

# Status of Teaching Pre-Vocational Subjects in the Junior Secondary School Level(Agricultural Science and Home Economics)

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## Abstract

This work assessed the status of teaching pre-vocational subjects in junior secondary school level. The study adopted descriptive survey method. The population of the study was 2916, while the sample for the study was 215 pre-vocational teachers and agricultural science and home economics students. The study was carried out in Afikpo Education Zone Ebonyi State. Four purposes of study and two hypotheses guided the study. The instrument used for data collection was a self-structured questionnaire. The instrument was validated by 3 experts. The reliability of the instrument was determined by the use of cronbach alpha, and the reliability coefficient was 0.84. the data for the study was collected by the researchers and the research assistants. Research Question 1 and 2 were analysed using percentages while research question 3 and 4 were analysed using mean and standard deviation and the hypotheses were tested using t-test statistics. Based on the analysis, the following findings emanated among others; 92% of the teachers were qualified, the school administrations co-operates in teaching of pre-vocational subjects, instructional materials were available for teaching of pre-vocational subjects. It was recommended among others that the teachers should adopt demonstration and project methods instead of story methods in teaching of pre-vocational subjects.

**Keywords:** Status, teaching, pre-vocational subjects, Junior Secondary Schools.

## INTRODUCTION

Pre-vocational subjects at the junior secondary school level are agricultural science and home economics. Agricultural science is derived from the Latin words “Ager” meaning field and “cultural” meaning cultivation. It is the act o production of plants and animals useful to man. It covers not only the cultivation of crops and animal rearing but also the preparation of plants and animal products for processing and marketing.

Agricultural science is the branch of science which deals with growing of crops and rearing of domestic animals for the benefit of man and raw materials for the industries (Ndem, 2013). He further explained that agricultural science deals with the production of crops and rearing of farm animals by man for the purpose of providing food, raw materials and shelter. It also involves the science of processing, preservation, storage, marketing and distribution of the agricultural products. Ngoddy (2000) explained that agricultural science is the foundation of all sciences as far as sustenance of live is concerned. Agricultural science provides food, raw materials, shelter, rural development, employment, foreign exchange to the nation and income to the farmers and his family (Anyanwu, 1982, Akinsanmi 1988). They further explained that agricultural science involves cultivation of land to produce plants and keeping animals for direct value to man. They added that agricultural science involves , marketing, and distribution of agricultural commodities.

The National Curriculum of Agriculture (2007) enumerated the following as the specific objectives of introducing agricultural science at the secondary school;

- i. To stimulate and sustain students interest in agriculture
- ii. To provide students the interest to progressively advance in farming.
- iii. To advance food production through improvement of agricultural production techniques in students.
- iv. To provide occupational entry level skills in agriculture to the interested students.
- v. To prepare students adequately for producing and marketing farm commodities efficiently and profitably.
- vi. To enable students acquire basic knowledge and practical skills required for future studies in agricultural field.

The objectives of agricultural science is not only to produce professional and skilled manpower but, also to educate the rural community with the aim of ensuring complete transformation of agricultural production from the subsistence level to mechanized agriculture. The FGN (2013) enumerated the following as the roles of agricultural science such as adequate food and fiber supply, supply of adequate raw materials, sources of income, employment and development of rural areas. Also agriculture contributes about 60% to the export earning of Nigeria and about 90% food need of the people (Thimodu, 2008).In order to achieve the laudable objectives of agricultural science, the National Curriculum on agriculture for secondary schools (2007) stated that agricultural science at the secondary schools should be taught theoretically and practically in order to develop the right skills and values in agricultural production in the students. The document further explained that the final examination

of the students in agricultural science at the secondary school must be based on both theory and practical examinations. This is to ensure that students at their final years in the secondary school level are exposed to both practical and theoretical aspects of agricultural science which will enable them further their education or become good farmers for effective food and fiber production.

