

IMPROVING THE TEACHING OF NEW SENIOR SECONDARY SCHOOL TRADE SUBJECTS IN PUBLIC SECONDARY SCHOOLS IN EBONYI STATE

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Abstract

This study centered on improving the teaching of trade subjects in the new secondary schools for graduates' self-reliance. Five specific purposes and corresponding research questions and four hypotheses guided the study. The study employed survey research design. The sample for the study was 470 teachers and the school principals drawn from the population of two thousands, eight hundred and sixty nine (2869). A structured questionnaire which had 242 items was used to collect data. The data obtained were analyzed using mean with standard deviation and percentage. The hypotheses formulated were tested using t-test statistic. Based on the analysis of the data, the following results emanated; that the instructional materials for teaching of trade subjects were not adequate, that teaching methods required for teaching of trade subjects were demonstration, project method experimentation and field trip among others, The result also showed that there was no significant difference between the opinions of the trade teachers and that of the school principals on instructional materials required, and the teaching method for teaching of trade subjects. It was recommended among others that the Ebonyi State Government should provide adequate tools, equipment and facilities for improving the teaching of trade subjects, that the teachers should always apply the appropriate teaching materials, and teaching methods, for the teaching of trade subjects.

Keywords: Teaching, Secondary, School, Trade, Senior

Introduction

As the needs of the society over the years continue to change, the aims and goals of education also continue to change, culminating in series and editions of the National Policy on Education (NPE). The objectives of education as contained in the NPE were derived from the philosophy of education. The objectives border on the issues of inculcation of right values and attitudes to citizens for the attainment of national unity, the survival of individuals and the nation, acquisition of appropriate knowledge, competencies and skills for the development of the individual and training of the mind for the understanding and appreciation of the world around us (FRN, 2014). In Nigerian Education system, new secondary school according to FRN (2008) is the secondary education designed with subjects that must be offered by all students.

It was therefore, to consolidate the gains of the new nine years basic education programme as well as to ensure the actualization of the Federal Government agenda for national development, especially in the area of Technical Human Capital Development

(THCD), that NERDC developed a new curriculum structure for senior secondary school in Nigeria. The New Senior Secondary Education Curriculum (SSEC) is systematically connected with the contents of the Junior Secondary Education Curriculum (JSEC). The curriculum is so diversified that it is made to cater for the differences in talents, opportunities and future roles of individuals.

The new senior secondary education curriculum according to FRN (2008) was developed to comprise the following:

- i. A group of four (4) compulsory, which cut across core subjects that must be offered by all students.
- ii. Four fields of study: This is a group of subjects representing students potential area of specialization.
- iii. A group of thirty four (34) trades/entrepreneurship subjects which are vocational based subjects.
- iv. Elective subjects

Based on the content of the curriculum, according to FGN (2008), students are to offer 4 compulsory cross-cutting core subjects, and 3-4 subjects from their field of specialization

(humanities, science, technology and business studies). Students are also to choose their compulsory trade/entrepreneurship subjects from the list of thirty four (34) trades and elective subjects outside their fields of specialization. In all, students are to choose a total number of 8 or 9 subjects (David, 2012).

The trade subjects in the new senior secondary schools in which this work is concerned is the technology areas such as; auto body repair and spray painting, Auto electrical work, auto mechanical work, air conditioning/refrigeration, electrical installation and maintenance work; radio and Tv and electrical work; block laying; brick laying and concrete work; painting and decoration; carpentry and joinery; upholstery; garment making; cosmetology; keyboarding; leather goods manufacturing and repair; animal husbandry; marketing; tourism; GSM maintenance and others, but in Ebonyi State the only trade subjects offered in the new senior secondary schools are catering and craft practices, animal husbandry, marketing, data processing and computer (Ebonyi State Secondary Education Board, 2016). Therefore, this work is focused on the improvement strategies for the teaching of animal husbandry, data processing and computer catering craft practices and marketing. Teaching in the context of this study is the process which involves the interaction between the teacher and the learner. It involves imparting knowledge and skills to the learner by the teacher in order to improve the trade subjects in public secondary schools. Some of the trade subjects are auto-electrical work, auto-mechanical work, block laying, concrete work, painting, carpentry and joinery and others.

