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Availability and Utilization of Resources for Teaching Pre-Vocational Subjects in Junior Secondary Schools in Ekiti State

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Abstract

The major purpose of the study was to assess t he availability and utilization of resources for teaching pre-vocational subjects in Junior Secondary Schools (JSS) IN Eliki State. Specifically the determined the available resources and the level of the utilization of resources for teaching the following pre-vocational subject at the JSS level in Ekiti State: Agriculture, Basic Technology, Business studies and Home Economics. The study was carried out in Ekiti State. The population of the study was 724 teachers of pre-vocational subjects in Junior Secondary School in the State. The sample of the study was 250 teachers of pre-vocational subjects selected through purposive sampling technique Questionnaire was used to collect data for the study. It was found out that resources like cutlass, rake, soil samples, chisel, hammer, tester, perforator, scissors, kerosene stove, serving plate, spoons and trays, needle thread were available and utilized by teachers of pre-vocational subjects.

Keywords: Resources, Availability, Utilization, Teaching and pre-vocational subjects.

Introduction

Pre-vocational subjects according to Okoro (1999) are subjects taught in Junior Secondary Schools arouse the interest of studies in the world of technology, and to make them understand the necessity for productive work in the society. The author maintained that pre-vocational subjects include Agriculture, Introductory Technology, Business studies and Home Economics. Adeola (2011) emphasized that pre-vocation subjects lay solid foundation for the training of future technologists, accountants, managers and entrepreneurs. The author stated further that pre-vocational subjects

include: Agriculture, Business studies, Home Economics among others.

National policy on Education (2004) stipulated that pre-vocational subjects, namely: Agriculture, Business Studies, Computer Studies, Home Economics are taught in junior secondary schools to equips the students with basic knowledge and skills in the world of technology. Objectives of pre-vocational subjects as stated in National Policy on Education are to:

(i) Introduce students into the world of technology in order to arouse their interest towards the choice of a vocation;
(ii) Make students acquire technical skills;
(iii) Expose students to career awareness by exploring useable options in the world of work and
(iv) Enable youth to have intelligent understanding of the increasing complexity of technology (Federal Republic of Nigeria FRN 2004).

In order to achieve the above stated objectives of prevocational subjects in Ekiti state, resources must be made available and involved in teaching the subjects by pre-vocational subject teachers. Resources according to Adeogun (1999) are the available facilities that can be used to achieve educational goals and objectives, and these resources include physical, human, financial resources. Anaele and Alade (2009) stated that resource are things that go into the educational process to fashion out, train or educate people: these resources include human, materials, policies, ideas and information. In this study, resources are materials, equipments and tools that are expected to be made available for the teaching for pre-vocational subjects in Junior Secondary schools in Ekiti State. Availability of resources according to National Commission for College of Education (NCCE) (2009) implies the extent resources should be provided for implementation of Agricultural Education programme in Colleges of Education. In this study, availability is level or extent to which resources were provided and utilized by teachers to teach pre-vocational subjects in Ekiti state.

Utilization of instructional resources according to Olaitan, Nwachukwu, Igbo, Onyemachi and Ekong (1999) involves the teacher manipulating equipment, tools, facilities and consumables to facilitate teaching-learning. The author stated the importance of using instructional resources in instructional situations to include: learners will be exposed to opportunities that will help them develop skills of self instruction, mastery of knowledge of manipulation process by learners, acquisition of manipulating skills by learners.

In Ekiti State, pre-vocational subjects had been taught in Junior Secondary School (JSS) for several years yet, it is very clear that the objectives of teaching these subjects had not been achieved in the state. This is evident in the care –free attitudes of JSS students towards these pre-vocational subjects and their poor performance in the subjects in external examination as indicated by National examination council's NECO (2008) that

the performance of JSS students was very poor in pre-vocational subjects. Probably this is as a result of non-availability of resources for teaching the subjects, or as a result of non-utilization of available resources by teachers of pre-vocational subjects in the state. Fabumi (1997) observed that educational resources in secondary school are the major variables that determine the rate of educational success of schools, hence the quantity and quality of these resources will determine student performance. It is therefore imperative to assess the availability and utilization of resources for teaching pre-vocational subjects in actualizing the objectives of the subjects in the state.

