

AVAILABILITY AND UTILIZATION OF FACILITIES FOR THE IMPLEMENTATION OF FISHERY TRADE CURRICULUM IN SECONDARY SCHOOLS IN DELTA STATE, NIGERIA

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ABSTRACT

Youths' unemployment and its concomitant effect on human and food insecurity have assumed a crisis dimension in Nigeria in recent times. Federal government efforts at solving this social malaise through equipping youths with functional skills for job and wealth creation, poverty, and hunger eradication led to the introduction of a trade curriculum in the fishery in senior secondary schools. Instructional facilities availability and utility are imperative for effective vocational skills inculcation in the recipients and this mandated this study. This study investigated the availability and utilization of facilities for the implementation of the Fishery trade curriculum in public secondary schools in Delta state. The design of the study was an ex-post facto employing the survey method. The study answered two research questions and tested two null hypotheses. The data collection instrument was a structured questionnaire constructed on 5 points Likert scale type. The questionnaire was validated by 3 experts in Agricultural Education and Test and Measurement while, the reliability and internal consistency were determined using split-half, Cronbach alpha, and Pearson Product Moment Correlation Coefficient, and a coefficient of 0.75 was obtained which was adjudged adequate for the study. The population of the study comprised 376 Fishery teachers in the public senior secondary schools in Delta State, while the sample obtained using Slovin 1960 sample size formula was 195. The data collected were analyzed with mean, and standard deviation to answer research questions, and the hypotheses were tested with t-test statistics. The study revealed that there is a gross dearth of facilities for instruction in Fishery. It also showed that few facilities available are poorly utilized. Equally revealed by the study are that there are no disparities in the facilities available in rural and urban public secondary schools and that the available facilities utilization is not significantly different in rural and urban secondary schools in Delta State. The study recommends that government should provide facilities for Fishery instructions to enable Fishery teachers to implement the Fishery trade to engender skill acquisition among students and teachers should utilize the few available facilities.

Keywords: Fishery; facilities; facilities utility; skills acquisition; poverty eradication

1.0 INTRODUCTION

Nations globally are confronted with the challenges of improving the ability and capacity of their workforce in response to their national developmental needs and to the demand of the rapidly changing and competitive world of work. The economic growth of a nation,

individuals, and enterprises are predicated on the existence and acquisition of highly productive knowledge and skills in technical and vocational education.

Secondary school curricula in Nigeria have witnessed a plethora of restructuring in attempts at realigning them with the global trend of de-emphasizing scholarship for vocational training for youths' empowerment Dewey, (1910), Prosser and Allen, (1925). advocated vocational education and training for the total development of the child, for acquiring new skills, and for improving the existing skills for national economic growth and development. Vocational education and training engender youths' employment, create wealth, and eradicates poverty and hunger (Kojo, 2020). Vocational education will engender youths skills acquisition, and job creation, ensure good living for the citizens and sustainable economic growth and development of the nation

According to the Nigeria Bureau of Statistics (2021), Nigeria's youth unemployment rate stands at 33.33 percent while International Labour Organisation (ILO), (2021) states that Nigeria's youth unemployment was 30.2 percent in the last quarter of 2020. Magin (2012) enjoined the Federal Government of Nigeria to engage youths in technical and vocational skills for their empowerment and self-reliance. This supposition was equally canvassed by Usen, (2012), that youths' acquisition of vocational and technical skills will reduce unemployment, and ensure wealth creation and food security in Nigeria. For Idialor, (2019), and Babajide, (2012) youth aquaculture is a viable solution for youth unemployment, wealth creation, food, and human security in Nigeria.

The Federal Government of Nigeria in response to calls to reduce youths' unemployment, and for wealth creation, poverty, and hunger eradication introduced a trade and entrepreneurship curriculum in 2013. This new curriculum for senior secondary schools was developed to further consolidate the educational gains of the 9-year basic education curriculum as well as ensure the actualization of the federal government's education transformation agenda thus the curriculum is for value re-orientation. According to Nigeria Educational Research and Development Council (NERDC) (2013) the rationale and Philosophy of the trade and entrepreneurship curriculum is that at the completion of senior secondary education, every recipient should have been well prepared for higher education as well as acquired relevant functional trade/entrepreneurship skills needed for wealth creation, poverty eradication and food security (SSSTC, p. 5).