On the other hand, public secondary schools in the context of this work are the secondary schools managed and owned by the government. The teaching of the trade subjects ordinarily should be properly taught in order to aid students perform well both in the internal and external examinations as well as acquisition of the skills in the trade subjects for employment, but in some secondary schools in Ebonyi State, practical observation has shown that teachers teach trade subjects theoretically in the classroom with little or no practicals. This has made many secondary school students to graduate with little or no skills in the trade

subjects for employment. This situation has led to the defeat of the aims and objectives of setting the new secondary schools, because this has led to massive unemployment in the study area. Due to high rate of unemployment among the young graduates, it has led to social vices such as robbery, kidnapping, human and drug trafficking, as well as assassination in the society.

Statement of the Problem

It has been observed by the researcher that the old senior secondary school curriculum has failed to realize the aims and objectives for developing it, after so many years in use. The failure of the curriculum according to Adeyemi (2005) is evidenced by the inability of the secondary school graduates to be vocationally oriented and self reliant as observed by the massive dependency on white collar jobs by youths. Edigin (2007) also observed that, upon completion of secondary education, graduates cannot identify basic hand tools, let alone use them, as theory was greatly emphasized more by most trade subject teachers to the detriment of practice, even when some workshop facilities exist in some of these schools. This situation has led to production of millions of secondary school graduates without skills who roam about in the streets in search of white collar job which are not available these days and this has made many young secondary school graduates to be unemployed. This high rate of unemployment has led the graduates to engage into many anti-social behaviours such as arm robbery, prostitution among the females, kidnapping, drug and child trafficking, insurgency, Boko Haramism, assassination and 419 activities. This situation had made the society unconducive for human existence if this trend is not checked, it may lead to total collapse of peace and war in the nation. It is on the bases of the forgoing that this study therefore is designed to identify strategies for improving teaching of trade subjects in the new senior secondary education curriculum with the sole aim of making secondary school graduates to be vocationally oriented and self reliant on graduation.

Purpose of the Study

The purpose of this study was to identify the ways of improving effective teaching of some new senior secondary school trade subjects for graduate self-reliance. Specifically, the study sought to ascertain:

1. The adequacy of facilities, equipment and tools for improving effective teaching of trade subjects.
2. Available instructional materials required for improving effective teaching of trade subjects.
3. The teaching methods and techniques required for improving effective teaching of trade subjects.

Research Questions

The following research questions guided the study:

1. What is the adequacy of the facilities, equipment and tools for improving the teaching of trade subjects?
2. What were the instructional materials required for improving the teaching of trade subjects?
3. What were the teaching methods and techniques required for improving the teaching of trade subjects?

Hypotheses

The following hypotheses were tested at 0.05 level of significance:

H₀₁: There is no significant difference between the mean responses of the trade teachers and the principals on the instructional materials required for improving effective teaching of trade subjects.

H₀₂: There is no significant difference between the mean ratings of the teachers and the principals on the teaching methods required for improving the teaching of trade subjects.

Methodology

The descriptive survey design was used for this study. The population of the study was 2,869, which consisted of all the 221 principals of the public new senior secondary schools in Ebonyi State and 2,648 teachers (Ebonyi State Secondary Education Board, 2016). A simple

random sampling technique, was used to select 10% of the teachers from each of the 13 local government areas in Ebonyi State which was 258 and all the 221 principals in the state which gave a total sample of 470. The use of 10% was justified because according to Uzoagulu (2011) when population is in thousand, 10% can serve as the sample of the study. The instrument for data collection was a structured questionnaire developed by the researcher. The instrument for the teachers was designed based on four points scale responses such as Highly Required (HR) 4 points, required (R) 3 points, Slightly Required (SR) 2 points and Not Required (NR) 1 point, while the instrument for the principals were on checklist. The instruments were validated by three experts, one expert of measurement and evaluation and two experts from the Department of Technology and Vocational Education, all from Ebonyi State University. The observations of the experts were incorporated into the final draft of the questionnaire that was used to collect data. The reliability of the instrument was computed using the Cronbach Alpha technique to determine the internal consistency of the items. The result yielded a reliability co-efficient of 0.9. This suggests that the instrument was good for the study. The data for the study were collected by the researchers with the help of research assistants. The 470 copies of the questionnaires were administered to the respondents and 450 were collected back and 20 questionnaires were not retrieved from the respondents because of mutilation and improper filling. Therefore, the percentage of the questionnaire retrieved was 95.70%. Research question 1 was analyzed using percentage, while research questions 2, 3, 4 and 5 were analyzed using mean with standard deviation. The hypotheses were tested using t-test at 0.05 level of significance. In taking decisions, 2.50 was used as the cut-off point for research questions 2-4. This was derived by adding the nominal values of the rating scales and divided by the number of cases. Therefore, any item with the mean of 2.50 and above was regarded as the factor that will improve effective teaching of the trade subjects, while any item with the mean score below 2.50, was adjudged as the item that does not help to improve the teaching of the trade subjects. Research