Purpose of the study

The main purpose of this study was to assess the availability and utilization of resources for teaching pre-vocational subjects in Junior Secondary Schools in Ekiti State. Specifically, the study sought to determine the available resources and level of the utilization of resources for teaching the following pre-vocational subjects in at the JSS level in a Ekiti State:

1. Agriculture
2. Basic technology
3. Business studies
4. Home economics.

Research questions

1. Are resources available and utilized for teaching agriculture in JSS in Ekiti State?
2. How available and utilized are the resources for teaching Basic Technology in JSS in the state?
3. What is the level of availability and utilization of resources for teaching Business studies in JSS in the state?
4. How available and utilized are the resources for teaching Home economics in JSS in the state?

Methodology

***Research Design*:** Survey research design was adopted in this study. Survey design according to Anaekwe and Ozigbo (2002) is the collection of data using questionnaire for the purpose of describing and interpreting existing conditions or qualities regarding a population. This study adopted survey design because questionnaire was utilized to collect data from the respondents.

***Area of the study*:** The study was carried out in Ekiti State. There are 181 JSS in the sixteen local government areas spread across the three senatorial zones in the states. Many of these schools were situated within the urban areas in each of the senatorial zone.

***Population of the study*:** The population of the study was 181 JSS with 724 teachers of pre-vocational subjects spread across the three senatorial zones in Ekiti State.

***Sample and Sampling technique*:** purposive sampling technique was utilized to select 50 junior secondary schools that have teachers in the four pre-vocational subjects. A total sample of 250 teachers of pre-vocational subjects were selected from the 50 JSS schools that met the criteria of having teachers in the four pre-vocational subjects. The 250 teachers of pre-vocational subjects were made up of 75 teachers of

Agriculture, 62 teachers of Basic Technology, 58 teachers of Business studies and 55 teachers of Home Economics.

***Instrument for data collection*:** The instrument for data collection was questionnaire on availability and utilization of resources for teaching pre-vocational and subjects. The instrument had 4 points response options of highly available (HA), Averagely Available (AA), Low in Availability (LIA) and Not Available (NA) with corresponding value of 4, 3, 2, and 1 for section A of the questionnaire while section B contain another 4 points response options of Highly Utilized (HU), Averagely Utilized (AU), Slightly Utilized (SU) and Not Utilized (NU) with corresponding value of 4, 3, 2 and 1 respectively. The instrument was face validated by four experts from tertiary institutions, each from pre-vocational subjects' suggestions of the validates were used to improve the final copy of questionnaire. Cronbach Alpha method was employed to determine the internal consistency of the questionnaire items. A coefficient of 0.81 was obtained.

***Method of data collection*:** 250 copies of the questionnaire were administered on the pre-vocational subjects teacher in the three senatorial zones through the help of six (6) research assistant (2 research assistant from each zone). All the 250 copies of the questionnaire administered were retrieved according to the number of teachers of each pre-vocational subject in the area of the study.

***Method of data analysis*:** Data collected were analysed using Mean to answer the research questions while standard deviation was used to determine the closeness or departure of the respondents from the Mean. The values attached to the response options of the questionnaire were as follows.

Highly available (HA) or Highly Utilized (HU) =3.50–4.00 Averagely Available (AA), or Averagely Utilized (AU) =2.50 – 3.49, Slightly Available (SA) or Slightly Utilized (SU) = 1.50 – 2.49, Not Available (NA) or Not, Utilized (NU) = 0.50 – 1.49. Real limit of numbers was used to take decision. Any item with a Mean of 1.50 – 4.00 was regarded as been available or utilized for teaching each pre-vocational subject. While any item with a Mean value below real limit of 1.50 was regarded as not available or not utilized for teaching each pre-vocational subject. Any item with a low standard deviation indicates that the respondents were not too far from the Mean and from one another in their responses. But any item with a high standard deviation indicates that the respondent were far from the Mean in their responses.