The trade curriculum comprises 34 subject areas including Fishery. Fish is an important component of human dietary requirements and it is consumed by virtually everybody in every continent of the world. Osaghale (2020) and Ogwu et al., (2021) declared that fish is an important source of protein-carbohydrate fat minerals and vitamins needed for good quality living. Fish has the highest metabolizable protein, carbohydrates, fat vitamins, and minerals such as iron, calcium, and essential amino acids (Tyen, 2020). Fish is the only means through which the rural poor can meet their daily protein requirement of 56g/ day for male and 46g/day per person for females (Opia, 2018, Ogwu & Okonji, 2021). It has been revealed that fish accounts for 60 percent of world's supply of human protein. According to New Partnership for African Development (NEPAD) (2015) fish employ 250 million people globally either as fishermen, middlemen, or as marketers. Fish and fisheries have been recognized as an instrument for increasing productivity, ensuring food security, improving market access for rural poor, and strengthening Africa's performance in the global market.

Nigeria is blessed with inland waters measuring about 12.5 million hectares with about 20 million hectares of swamps, lagoons, and estuaries with varying species of fish (Ibironke, 2016), yet Nigeria remains a high importer of fish. Food and Agricultural Organization (2020) surmised that Nigeria is the fourth greatest importer of fish globally. This was reiterated by Abubakar, (2021), that Nigerian fish demand is 3.10 million tonnes while local production is paltry 1.01 million metric tonnes. Nigeria spends over 100 billion nairas importing fish (Adesina, 2014). The United States Agency for International Development (USAID) (2019) puts the volume of fish importation in Nigeria at 625 million U.S. dollars. Importation of a high volume of fish by Nigeria is tantamount to exporting employment and importing unemployment (Nwachukwu, 2020), thus, the inclusion of Fishery as a trade subject for increased local production for self-sufficiency is quite germane.

However, its inclusion in the trade curriculum has continued to generate criticisms unabated. According to Ojezele (2016), the introduction of fishery in the curriculum as a trade subject is a laudable development, but he asked if the facilities for instruction are available and if the teachers who are barely trained can manipulate the facilities. Odioko (2020) opined that the trade will be visited by the same fate that led to the failure of the erstwhile 6-3-3-4 curriculum which are lack of manpower, dearth of facilities for instruction, and poor utilization of the available facilities due to lack of the technical expertise. It is against this background that this study became expedient.

Purpose of Studying/Research Questions

The purpose of this study, therefore, is to assess the technical facilities available in schools for Fishery instruction and their utility. The study was guided by the following research questions:

1. What are the facilities available in schools in Delta state for instruction in Fishery?
2. Are the facilities available utilized by the teachers in Fishery instructions?

The following hypotheses guided the study

Ho: there is no significant difference in facilities available in rural and urban secondary schools in Delta state

Ho: there is no significant difference in the utility of Fishery facilities available between rural and urban secondary schools in Delta state

2.0 METHODS AND MATERIALS

Table 1: Sampling procedure for the study

Senatorial district	No of LGA	Proportion of LGA samples	No of schools sampled	Fishery teachers sampled
Delta south	8	5	26	62
Delta central	8	5	27	62

Delta north	9	6	29	71
Total	25	16	82	195

This is an ex post facto descriptive research employing a survey. The population of the study consists of the 376 Fishery teachers in Delta state public secondary schools in the 25 local government areas (Perebowei and Posu, 2017). The schools and the teachers that made up the samples for the study were obtained through multistage random sampling as in Table 1 and the samples for the respondents which was obtained through Slovin 1960 sample size formula

$$(n = \frac{N}{1 + N(0.05^2)}) \text{ was 195 Fishery teachers.}$$

The data collection instrument was a structured questionnaire that was validated by experts in Agricultural Education and Measurement in the Department of Guidance and Counseling, Delta State University, Abraka. The reliability and internal consistency were determined by deploying split-half, test-retest, Cronbach alpha, and Pearson Product Moment correlation Coefficient, and a correlation coefficient of 0.75 was obtained and this was deemed reliable for the study.

The questionnaire was made up of two sections, section A comprised the demographic data of the respondents, and in section B the actual items were administered with the help of 3 research assistants. Statistical instruments of mean and standard deviation were used in answering the research questions while t-test statistics were employed for hypotheses testing. A mean score of 3.50-5.00 was regarded as an affirmation response from the teachers and the mean rating of 3.00 and below was the negation

3.0 RESULTS

The results of the analyses of data collected are as in the following Tables.