question one was analyzed using percentage based on the bench mark of the requirements of facilities for teaching of trade subjects. Therefore, 50% was used as the bench mark of adequacy of any facility, equipment and tools, but any item with the score below 50% was regarded as the facility not adequate for teaching of trade subjects. In taking decision for the hypotheses the t-calculated was compared with the t-critical, if the t-calculated was less than the t-critical, the null hypothesis was accepted at 0.05 level of significance at a

particular degree of freedom, but if the t-calculated was greater than the t-table, the null-hypothesis was not accepted at 0.05 level of significance at a particular degree of freedom.

Results

The researchers presents the analysis, presentation and interpretation of the data as indicated.

Research Questions 1: What is the adequacy of the facilities, equipment and tools for improving the teaching of trade subjects?

Table 1: Percentage Responses of the Respondents on Adequacy of the Facilities, Equipment and Tools in the Schools

S/N	Facilities, Equipment and Tools Catering Craft Practices	Number Available	Bench Mark	Remarks
1.	Refrigerator	-	3	NA
2.	Freezer	-	2	NA
3.	Gas cookers	-	6	NA
4.	Electric cookers	-	2	NA
5.	Sink with drawing boards	-	6	NA
6.	Cupboards	-	4	NA
7.	Working tops	-	8	NA
8.	Tables	-	8	NA
9.	Microwave	-	3	NA
10.	Trolleys	-	3	NA
11.	Sideboards	-	8	NA
12.	Streamers	-	2	NA
13.	Fryers	-	2	NA
14.	Pots (large)	5	10	NAD
15.	Saucepans	-	20	NA
16.	Mixers	-	2	NA
17.	Minces	-	2	NA
18.	Creaming machines	-	2	NA
19.	Stoves	2	10	NAD
20.	Tripod stand	2	10	NAD
21.	Coal pot	1	10	NAD
22.	Stainless basins	3	10	NAD
23.	Plastic basins	3	20	NAD
24.	Stainless mixing bow	2	10	NAD
25.	Trays of various sizes	4	10	NAD
26.	Manual grinders	-	2	NA
27.	Blenders	1	6	NAD
28.	Frying pans (assorted)	2	20	NAD
29.	Wash hand basins (assorted)	5	20	NAD
30.	Dish washing machines	-	1	NA
31.	Grinding stone	-	1	NA
32.	Mortal and pestle	1	4	NAD
33.	Tongs	-	10	NA
34.	Whisks	-	10	NA
35.	Ladle	-	20	NA
36.	Wooden spoon	2	20	NAD
37.	Assorted colander	-	20	NA
38.	Grates	2	20	NAD
39.	Sieves	5	20	NAD
40.	Strainers	-	20	NA