Home Economics is the study of man as a total being, his near environment and the interaction between the two-individual and environment (Brown 1985). In his view, Varness (2000) stated that the home economics is the field of knowledge and service primarily concerned with strengthening family life through education for the satisfaction of the families needs. Paolucci (2006) stated the following as the objectives of home economics;

1. To train home economics teachers with a sound basis for professional growth and personal development in home economics.
2. Train individuals on job skills and career opportunities in home economics.
3. Equip students with entrepreneurial skills for self-employment and self-reliance.
4. Develop positive human relationship and ability to work with people from diverse socio-economic, and cultural background.
5. To educate individuals on future home making and the way of being an intelligent consumer.

Therefore, to achieve the objectives of the pre-vocational subjects in agricultural science and home economics, effective teaching is necessary and should be given special attention.

Teaching according to Urevbu (1991) is the act of giving instructions and developing knowledge, skills, values and attitudes to somebody. Ndem (2013) conceptualized teaching as an act, occupation, and an enterprise. He explained that as an act, teaching involves application of styles, strategies and demonstrations to ensure that the learners acquire the knowledge. As an occupation, he explained that teaching needs procedure for certification, a set of standards of performance and acquisition of the required skills. Then as an enterprise, teaching involves lots of activities such as marking registers, setting examinations questions, checking noise in the classroom; keeping record, maintaining disciplines and other jobs assigned by the head of the school from time to time. Akuma and Ogbonnaya (2007) reported that teaching entails creating opportunities from which learners can gain such experiences that will enable them acquire the knowledge, skills, attitudes and appreciations that will serve as tools in life. The assertion of Akuma and Ogbonnaya, implies that teaching is a human undertaking with the principle aim of assisting the learner or individuals acquire reasonable skills for a successful living.

The teacher is the major actor in the implementation of any curriculum. The success and failure of any school curriculum depends on the teacher as the curriculum implanter. For effective teaching and learning to take place in the school, certain factors need to be put in place such as qualified and experienced teachers, adequate teaching materials, adoption of the appropriate teaching methods, co-operation of the students and the school administration.

Many students at the secondary school levels wish to study agricultural science and home economics courses but at the end, only a few of these students succeed in passing the courses at credit level in the Senior Secondary School Examination (SSCE). Obasi (2000) identified mass failure of students in agricultural science and home economics in the senior secondary certificate examination. The mass failure of the students was attributed to ineffective teaching of agricultural science and home economics starting from the junior secondary schools. Ineffective teaching may be as a result of use of non-qualified and inexperienced teachers, use of wrong teaching methods by the teachers, inadequate use or non-usage of appropriate teaching aids as well as negative attitudes towards vocational courses shown by the students, and the school management.

Furthermore, Ewa (2012) noticed that in many secondary schools in Afikpo education zone of Ebonyi State, Nigeria, many biology teachers are used to teach agricultural science at the secondary schools, this he said has contributed to mass failure of students in agricultural science in the senior secondary school examination. The poor performance of students in senior secondary school examinations has made it impossible for many students to gain admission into the higher institutions to study vocational courses. This, situation has led to low enrolments of candidates in vocational agriculture and home economics and related courses in the higher institution and has invariably affected the number of graduates needed to teach vocational subjects at the secondary schools. If this situation is allowed unchecked, it will lead to non-achievement of the vocational education objectives at the secondary schools. It is on the basis of the above background that this research is designed to ascertain the status of teaching of pre-vocational subjects, agricultural science and home economics at the junior secondary schools in Afikpo education zone of Ebonyi State, Nigeria.

### **Statement of the Problem**

Many secondary school graduates wish to study agricultural science and related courses in agriculture at the higher institution; but only few of them succeed in passing agricultural science and home economics at credit level in the senior secondary school certificate examinations. Obasi (2010) identified ineffective teaching of agricultural science and home economics as one of the causes of poor performance of students in agricultural

science and home economics. Additionally, Ewa (2012) reported that in Afikpo education zone, many schools use biology teachers to teach agricultural science and some use agricultural science teachers to teach home economics. This situation has contributed to mass failure of students in agricultural science in the senior secondary school examinations. The poor performance of the students in agricultural science and home economics has led to low enrolment of candidates in vocational courses and related courses at the high institution, and this has affected the number of graduates needed to teach agricultural science and home economics at the secondary schools. If this situation is allowed unchecked, it will lead to non-achievement of the vocational education objectives at the secondary schools and as well affect the achievement of food security in Nigeria.