Table 2: Sex and age distributions of Fishery teachers in Delta State public secondary schools (n=195)

S/N	Characteristics	Frequency	Percentage
1.	Sex		
	Male	142	72.8
	Female	53	27.2
2.	Age		
	25-34	22	11
	35-44	49	25
	45-54	76	39
	55-64	36	18
	Above 65	12	9

Fishery teachers in Delta State are mainly males as male Fishery teachers account for 72.8 percent of the teachers while the females account for 27.2 percent. The age distribution shows that the majority of the Fishery teachers are within the 45-54 age bracket as this age group accounts for 39 percent of the Fishery teachers, and 25 percent of the Fishery teachers in Delta State public secondary schools are within the age bracket of 35-44, 18 percent of the

teachers are within 55-64, 11 percent of them within 25-34 years and 6.2 percent of the teachers are above 65 years of age.

Table 3: Checklist on the number of Fishery facilities recommended and quantity available in public secondary schools in Delta State

Facility per school	Total Quantity required in the schools	Total Quantity available in the schools	Remark
Cast net (3)	246	102	Inadequate
Seine net (3)	246	80	Inadequate
Gill net (3)	246	120	Inadequate
Hook and line (10)	820	600	Adequate
Clarias species (2)	164	80	Inadequate
Heterobranchus (2)	164	60	Inadequate
Carp fish (2)	164	100	Adequate
Heterotis (2)	164	60	Inadequate
Earth pond (1)	82	40	Inadequate
Concrete pond (1)	82	20	Inadequate
PVC tana pond (1)	82	52	Adequate
Cage (1)	82	20	Inadequate
Happa (2)	164	30	Inadequate
pH meter (5)	410	125	Inadequate
Litmus paper (5 packets)	410	180	Inadequate
Scoop net (3)	246	190	Adequate
Water analysis kit (2)	104	10	Inadequate
Oxygen bags (3)	246	18	Inadequate
Grinding machine (1)	82	5	Inadequate
Agricultural lime (3kg)	246	25	Inadequate
Nursery tank (1)	82	5	Inadequate
Magnifying lens (5)	410	250	Adequate
Brood stocks (4)	328	110	Inadequate
Water turbidity kit (2)	246	105	Inadequate

Legend: above average is adequate while below is inadequate

The checklist on the quantities of Fishery facilities recommended and quantity available in public secondary schools in Delta State showed that most of the facilities recommended are inadequately supplied to the schools for proper instruction in Fishery skills as in Table 3. The facilities that are rated as adequate because of their above-average availability in the schools are hook and line, carp fish species, scoop nets, and magnifying lenses, every other facility is inadequate in the schools. This shows that there is an acute dearth of facilities for Fishery trade subject instruction delivery in public secondary schools in Delta State.

Table 4: Mean responses of Fishery teachers on the utilization of Fishery facilities for instruction in public secondary schools in Delta state (n=195).

S/N	Items	Mean	Sd	Remark
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	Indicate the level of availability of facilities for fishery instruction in your schools			
1.	Cast net	1.47	0.67	Not utilized
2.	Seine net	2.32	1.02	No utilized
3.	Gill net	1.68	1.22	Not utilized
4.	Hook and line	3.64	1.76	Utilized
5.	Clarias species	1.66	0.52	Not utilized
6.	Heterobranchus species	2.22	0.86	Not utilized
7.	Carp fish species	1.92	0.67	Not utilized
8.	Heterotis	2.84	1.77	Not utilized
9.	Earth pond	3.72	1.80	Utilized
10.	Concrete pond	1.26	1.55	Not utilized
11.	Pvc tank	3.53	0.82	Utilized
12.	Cage	2.25	.15	Not utilized
13.	Happa	2.91	0.86	Not utilized
14.	pH meter	3.41	1.72	Not utilized
15.	Scoop net	2.31	1.63	Not utilized
16.	Water analysis kit	1.98	0.65	Not utilized
17.	Oxygen bag	1.58	0.71	Not utilized
18.	Grinding machine	2.12	0.62	Not utilized
19.	Agricultural lime	2.03	1.21	Not utilized
20.	Nursery tanks	2.42	0.95	Not utilized
21.	Magnifying lens	3.71	1.05	Utilized
22.	Brood stocks	3.32	1.09	Not utilized
23.	Water turbidity kit	2.72	1.25	Not utilized
	Grand mean	2.37		
	Grand SD		1.04	

The responses showed that facilities for fishery instruction were inadequate in most schools, and the few available facilities were not adequately utilized as shown in Table 4. The grand mean for facilities utilization is 2.37 and the standard deviation is 1.04. The facilities with the high-rank ratings are hook and line, 3.64, earth pond utility, 3.72, the rating of PVC tanks is 3.53, and magnifying lens 3.72. The averagely ranked facility utilities are brood stock at 3.32 and the utility of pH meters at 3.41. All other facilities recommended for effective delivery of Fishery subject trade is poorly utilized. The inadequacy of the facilities in most schools studied may have accounted for the gross low utility.