41.	Egg slices	2	20	NAD
42.	Pastry brush	-	20	NA
43.	Table mats	-	20	NA
44.	Toasters	-	6	NA
45.	Tumblers (assorted)	10	50	NAD
46.	Showers	-	10	NA
47.	Kitchen scissors	6	4	AD
48.	Cruets sets	5	10	NAD
49.	Pastry board	2	5	NAD
50.	Chopping boards	5	50	NAD
51.	Rolling pins	6	50	NAD
52.	Tea sets	10	10	AD
53.	Tea cup and saucers	20	20	AD
54.	Sauce boats	5	20	NAD
55.	Butter dishes	10	20	NAD
56.	Casserole dishes	-	20	NA
57.	Pie dishes	5	20	NAD
58.	Dinner plate	12	20	NAD
59.	Soup plate	5	20	NAD
60.	Soup bowls	6	20	NAD
61.	Side plates	6	20	NAD
62.	Joint knives	5	20	NAD
63.	Joint forks	5	20	NAD
64.	Side knives	5	20	NAD
65.	Side forks	5	20	NAD
66.	Butter dish and knives	12	20	NAD
67.	Service spoons	14	20	NAD
68.	Service forks	6	20	NAD
69.	Set of knives	2	20	NAD
70.	Rolling pins	-	10	NA
71.	Balloon whisk	-	5	NA
72.	Palette knives	-	10	NA
Animal husbandry – facilities, equipment and tools				
73.	Poultry house	-	1	NA
74.	Goat pen	-	1	NA
75.	Sheep pen	-	1	NA
76.	Rabbit hutch	-	1	NA
77.	Snairy	-	1	NA
78.	Bee hives	-	1	NA
79.	Poultry (birds)	-	50	NA
80.	Rabbits	-	20	NA
81.	Sheep	-	10	NA
82.	Goat	-	10	NA
83.	Swine (pig)	-	10	NA
84.	Snails	-	100	NA
85.	Bees	-	200	NA
86.	Grass cutter	-	10	NA
87.	Ticks	-	20	NA
88.	Lice	-	20	NA
89.	Liverflukes	-	10	NA
90.	Tapeworm	-	10	NA
91.	Bone meal	-	1kg	NA
92.	Blood meal	-	1kg	NA
93.	Fish meal	-	1kg	NA
94.	Groundnut cake	-	1kg	NA
95.	Flea	-	10kg	NA
96.	Tse-tse fly	-	20	NA
97.	Pest (grasshopper)	-	20	NA
98.	Maize grains	-	1kg	NA

99.	Groundnut meal	-	1kg	NA
100.	Coconut meal	-	1kg	NA
101.	Egg shell meal	-	1kg	NA
102.	Palm kernel meal	-	1kg	NA
103.	Periwinkle shell meal	-	1kg	NA
104.	Mineral salt lick	-	1kg	NA
105.	Digestive system of Ruminants	-	1kg	NA
106.	Digestive system of non-ruminants	-	10	NA
107.	Reproductive organs of male livestock	-	10	NA
108.	Reproductive organs of female livestock	-	10	NA
109.	Reproductive tract of poultry	-	10	NA
110.	Skeletal system ink farm animals	-	10	NA
111.	Digestive system	-	10	NA
112.	Circulatory system	-	10	NA
113.	Respiratory system	-	10	NA
114.	Muscular system	-	10	NA
115.	Endocrine system	-	10	NA
116.	Calendars of ovulation	-	5	NA
117.	Calendars of oestrus cycle	-	5	NA
118.	Classes of farm animals	-	10	NA
119.	Calendar of heat period	-	10	NA
120.	Feeding trough	-	10	NA
121.	Drinking trough (drinkers)	-	10	NA
122.	Lanterns (source of heat)	-	5	NA
123.	Foot dip	-	10	NA
124.	Notebooks for accounts and records	-	10	NA
125.	Wheel barrow	-	5	NA
126.	Spade	2	5	NAD
127.	Rake	2	5	NAD
128.	Broom	10	10	AD
129.	Bulldozer pliers/castrators	-	2	NA
130.	Elastrators	-	2	NA
131.	Debeakers	-	2	NA
132.	Candlers	-	2	NA
133.	Dehorning saw	1	4	NAD
134.	Ear notching knife	-	2	NA
135.	Electro-ejaculator	-	2	NA
136.	Artificial inseminators	-	2	NA
137.	Hand sprayers and trap sack sprayer	-	2	NA
138.	Refrigerators to store materials	-	2	NA
139.	Clinical thermometer	-	2	NA
	Data processing – facilities, equipment and tools			
140.	Sets of desktop computer	-	20	NA
141.	Charts	-	20	NA
142.	Pictures	1	2	NAD
143.	Printer	5	5	AD
144.	Laptops	-	10	NA
145.	Monitor	10	20	NAD
146.	Microphone	-	15	NA
147.	Speaker	-	20	NA
148.	Keyboard	20	20	AD
149.	Mouse	20	20	AD
150.	Scanner	20	10	AD
151.	Joystick	-	20	NA
152.	Light pen	10	20	NAD
153.	Card reader	1	10	NAD
154.	Digital camera	-	5	NA
155.	Radio	1	2	NAD
156.	Television	-	10	NA
157.	Internet facilities	-	20	NA