Finding of the study

The following findings were made

(a) Available and utilized resources for teaching Agriculture: Findings are summarized in table 1

Table 1: Mean ratings of the responses of the teachers of Agriculture on the level of availability and utilization of resources for teaching Agriculture in JSS in Ekiti State.

N = 75

S/N	Resources for teaching agriculture	Availability		Utilization		Remarks	
		Mean ($\bar{X}_A$)	Standard deviation (SD_A)	Mean ($\bar{X}_U$)	Standard deviation (SD_U)	Availability	Utilization
1.	Agriculture laboratory	1.14	0.83	1.17	0.51	NA	NU
2.	School farm	1.32	0.80	1.35	0.70	NA	NU
3.	Cutlass	3.08	0.97	3.82	0.93	AA	HU
4.	Rake	2.62	0.98	3.76	0.86	AA	HU
5.	Hand trowel	2.55	0.55	3.91	0.96	AA	HU
6.	Hand fork	2.65	0.65	3.87	0.99	AA	HU
7.	Garden fork	1.40	0.75	1.10	0.67	NA	NU
8.	Wheel barrow	1.10	0.96	1.11	0.91	NA	NU
9.	Set of spanners	2.80	0.81	2.57	0.81	AA	AU
10.	Animal skeleton	1.12	0.80	1.05	0.93	NA	NU
11.	Soil samples	3.20	0.53	3.01	0.77	AA	AU
12.	Samples of different types of rocks	1.41	0.95	1.45	0.89	NA	NU

Key: HA = Highly Available, AA = Average Available, SA = Slightly Available, NA = Not Available, HU = Highly Utilized, AU = Average Utilized, SU = Slightly Utilized, NU = Not Utilized.

Table 1 above revealed that the following resources (cutlass, rake, Hand trowel, Hand fork spanners and soil samples) for teaching agriculture had their Mean values ranged from 2.55 to 3.25 and were above the real limit of 1.50 indicating that these resources were available for teaching Agriculture. Other six (6) resources in the table had their Mean values ranged from 1.10 to 1.41 and were below the real limit of 1.50 indicating that these resources were not available for teaching agriculture. The standard deviation of the twelve (12) resource items ranged from 0.53 to 0.95 and were low indicating that the respondent were not too far from the Mean and from one another in their responses.

On the utilization of available resources Table 1 revealed that the following available resources (cutlass, rake, hand trowel, hand fork, spanners and soil samples) for teaching agriculture had their Mean values ranged from 2.57 to 3.91 and were above the real limit of 1.50 indicating that these resources were utilized by teachers of

agriculture in teaching their students. Other six resources in table 1 had their Mean values ranged from 1.05 to 1.35 and were below the real limit of 1.50 indicating that these resources were not utilized by teachers of agriculture in their teaching. The standard deviation of all the (12) resource items ranged from 0.51 to 0.99 and were low indicating that the respondents were not too far from the Mean and from one another in their responses.

(b) Available and utilized resources for teaching Basic Technology: Findings are Summarized in Table 2

Table 2: Mean ratings of the responses of teachers of Basic technology on the level of availability and utilization of resources for teaching Basic technology in JSS in Ekiti State.