Hypothesis 1: There is no significant difference between the facilities available for instruction in Fishery in rural and urban public secondary schools in Delta State.

Table 5: t-test statistical analysis on the mean differences in the availability of facilities for Fishery instruction in rural and urban public senior schools in Delta state

Location	mean±SD	N	df	t-cal	t-crit	p-value	significance	Remark
Rural	1.38±0.64	195	193	4.32	6.07	0.05	Not significant	Accepted
Urban	1.63±0.56							

The hypothesis on the mean differences in the level of availability of facilities and equipment for Fishery instruction in rural and urban schools at $N = 195$ $df = 193$ $p > 0.05$ significant level has a t-test calculated value of 4.32 and t-test critical value of 5.07 thus accepting H_0 . This shows that there is no significant difference in the availability of facilities for instruction in Fishery between rural and urban secondary schools in public secondary schools in Delta State.

Hypothesis 2: there is no significant difference in the utility of facilities for instruction in Fishery in rural and urban public secondary schools in Delta State.

Table 6: t-test statistical analysis of the mean differences in the utilization of facilities for Fishery instruction in rural and urban public secondary schools in Delta state

Location	mean±SD	N	df	t-cal	t-crit	p-value	significance	Remark
Rural	1.43±0.665	195	194	4.32	7.07	0.05	Not significant	Accepted
Urban	1.36±0.54							

The hypothesis on mean differences in the level of utilization of facilities for instruction in Fishery in rural and urban public secondary schools in Delta State at $n = 195$ $df = 193$ $p > 0.05$, t-calculated is 4.32 while t-critical value is 7.07. This shows that H_0 is accepted. This revealed that there is no significant difference in facilities utilization for Fishery instruction in rural and urban public secondary schools in Delta state.

4.0 DISCUSSION OF FINDINGS

The failure of the 6-3-3-4 educational system to meet the yearning and aspiration of youths' empowerment, poverty, and hunger eradication led to the introduction of trade curricula in Nigerian senior secondary schools. The success of this curriculum is equally predicated on the availability and utilization of facilities for instruction.

The checklist on the fishery facilities recommended and the quantities available in the schools for instruction in Fishery revealed gross inadequacy as shown in Table 3. This is due to the failure of the state government to provide teaching aids for effective instruction in the Fishery and also a lack of dedication on the part of the Fishery teachers who are supposed to make efforts in providing some of the facilities through local sourcing and soliciting the assistance of agripreneurs in their locality. This finding is similar to the findings of Abdurazak (2018) who reported poor Fishery facilities availability in Rivers State, Nigeria. Danjuma and Bello (2019) also reported the inadequacy of facilities for Fishery instruction in public secondary schools in Kwara State. The findings confirm the apprehensions of Ojezele, (2016) who applauded the introduction of the trade/entrepreneurship curriculum in Nigerian public secondary schools but was concerned with the availability of facilities and equipment for the instruction.

The findings of the study also revealed that the newly available facilities were underutilized by Fishery teachers in public secondary schools in Delta state. The reason for the poor utility of available facilities could be traced to the inability of the teachers to handle the facilities due to lack of expertise or as a result of teachers' poor attitude to work. Haruna and Bello (2020) reported similar findings of poor equipment utility in public schools in Yobe state,

Nigeria. This finding of poorly available facility utility brings to fore the criticism of Odioko, (2016), who envisaged that trade curriculum may be visited by the same fate that bedeviled the erstwhile 6-3-3-4, if facilities are not provided and if skilled personnel is not engaged for instruction and facilities manipulation for the inculcation of Fishery skills in the students.

5.0 CONCLUSION

The objectives of the trade curriculum in Fishery can only be achieved when all the variables needed for proper skills impartation are made available and are properly utilized. The findings of this study have revealed the inadequacy of most facilities required for instruction and that the available facilities are not properly utilized and these are antitheses to the achievability of the objectives of the Fishery trade subject in public secondary schools in Delta State.

As fallout of this investigation, the study recommends thus:

1. Federal government should provide the facilities recommended for delivery of instructions in Fishery in public secondary schools in Delta State.
2. The available equipment should be properly utilized by the teachers for effective implementation of the Fishery trade subject in Delta State Nigeria.
3. Serving teachers should be granted in-service training and skilled teachers should be engaged for effective implementation of the laudable curriculum.

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