158.	GSM phone	10	10	AD
159.	Fax machine	-	5	NA
160.	ICT based gadgets	-	5	NA
161.	Power source (NEPA)	2	2	AD
162.	Generator machine	1	2	NAD
163.	Word processing packages	5	5	AD
164.	Memory chips	2	5	NAD
165.	Floppy disk	-	10	NA
166.	Flash drive	20	5	AD
167.	Compact disk	2	10	NAD
168.	Raf. And text materials	-	20	NA
169.	Chalk board	10	10	AD
170.	Record books	10	10	AD
171.	List of student's information	20	2	AD
Marketing facilities, equipment and tools				
172.	Marketing laboratory	-	1	NA
173.	Departmental goods shop	-	1	NA
174.	Dom well desks	-	20	NA
175.	Swivel chairs	-	20	NA
176.	Filling cabinet	-	10	NA
177.	Stapling machine	5	5	AD
178.	Perforator	2	5	NAD
179.	Bulletin board	-	2	NA
180.	Computers and laptops	20	10	AD
181.	Projectors	1	5	NAD
182.	Telephones	-	5	NA
183.	TV sets	-	5	NA
184.	Video machine	-	5	NA
185.	Mobile, public address system	-	2	NA
186.	Educational/business marketing plans	-	5	NA
187.	Electrical marketing	-	2	NA
188.	Radio sets	2	5	NAD
189.	Closed circuit television	-	2	NA
190.	Business documents specimen	-	5	NA
191.	Samples of non-oil mineral products	-	5	NA
192.	Samples of non-perishable consumer goods	-	10	NA
193.	News paper	10	20	NAD
194.	Magazines	10	20	NAD

Key: NA = Not Available
NAD = Not Adequate
AD = Adequate

The data in Table 1 revealed that items 52, 53, 128, 143, 148, 149, 150, 161, 163, 166, 169, 170, 171, 177 and 180, had their percentages availability ranged between 50% - 100%. This implies that these tools and equipment were adequate for teaching of trade subjects while other items in the table had their

percentage of availability below 50% which was used as benchmark for decision.

Research Question 2: What are the instructional materials required for improving the teaching of trade subjects?

Table 2: Mean Ratings and Standard Deviation of the Respondents on the Instructional Materials Required for Improving the Teaching of Trade Subjects.

N450				
S/N	Items	\bar{x}	SD	Remarks
1.	Chalkboard	3.46	0.70	Required
2.	Map	2.43	0.77	Not Required
3.	Textbook	3.49	0.69	Required
4.	Radio	3.31	0.86	Required
5.	Projectors	2.92	0.87	Required
6.	Flipcharts	2.91	0.91	Required
7.	Models (Real Objects)	2.95	0.91	Required
8.	Film slide	2.78	0.97	Required
9.	Magnetic Board	2.81	0.90	Required
10.	Flannel Board	2.36	0.84	Not Required
11.	Video Tape Recorder	2.66	1.00	Required
12.	Posters	2.73	1.00	Required
13.	Audio Stripes	2.63	0.98	Required
14.	Audio Pictorial (printed materials with recorded sounds.	2.74	1.03	Required
15.	Audio Slides	2.33	098.	Not Required

Key: R = Required
NR = Not required

Table 2 revealed that all the items were required for improving the teaching of the trade subjects except items 2, 3, 15 with their standard deviations ranging between 0.69 and 1.03. This indicates that the opinions of respondents were not far from each other. This implies that item 2, 10, and 15 were not required for improving

the teaching of trade subjects while the other remaining items are required.

Research Question 3: What are the teaching methods required for improving the teaching of trade subjects?

Table 3: Mean Ratings and the Standard Deviation of the Respondents on the Teaching Methods and Techniques Required for Improving the Teaching of Trade Subjects.

N450								
S/N	Items	HR	R	SR	NR	\bar{x}	SD	Remarks
1.	Lecture or Direct instruction	35	27	144	244	1.67	0.89	Not Required
2.	Discussion	131	250	39	30	3.07	0.80	Required
3.	Demonstration	264	158	20	08	3.50	0.66	Required
4.	Project	172	150	65	33	3.02	0.94	Required
5.	Assignment	167	128	123	32	2.95	0.96	Required
6.	Individualized Instruction	59	199	154	38	2.62	0.81	Required
7.	Questionnaire	139	142	150	19	2.89	0.89	Required
8.	Experimentation	170	171	88	21	3.08	0.86	Required
9.	Guest Lecture	145	123	121	61	2.78	1.04	Required
10.	Inquiry Method.	115	159	122	54	2.74	0.97	Required
11.	Problem Solving	123	137	140	50	2.74	0.98	Required
12.	Excursion	135	141	123	51	2.80	0.99	Required
13.	Debate	131	143	130	46	2.79	0.97	Required
14.	Informed Instruction	130	133	134	53	2.75	1.00	Required
15.	Cooperation	135	148	121	46	2.82	0.97	Required
16.	Class activity or practical instruction method.	170	135	109	36	2.97	0.97	Required