It is on the basis of the above background that this work is designed to ascertain the status of teaching pre-vocational subjects at the junior secondary schools in Afikpo education zone of Ebonyi state, of the Nigeria.

### **Purpose of the Study**

The main purpose of the study is to assess the status of teaching of pre-vocational subjects in Junior secondary schools in Afikpo Education Zone of Ebonyi state; specifically; the study was designed to:

1. Determine the academic qualifications of agricultural science and home economics teachers.
2. Determine the availability of instructional materials in the school
3. Determine the co-operation of the school administration in the teaching of pre-vocational subjects in the school..
4. Determine the teaching methods adopted by the teachers in teaching pre-vocational subjects.

### **Research Questions**

The study answered the following questions

- 1) What are the qualities of pre-vocational subject teachers in the junior secondary school?
- 2) What are the available instructional materials for the teaching of pre-vocational subjects?
- 3) How do the school administration co-operate in the teaching of pre-vocational subjects?
- 4) What are the teaching methods adopted by teachers in teaching of pre-vocational subjects in the schools?

### **Hypotheses**

The following null-hypotheses were formulated for the study

**H<sub>0</sub><sub>1</sub>**: there will be no significant difference between the mean ratings of the students and the teachers on the co-operation of the school administration in teaching of pre-vocational subjects ( $p < 0.05$ ).

**H<sub>0</sub><sub>2</sub>**: There will be no significant difference between the mean ratings of the students and the teachers on the availability of instructional materials for teaching of pre-vocational subjects in the schools. ( $p < 0.05$ )

### **Methodology**

This research was carried out in Afikpo Education Zone of Ebonyi State in Nigeria. Survey research design was adopted for the study. The population of the study was 2916. This comprised of 75 agricultural science and home economics' teachers and 2,762 agricultural science and home economics students. The sample for the study was 215. The instrument used for data collection was self-developed questionnaire which was structured on four points rating scale of strongly agree, agree, disagree and strongly disagree for research questions 3 and 4, with their nominal values of 4,3,2 and 1 respectively. The reliability of the instrument was determined by the use of cronbach alpha which yielded 0.84 reliability coefficient. The data were collected by researchers and 3 research assistants by distributing the 215 copies of the questionnaires, and 212 of the questionnaires were retrieved back which represents 99%. The data for research question 1 and 2 were analysed using percentage while research question 3 and 4 were analysed using mean and standard deviation, the hypotheses were tested using t-test. The result of the study showed that 55% of the agricultural science teachers were qualified, 60% of the instructional materials were available, the teachers adopted demonstration, project and lecture methods in teaching and the school administration co-operated fairly in the teaching of pre-vocational subjects. Among others, it was recommended that the school proprietors should provide the school with the required teaching materials and engage qualified teachers. Also teachers should mostly adopt demonstration and project methods instead of lecture method in teaching of pre-vocational subjects..

## **Results**

### **Research Question 1**

What are the qualifications of the pre-vocational teachers in the schools?

Table 1: Responses of the Respondents on the qualifications of Pre-vocational teachers.

SN	Item Statements(Academic Qualifications)	Percentages	Quality of teachers
1	TC II	5%	Not Qualified
2	N.C.E. Agric	20%	Qualified
3	N.C.E. Home Economics	25%	Qualified
4	B.Sc. Agric Education	22%	Qualified
5	B.Sc E.d Home Economics	20%	Qualified
6	B.Sc Agric	2%	Not Qualified
7	B.Sc. Home Economics	1%	Not Qualified
8	B.,Sc. Agric./ PGDE	2%	Qualified
9	B.Sc. Home Economics/PGDE	1%	Qualified
10	M.Sc. Ed. Agric	1%	Qualified
11	M.Sc. Ed. Home Economics	1%	Qualified

The data in table 1, shows that items 2,3,4,5,8,9,10 and 11 are qualified teachers while items 1, 6, and 7 are not qualified pre- Vocational subject teachers at the junior secondary school. This implies that 92% of the teachers were qualified while 8% of the teachers were not qualified

### Research Question 2:

What are the Available instructional materials for the teaching pre-vocational subjects at the Junior Secondary schools?