N = 62

S/N	Resources for teaching agric	Availability		Utilization		Remarks	
		Mean ($\bar{X}_A$)	Standard deviation (SD_A)	Mean ($\bar{X}_U$)	Standard deviation (SD_U)	Availability	Utilization
1.	Basic technology workshop	1.21	0.57	1.04	0.67	NA	NU
2.	Chisel	2.36	0.68	2.71	0.73	LIA	AU
3.	Hand fork	2.44	0.88	2.53	0.88	LIA	AU
4.	Hammer	3.84	0.71	2.50	0.81	HA	AU
5.	Scriber	1.32	0.93	1.33	0.51	NA	NU
6.	Snips	1.01	0.95	1.12	0.59	NA	NU
7.	Hawk saw	1.53	0.46	2.08	0.71	LIA	SU
8.	Surface plane	1.43	0.68	1.31	0.49	NA	NU
9.	Wooden saw	2.56	0.85	2.06	0.55	AU	SU
10.	Wooden mallet	1.11	0.72	1.43	0.67	NA	NU
11.	Try square	1.17	0.51	1.11	0.96	NA	NU
12.	Head pan	1.64	0.69	1.81	0.85	LIA	SU
13.	Spiral level	1.31	0.92	1.26	0.73	NA	NU
14.	Shovel	1.29	0.46	1.13	0.66	NA	NU
15.	Trowel	1.85	0.47	2.23	0.83	LIA	SU
16.	Line	3.50	0.66	2.28	0.61	HA	SU
17.	Tester	3.42	0.95	2.33	0.84	AA	SU
18.	Digital voltmeter	1.15	0.87	1.15	0.92	NA	NU
19.	Electric cables	1.06	0.55	1.21	0.99	NA	NU
20.	Pliers	1.35	0.97	1.42	0.93	NA	NU
21.	Screw driver	1.77	0.79	2.83	0.77	LIA	AU

Key: As in table 1

Table 2 revealed that the following ten (10) resources (chisel, file, hammer, hawk saw, wooden saw, head pan, trowel, line, tester, and screw driver) for teaching basic technology had their Mean values ranged from 1.53 to 3.84 and were above the real limit of 1.50 indicating that these resources were available for teaching basic technology. Other eleven (11) resources had their Mean values ranged from 1.01 to 1.43 and were below the real limit of 1.50 indicating that these resources were not available. The standard deviation of the twenty one (21) resource items ranged from 0.46 to 0.97 and were low indicating that the respondents were not too far from the Mean and from one another in their response.

On the utilization of resources it was revealed in table 2 that the ten (10) available resources for teaching basic technology had their Mean values ranged from 1.81 to 2.83 and were above the real limit of 1.50 indicating that these resources were utilized by teachers of Basic technology in teaching their students. Other eleven (11) resources that were not available had their Mean values ranged from 1.04 to 1.43 and were below the real limit of 1.50 indicating that these resources were not utilized by teachers of Basic technology. The standard deviation of the twenty one (21) resource items ranged from 0.51 to 0.99 and were low indicating that the respondents were not too far from the Mean and from one another in their responses.

(c) Available and Utilized resources for teaching Business Studies: Findings are summarized in Table 3.

Table 3: Mean ratings of the responses of teachers of Business Studies on the level of availability and utilization of resources for teaching Business Studies in Junior Secondary School in Ekiti State. N = 58

S/N	Resources for teaching Business Studies	Availability		Utilization		Remarks	
		Mean ($\bar{X}_A$)	Standard deviation (SD_A)	Mean ($\bar{X}_U$)	Standard deviation (SD_U)	Availability	Utilization
1.	Business study typing room	1.11	0.71	1.45	0.56	NA	NU
2.	Manual typewriter	1.13	0.83	1.23	0.49	NA	NU
3.	Typing desk	1.22	0.55	1.33	0.59	NA	NU
4.	Stapler	1.52	1.14	1.46	0.77	LIA	NU
5.	Staple remover	1.31	0.97	1.32	0.48	NA	NU
6.	Perforator	1.55	1.15	1.48	0.92	LIA	NU
7.	Stop watch	1.41	0.86	1.36	0.70	NA	NU
8.	Charts showing trading activities	3.71	0.66	3.81	0.52	HA	HU
9.	Record books	3.51	0.76	3.67	0.59	HA	HU
10.	Sample of cheque	1.25	0.93	1.37	0.90	NA	NU

Key: As in table 1

Table 3 revealed that charts showing trading activities, record books, perforator and stapler had their Mean values ranged from 1.52 to 3.17 which were above the real limit of 1.50 indicating that these resources were available for teaching Business Studies. Other six (6) resources in table 3 had their Mean values ranged from 1.11 to 1.41 and were below the real limit of 1.50 indicating that these resources were not available for teaching Business Studies. The standard deviation of the ten (10) resource items ranged from 0.55 to 1.15 and were low indicating that the respondent were not too far from the Mean and from one another in their responses.