17.	Face to face teaching	157	125	120	48	2.86	1.01	Required
18.	Use of Mentors	112	165	135	38	2.78	0.91	Required
19.	Work place experience	129	144	135	42	2.80	0.96	Required
20.	Field Trip	126	157	119	48	2.80	0.96	Required
21.	Group Discussion	131	164	118	37	2.86	0.93	Required
22.	Discovery	126	154	120	50	2.79	0.97	Required

Table 3 revealed that all the items had their mean score between 2.62 and 3.50 which are above the cut off point of 2.50 except items with mean of 1.67. This implies that teaching methods in the item are required for improving the teaching of trade subjects with their standard deviations ranging from 0.66 – 1.04 except item 1 which is lecture method. This also indicates that the opinions of the male teachers were not far from that of the female

teachers on the required teaching methods for teaching of trade subjects.

Hypotheses

H₀₁: There is no significant difference between the mean responses of the trade teachers and the principals on the available instructional materials required for improving effective teaching of trade subjects.

Table 4: The t-test Analysis of Mean Responses of the Trade Teachers and the Principals on the Available Instructional Materials required for Improving Effective Teaching of Trade Subjects.

S/N	Item Statement	Group	N	\bar{x}	SD	Df	t-cal	t-crit	Remarks
1.	Chalkboard	Trade teachers	229	3.46	0.70	448	-0.14	1.96	NS
		Principals	221	3.47	0.80				
2.	Map	Trade teachers	229	2.43	0.77	448	-2.85	1.96	NS
		Principals	221	2.50	0.75				
3.	Textbook	Trade teachers	229	3.49	0.69	448	0.28	1.96	NS
		Principals	221	3.47	0.53				
4.	Radio	Trade teachers	229	3.53	0.86	448	3.14	1.96	S
		Principals	221	3.31	0.88				
5.	Projectors	Trade teachers	229	2.92	0.87	448	-0.85	1.96	NS
		Principals	221	2.98	0.88				
6.	Flipcharts	Trade teachers	229	2.91	0.91	448	0.42	1.96	NS
		Principals	221	2.88	0.82				
7.	Models (Real Objects)	Trade teachers	229	2.95	0.91	448	0.75	1.96	NS
		Principals	221	2.89	0.93				
8.	Film slide	Trade teachers	229	2.78	0.97	448	-0.25	1.96	NS
		Principals	221	2.80	0.93				
9.	Magnetic Board	Trade teachers	229	2.81	0.90	448	0.12	1.96	NS
		Principals	221	2.80	0.92				

10.	Flannel Board	Trade teachers	229	2.36	0.84	448	-0.28	1.96	NS
		Principals	221	2.38	0.87				
11.	Video Tape Recorder	Trade teachers	229	2.66	1.00	448	-1.00	1.96	NS
		Principals	221	2.68	0.03				
12.	Posters	Trade teachers	229	2.73	1.00	448	-0.25	1.96	NS
		Principals	221	2.77	1.01				
13.	Audio Stripes	Trade teachers	229	2/63	0.98	448	-0.62	1.96	NS
		Principals	221	2.68	0.90				
14.	Audio Pictorial (printed materials with recorded sounds.	Trade teachers	229	2.74	1.03	448	-0.62	1.96	NS
		Principals	221	2.79	1.00				
15.	Audio Slides	Trade teachers	229	2.33	0.98	448	-0.12	1.96	NS
		Principals	221	2.34	0.89				
NS	=	No significant difference							
S	=	Significant difference							

Table 4 revealed that all the items except item number 4 had their t-calculated less than the t-critical of 1.96. Therefore, the null-hypotheses was accepted in all the items at the degree of freedom of 448 and 0.05 level of significance. This implies that the opinions of the teachers did not differ from that of the principals on the available instructional materials required for improving effective teaching of trade subjects.

H₀₂: There is no significant difference between the mean ratings of the teachers and the principals on the teaching methods required for improving the teaching of trade subjects.

Table 5: t-test Analysis of the Mean Responses of the Trade Teacher and the Principals on Teaching Methods required for Improving the Teaching of Trade Subject.