Table 2: Responses of the respondents on Availability of instructional materials

SN	Item Statements(Instructional Materials)	Available	Expected to be Available	% of Availability
1	Cutlass	6	10	60%
2	Big hoes	4	10	40%
3	Spade	7	10	40%
4	Shovel	7	10	70%
5	Head pan	6	10	60%
6	Bucket	5	10	50%
7	Hand towel	6	12	50%
8	Cooking pot	7	15	70%
9	Spoon	15	20	75%
10	Plates	8	15	53%
11	Drinking cups	6	2	60%
12	Cooking gas/stove/electric cooker	1	1	100%
13	Sewing machine	1	2	50%
14	Needles	2	2 packets	100%
15	Sewing thread	2	2 packets	100%
16	Scissors	3	6	50%
17	Measuring tape	2	6	33%
18	Refrigerator	1	1	100%

Table 2 reveals that cutlasses, shovels, head pan, bucket, hand trowel, cooking pots, cooking gas, refrigerator plates, sewing machine, needles and scissors are highly available while big hoes, spade and measuring tapes are fairly available. On the average, the data shows that instructional materials were available.

### Research Question 3:

How do the school administration co-operates with the teachers for teaching pre-vocational subjects.

**Table 3: Mean ratings and standard deviations of the respondents on the cooperation of the school administration with the pre-vocational teachers.**

SN	Item Statements	$\bar{X}$	SD	Interpretation
1	Provides fund for the purchase of farm and home economics tools and equipment	2.94	1.20	Agree
2	Provides planting materials for the school farm and materials in the kitchen for practical classes.	2.88	1.18	Agree
3	Assisting the vocational teachers to organize field trips to places of educational interest.	2.97	1.10	Agree
4	Organizes workshops, conferences and seminar for pre-vocational teachers	3.10	1.01	Agree
5	Interferes with students practical activities on the farm and in the kitchen	2.96	1.00	Agree
6	Provides favourable timetable for teaching of practical pre-vocational subjects	2.83	1.04	Agree
7	Provides current texts and materials for pre-vocational subjects	2.54	1.81	Agree
8	Provides incentives to pre-vocational teachers.	2.14	1.06	Disagree
Grand mean		2.79		

Table 3 reveals that items 1,2,3,5,6 and 7 had their mean scores above the cut-off point of 2.50 with their corresponding standard deviations while item 8 had its mean scores less than the cut-off point of 2.50. The grand mean is 2.79. This implies that the school administration co-operates with the pre-vocational teachers in the provision of funds for buying teaching tools and equipment, favourable time table for teaching and assisting teachers to organize field trips, co-operate in organizing workshops, conferences, provision of current texts and materials and do not co-operate in provision of incentives to the teachers.

#### Research Question 4

What are the teaching methods adopted by the teachers in teaching?

**Table 4: Mean and Standard Deviations of the Respondents on the method of teaching adopted by the pre-vocational teachers**

SN	Item Statements (Teaching methods)	$\bar{X}$	SD	Interpretation
1	Demonstration method	3.07	1.16	Adopted
2	Lecture method	2.01	1.03	Adopted
3	Field trips method	3.09	0.92	Adopted
4	Discussion method	3.10	0.93	Adopted
5	Project method	3.01	1.08	Adopted
6	Discussion method	2.94	1.11	Adopted
7	Story method	2.04	1.38	Not Adopted
8	Assignment method	3.05	0.94	Adopted
9	Combination of different methods	3.00	1.04	Adopted
10	Self-discovery method	2.86	1.04	Adopted
Grand mean =		28.17		

The data in table 4 reveals that all the items had their mean scores above the cut-off point of 2.50 with their corresponding standard deviations, except item 7 with the mean score less than 2.50. This shows that the teachers adopt all the teaching methods except story method.

#### Hypotheses

H01: There is no significant difference between the mean ratings of the students and the teachers on the co-operation of the school administration in teaching of pre-vocational subjects.

Table 5: Summary of t-test Analysis on the co-operation of the school administration in teaching of pre-vocational subjects.

