not-Adequate
68	Coping saws	20	2	10%	Not-Adequate
69	Compass saws	15	2	13.33%	Not-Adequate
70	Key-hole saws	15	1	6.67%	Not-Adequate
71	Fret saws	10	1	10%	Not Adequate
72	Dovetail saws/backsaws	15	2	13.33%	Not-Adequate
73	Bow saws	15	-	0%	Not-Adequate
	CHISELS				
74	Ordinary firmer (set)	20	-	0%	Not-Adequate
75	Bevel-edge firmer (set)	20	-	0%	Not-Adequate
76	Mortice (set)	20	3	15%	Not-Adequate
77	Paring bevel-edge (set)	15	-	0%	Not-Adequate
78	Firmer gauge (set)	15	-	0%	Not-Adequate
79	Turning chisel (set)	10	-	0%	Not-Adequate
80	Brace/bit drills	10	-	0%	Not-Adequate
81	Centre bits	5 sets	-	0%	Not-Adequate
82	Auger bits	5 each	-	0%	Not-Adequate
83	Twist bits	15	-	0%	Not-Adequate
84	Countersink bits	10 sets	-	0%	Adequate
85	Rose (sets)	5 sets	-	0%	Not-Adequate
86	Gimlets	5	-	0%	Not-Adequate
87	Breast Drills	10	-	0%	Not-Adequate
	DRIVING TOOLS				
88	Screw driver (set of six)	10	1	10%	Not-Adequate
89	Mallets	30	2	6.67%	Not-Adequate
90	Claw hammers	20	5	25%	Not-Adequate
91	Pane hammers	20	-	0%	Not-Adequate
92	Warrington hammers	10	-	0%	Adequate
93	Brad awls	10	-	0%	Adequate
94	Pincers	20	5	25%	Not-Adequate
95	Oil cans	5	2	40%	Not-Adequate
96	Saw sets	6 set	-	0%	Not-Adequate
97	Saw vices	10	-	0%	Not-Adequate
98	Saw files	10	-	0%	Not-Adequate
	MACHINES				
99	Circular saw benches	2	-	0%	Not-Adequate
100	Surface saws	1	-	0%	Adequate
101	Wood lathes	1	-	0%	Adequate
102	Band saws	1	-	0%	Adequate
103	Mortises	1	-	0%	Adequate
104	Cross-cut sawing machines	1	-	0%	Adequate
105	Drilling machines	1	-	0%	Adequate
106	Jig saws	1	-	0%	Adequate
107	Planning machines clamps	1	-	0%	Adequate
108	Sash (set)	10	-	0%	Not-Adequate
109	(G) clamps	20	-	0%	Not-Adequate
110	Bench hold fasts.	20	5	25%	Not-Adequate
	MISCELLANEOUS				
111	Goggles	20	1	5%	Not-Adequate
112	Vices	20	1	5%	Not-Adequate
	Total	1,049	84		
	Grand Total	4,170	374		

Source: Ministry of Education (Science, Technical and Vocational Division) Edo state, Nigeria

VI. Conclusion

Based on the results of the study, the analysis of the available educational facilities for basic Technology in Juniorsecondary schools in Edo state, Nigeria were grossly inadequate.

VII. Recommendation

Based on the findings of the study, the following recommendation was made:
Government should provide funds to purchase adequate tools, equipment, facilities, materials and so on, so as to realize the objectives of Basic technology in Junior secondary schools in Edo State, Nigeria.

References

[1] Federal Government of Nigeria (2004).*National policy on Education* (4th Edition) Lagos : federal government press, 30-32,39-40

[2] Ministry of Education (Science, Technical and Vocational Division) (2005). Minimum tools and equipment list of technical and vocational subjects.

[3] Mkpa, A.M' (2014).*Reassessing the future of education in Nigeria. Optimization of available teaching and learning facilities in Nigeria.*Abuja : Education Tax fund 79-80

[4] Nwagu,C.C.(2007). The environment of crises in Nigeria education system in Obielumani I. O.
[5] (Ed.) An over view of physical facilities, input and access to Education in Nigeria Universities *Journal of studied in Education* 1 (16), 1-4

[6] Obielumani,1.0. (2016). An overview of physical faculties input and access to Education in Nigerian universities. *Journal of studies in Education 1*(16), 1-4

[7] Olaitan, S.O. (2012). *The theory and practice of technical and vocational education in Africa.* Calabar :contour press Ltd 29-33