S/N	Item Statement	Group	N	\bar{x}	SD	Df	t-cal	t-crit	Remarks
1.	Lecture or Direct Instruction	Trade Teachers	229	1.67	0.89	448	1.28	1.96	NS
		Principals	221	1.58	0.78				
2.	Discussion	Trade Teachers	229	3.07	0.80	448	-0.14	1.96	NS
		Principals	221	3.08	0.83				
3.	Demonstration	Trade Teachers	229	3.50	0.66	448	-0.83	1.96	NS
		Principals	221	3.55	0.63				
4.	Project	Trade Teachers	229	3.02	0.86	448	-0.57	1.96	NS
		Principals	221	3.06	0.88				
5.	Assignment	Trade Teachers	229	2.95	0.96	448	0.75	1.96	NS
		Principals	221	2.89	0.89				

6.	Individualized Instruction	Trade teachers	229	2.62	0.81	448	-1.14	1.96	NS
		Principals	221	2.70	0.84				
7.	Questionnaire	Trade Teachers	229	2.89	0.66	448	-0.14	1.96	NS
		Principals	221	2.90	0.70				
8.	Experimentation	Trade Teachers	229	3.08	0.86	448	-010.25	1.96	NS
		Principals	221	3.09	0.90				
9.	Guest Lecture	Trade Teachers	229	2.78	1.04	448	-0.25	1.96	NS
		Principals	221	2.80	1.06				
10.	Inquiry Method.	Trade Teachers	229	2.74	0.97	448	0.25	1.96	NS
		Principals	221	2.72	0.93				
11.	Problem Solving	Trade teachers	229	2.74	0.98	448	-0.12	1.96	NS
		Principals	221	2.75	0.96				
12.	Excursion	Trade teachers	229	2.80	0.99	448	-0.37	1.96	NS
		Principals	221	2.83	0.97				
13.	Debate	Trade Teachers	229	2.79	0.97	448	0.12	1.96	NS
		Principals	221	2.78	0.94				
14.	Informed Instruction	Trade Teachers	229	2.75	1.00	448	-0.62	1.96	NS
		Principals	221	2.80	0.99				
15.	Cooperation	Trade Teachers	229	2.82	0.97	448	-0.25	1.96	NS
		Principals	221	2.84	0.96				
16.	Class activity or practical instruction method.	Trade Teachers	229	2.97	0.97	448	1.12	1.96	NS
		Principals	221	2.88	0.98				
17.	Face to face teaching	Trade Teachers	229	2.86	1.01	448	-0.37	1.96	NS
		Principals	221	2.89	1.00				
18.	Use of Mentors	Trade teachers	229	2.78	0.91	448	1.12	1.96	NS
		Principals	221	2.69	0.92				
19.	Work place experience	Trade teachers	229	2.80	0.96	448	-0.37	1.96	NS
		Principals	221	2.83	0.89				

20.	Field Trip	Trade Teachers	229	2.80	0.96	448	-0.37	1.96	NS
		Principals	221	2.83	0.93				
21.	Discovery	Trade Teachers	229	2.79	0.97	448	1.25	1.96	NS
		Principals	221	2.69	0.95				
22.	Group Discussion	Trade teachers	229	2.86	0.93	448	-0.25	1.96	NS
		Principals	221	2.88	0.89				

Key: NS = No significant difference

Table 5 revealed that all the items had their t-calculated below the t-critical of 1.96; based on this, the null hypothesis was accepted at the degree of freedom of 448 and 0.05 level of significant. This implies that the opinions of the trade teachers were not different from the opinions of the principals on the teaching methods required for improving the teaching of trade subjects.

Summary of Findings

Based on the analysis of the data. The following findings emanated;

1. From the analysis of the data, the following tools and equipment were inadequate – pots (large), stoves, tripod stand, coal pot, stainless basins, plastic basins, stainless mixing bow, trays of various sizes, blenders, frying pans (assorted), wash hand basins (assorted), mortal and pestle wooden spoon, grates, sieves, among others. while the following were adequate kitchen scissors, tea sets, tea cup and saucers, brroom, printer, keyboard, mouse, scanner, GSM phone, power source (NEPA), word processing packages, flash drive, chalkboard, record books, list of students information, stapling machine, computers and laptops, among others.
2. Instructional materials such as chalkboard textbooks, radio, projectors, flipcharts, models, film slide, magnetic, posters, audio strips and pictorials were all needed for improving the teaching of trade subjects except maps, flannel boards and audio slides.
3. All the teaching methods such as demonstration, project method, discussion, experimental, field trips

among others were required for improving the teaching of trade subjects except lecture method.