On the utilization of resources for teaching Business Studies, it was revealed in table 3 that two available resources; charts showing trading activities with a Mean of 3.81, and record books with a Mean of 3.67; each of the Mean is above the real limit of 1.50 indicating that these two resources were utilized for teaching Business Studies. Other eight (8) resources had their Mean values ranged from 1.23 to 1.48 which were below the real limit of 1.50 indicating that these resources were not utilized by Business Studies teachers in teaching their students. The standard deviation of the ten (10) resources in table 3 ranged from 0.48 to 0.92 and were low indicating that the respondents were not too far from the Mean and from one another in their responses.

(d) Available and utilized resources for teaching Home Economics: Findings are summarized in Table 4.

Table 4: Mean ratings of the responses of teachers of Home Economics on the level of availability and utilization of resources for teaching Home Economics in Junior Secondary School in Ekiti State.

N = 55

S/N	Resources for teaching Home Economics	Availability		Utilization		Remarks	
		Mean ($\bar{X}_A$)	Standard deviation (SD_A)	Mean ($\bar{X}_U$)	Standard deviation (SD_U)	Availability	Utilization
1.	Home Economics laboratory	1.42	0.96	1.33	0.43	NA	NU
2.	Gas Cooker	1.31	1.04	1.10	0.61	NA	NU
3.	Kerosene stove	1.53	0.65	1.51	0.80	LIA	SU
4.	Oven for baking	1.22	0.88	1.35	0.71	NA	NU
5.	Cooking pots	3.57	0.91	2.56	0.97	HA	HU
6.	Serving trays	3.51	0.56	2.51	0.99	HA	HU
7.	Serving plates	3.62	0.90	2.50	1.23	HA	HU
8.	Serving spoons	3.73	0.69	2.57	1.15	HA	HU
9.	Sewing machine	1.15	1.12	1.45	0.99	NA	NU
10.	Tread	3.77	1.11	3.61	0.89	HA	HU

11.	Table for cutting clothes	1.69	0.84	1.52	1.31	LIA	SU
12.	Scissors	3.59	0.61	3.82	0.77	HA	HU
13.	Measuring tape	3.80	0.49	3.77	0.87	HA	HU
14.	Pressing iron	3.66	0.51	3.53	0.69	HA	HU
15.	Piece of clothes	3.75	0.67	3.70	0.76	HA	HU
16.	Needles	3.83	0.85	3.69	0.63	HA	HU

Key: As in table 1

Table 4 revealed that the following resources (kerosene stove, cooking pots, scissors, measuring tape, pressing iron, piece of clothes, needles, tread, serving spoons, serving plates, serving trays and tables for cutting of clothes) for teaching Home Economics had their Mean values ranged from 1.53 to 3.38 which were above the real limit or 1.50 indicating that these resources were available for teaching Home Economics. Other four resources in table 4 had their Mean values ranged from 1.15 to 1.42 and were below the real limit of 1.50 indicating that these resources were not available for teaching Home Economics. The standard deviation of the sixteen (16) resource items in table 4 ranged from 0.49 to 1.12 and were low indicating that the respondents were not too far from the Mean and from one another their responses.

On the utilization of resources for teaching Home Economics, it was revealed in table 4 that the twelve (12) available resources had their Mean values ranged from 1.51 to 3.82 which were above the real limit of 1.50 indicating that the twelve (12) available resources were utilized by teachers of Home Economics in teaching their student. Other four (4) unavailable resources in table 4 had their Mean values ranged from 1.10 to 1.45 and were below the real limit of 1.50 indicating that these resources were not utilized by teachers of Home Economics in teaching their students. The standard deviation of the sixteen resource items in table 4 ranged from 0.43 to 1.31 and were low indicating that the respondents were not too far from the Mean and from one another in their responses.