Discussion

The researchers presents the discussion of the findings of the study below.

One of the finding of the work is that tools equipment such as stoves, trip stands coal pots, stainless basins, plastic basins, stainless mixing bow, tray of various sizes, blenders, frying pans, washing dishes, mortal and pistles, wooden spoons and forks, grates, sieves, strainers, egg slides, tumblers, pasty board among others were inadequate. Therefore, this signifies that tools and equipment are inadequate for improving the teaching of trade subjects in Ebonyi State. This finding is in disagreement with Olugbenga (1997) who reported that the level of adequacy of tools and equipment put to use in the educational system determines to a large extent the performance to that systems of education. He further explained that for a high academic standard, to be achieved, tools, equipment and facilities adequate. Also he stressed that for the success of any trade education, basic tools, equipment and facilities must be adequate, because the teaching of skill subjects and programme requires adequate tools, equipment and facilities in the school as well as other resources are needed in abundance to make teaching and learning of trade subject both stimulating and goal directed. Ehiamentalor (2000) reported that the indispensable role of equipment tools and facilities, most especially in the teaching of skills subjects should not be compromised.

Also, the study revealed that instructional materials such as text books, flipcharts, models, film slides, video recorders

among others are required for improving the teaching of trade its. This finding is in agreement with Uche and Erukoha (2004) who reported that audio visual materials appeals to the sense of vision which helps to stimulate the learners. In line with the assertion of Okoli and Ofodile (2006) who said that instructional materials when properly utilized in teaching help to increase the degree of learner's participation in the class work, promote greater acquisition and retention of knowledge, contribute to development of the learners vocabulary, helps teachers to offer varieties of experience which stimulate self activity on the part of the learner. In his contribution, Fagbeja (1998) reported that instructional materials help to provide concrete real background experience that help to reduce abstract concepts that will be naturally be too difficult for the learners to comprehend through mere imagination of such instructional content.

The work further revealed that demonstration, project, discussion, questioning, experimentation, enquiry, field trip, debate and among others are highly required for improving the teaching of trade subjects. This finding is in line with Dalton and Smith (2005) who reported that demonstration method of teaching makes learning and teaching simpler and interesting. They further explained that demonstration simplified the complex theories of the lesson and gives the learners the actual and natural knowledge and skills required in the lesson. The opinions of Okoro and Unachukwu signifies that field trip method of teaching makes learners to see, touch and feel what they were taught in the classroom and makes the learners also to have the practical knowledge of the lesson taught. Additionally, field trip method of teaching helps the learners to experience things outside their knowledge in life.

Conclusion

New Senior Secondary Schools was established to teach among others trade subjects. The curriculum of the New Secondary Schools was designed to provide skills in these trades which will enable the student on graduation to be self-reliant and dependents and reduce the rate of unemployment in the society. Invariability, graduates of the secondary schools do not

possess the basic skill required of them, such as ability to identify basic hand tools not to talk of putting the tools in use. The lack of skills in the trade subjects may be attributed to paucity of tools, equipment, facilities as well as the type of instructional materials used, teaching methods adopted, evaluation techniques adopted by the teacher and the media and digital technologies in use. The study have been able to identify that tools, equipment and facilities for teaching of trade subjects are grossly inadequate, that the teaching of trade subjects requires the use of instructional materials such as video tape recorders, audio strips, models, projectors, radio, flipcharts among others, that demonstration, field trips, experiment methods of teaching among others are required for the teaching of trade subjects.

Conclusively, the teaching of trade subjects which is skill-oriented required adequate provision of tools equipment, facilities and the use of the appropriate instructional materials teaching methodologies, evaluation techniques and the modern digital and media technologies in order to develop the required skills and competencies in the students which will make them to be job creators instead of job seekers in the society.

Recommendations

Based on the finding of the work, the following recommendations are being made.

- (1) The Ebonyi State Government should provide adequate tools, equipment and facilities in the schools for the teaching of trade subjects.
- (2) Appropriate instructional materials should be used by the teachers in teaching of the trade subjects.
- (3) Teachers are encouraged to adopt the appropriate teaching methods and techniques like demonstration, experiment, field trips, project in teaching of trade subjects.

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