Discussion of Findings

The result of the study revealed that resources such as cutlass, rake and soil samples for teaching Agriculture were available and these resources were utilized by teachers of agriculture in teaching their students. The findings of this study on the availability and utilization of resources for teaching Agriculture in JSS in Ekiti State was in agreement with the findings of Eze (2001) in a study carried out on strategies for the improvement of instructional resources available for teaching Agricultural science in secondary schools in Ebonyi State where it was find out that the following instructional materials: Hoes, cutlass, shovel, spade watering can, hand fork and hand trowel were available and utilized for teaching Agricultural science in the secondary schools in the state.

The result of the study also revealed that chisels file, hammer, hawk saw, line and wooden saw were available and utilized by Basic Technology teachers for teaching the subject in JSS in Ekiti state. The findings of this study was in consonance with the findings of Ogbuanya, Ogundola and Ogunmilade (2010) in a study carried out on the level of Availability of Recommended tools and Equipments for teaching Motor vehicle machines works in Technical Colleges in South Western States, Nigeria where it was found out that: set of hand tools, drilling screw and cutting equipment, measuring tools, machine tools, metal joining tools were available for teaching the subject in the technical colleges.

The result of the study also revealed that: Manual typewriter typing desk, stapler, stop watch, record books and sample of cheque were available and utilized by Business studies teachers for teaching their student in JSS in Ekiti state. The finding was in consonance with the findings of Ekwe (2002) in a study carried out on evaluation of instructional materials for teaching Business studies in secondary schools in Delta state where it was found out that film slides, projectors, ledger booklets tape recorder and stop watches were available and utilized by Business study for teaching the subject in secondary schools in the state.

The result of the study revealed that: Kerosine stove, cooking pots, serving treys and plates, Needles and measuring tape were available and utilized by Home Economics teacher for teaching the subject in JSS in Ekiti state. This finding was in agreement with the findings of Anaele and Alade (2009) in a study carried out on Availability and utilization of Educational resources in the teaching and learning of Technical subjects in secondary schools for quality Assurance where it was found out that facilities such as workshops, equipments, furniture instructional materials and classrooms were available for teaching the subject in secondary schools in Ibadan metropolis. The findings of this study was also in agreement with the study of Arokoyu and Ugonwa (2012) in a study carried out on Assessment of Resource Availability for chemistry instruction in the secondary schools in rivers state where it was found out that concentrated acids, Burettes, Pipettes, Beakers and conical flask were available for teaching chemistry in secondary schools in the state.

Conclusion

Many Junior Secondary School graduate in Ekiti State could not demonstrate interest and rudimentary skills in technology due to poor acquisition of knowledge, skills and attitude in pre-vocational subjects which has probably led to their poor performance in the subjects in external examination of National Examination Council (NECO). It is therefore, necessary to assess resources into the teaching of pre-vocational subjects in Junior Secondary Schools in Ekiti State. The study therefore found out that resources such as cutlass, rake, head pan, hammer, chisel, kerosine stove, serving plates, needles, stapler, perforators, records

books were available for teaching the peculiar pre-vocational subjects (agriculture, Basic technology, Home Economics, Business Studies). The teachers of each of the pre-vocational subjects utilized the available resources in teaching their students. But many of the resources for teaching pre-vocational subjects such as garden fork, wheel barrow, digital voltmeter, electrical wires, gas cooker, agric laboratory, school farm, Basic technology workshop, typing room, Home Economics laboratory were not available for teaching the subjects.

Recommendation

Based on the findings of this study, it was therefore recommend that the stake holders (government, PTA members, school principals) in Junior Secondary Schools in Ekiti State should help improve the level of availability of resources for teaching pre-vocational subjects in Junior Secondary Schools in Ekiti State.

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