SN	Item Statements	Group	N	$\bar{X}$	SD	Df	t-cal	t-tab	Interpretation
1	Provides fund for the purchase of farm, home economics tools and equipment	Teachers	36	2.94	1.20	210	0.59	1.96	*
		Students	176	2.88	1.18				
2	Provides planting materials for the school farm and home economics kitch	Teachers	36	2.97	1.10	210	1.49	1.96	*
		Students	176	3.10	1.01				
3	Assisting the vocational teachers to organize field trips to places of educational interest	Teachers	36	2.96	1.00	210	1.52	1.96	*
		Students	176	2.83	1.04				
4	Organizes workshops, conferences and seminar for vocational teachers	Teachers	36	2.95	1.04	210	1.05	1.96	*
		Students	176	2.86	1.00				
5	Interferes with students practical activities on the farm and in the kitchen	Teachers	36	3.02	1.09	210	0.18	1.96	*
		Students	176	3.03	0.96				
6	Provides favourable timetable for teaching of practical pre-vocational subjects	Teachers	36	2.98	1.09	210	1.10	1.96	*
		Students	176	2.88	1.13				
7	Provides current texts and materials for pre-vocational subject	Teachers	36	2.54	1.81	210	0.12	1.96	*
		Students	176	2.85	0.99				
8	Provides incentives to pre-vocational teachers.	Teachers	36	2.14	1.06	210	0.79	1.96	*
		Students	176	2.98	1.08				

\* = No significant difference

\*\* = Significant difference

Table 5 indicates that all the items had their t-cal less than t-critical of 1.96 at 210 degree of freedom and 0.05 level of significance, therefore the null hypothesis was accepted, this implies that the opinions of the teachers were the same as that of the students on the co-operation of the school administration in teaching of pre-vocational subjects.

### Findings

Based on the analysis of the data, the following results emanated;

1. 92 percent of the pre-vocational teachers were qualified
2. The school administration co-operates with the teachers in teaching of pre-vocational subjects.
3. Instructional materials were available for teaching of pre-vocational subjects
4. Pre-vocational subject teachers adopt demonstration method, field trip, project, discussion, assignment, self-discovery and combination of methods.
5. There was no significant difference in the opinions of the teachers and the students on the co-operation of the school administration with the teachers in teaching of pre-vocational subjects.

### Discussion of Findings

The discussion of findings was done based on the result of the data analysis. One of the findings of this study was that 92 percent of the teachers were qualified. This findings is in agreement with Ndem (1996) who reported that an agricultural science teacher and home economics teacher should possess a minimum of Nigerian Certificate in Education (NCE). Also, it was found that the school administration co-operates in the teaching of pre-vocational subjects. This finding is in line with Ejiogu (1990) who reported that the school administration has vital role to play in teaching in the school. Finally, it was revealed that teachers of pre-vocational subjects

adopt demonstration, field trip, project, assignment and discussion method. This findings is in agreement with Lorschach and Tobin (2006) who reported that demonstration, projects, field trip and assignment methods are suitable for vocational subjects and courses. This study also reveals that instructional materials were available. This finding is in line with Umaru (2000) who reported that adequate instructional materials helps in achieving the educational objectives.

### Conclusion

Pre-vocational subjects in the new curriculum of junior Secondary school include, agricultural science and home economics. The teaching of these subjects in many schools have not been encouraging. This work examined the status of teaching of pre-vocational subjects in the Junior Secondary Schools. The work focused on the availability of instructional materials, academic qualifications of teachers, cooperation of the school administration and teaching methods adopted by the teachers. The result of the study showed that instructional materials were available, school administrations co-operated, teachers were highly qualified and the teachers adopted demonstration, project, field trip and assignment which are ideal for teaching of any vocational programme.

### Recommendations

Based on the findings, the following recommendations were put forward;

1. The government should encourage the teachers who are not qualified to obtain further training to qualify them.
2. The few instructional materials lacking in the school should be made available.
3. The teachers should always adopt the appropriate methods in teaching pre-vocational subjects.

### References

- Anyanwu, A.C., Anyanwu, V.A., *A textbook of agriculture for certificate*. Singapore: FEP International Private Limited.
- Ejiogu, A. (1990). *Educational Management: A system Approach*. Lagos: Lantern Books.
- Ewa, P.O. (2012). Factors affecting effective implementation of agricultural science curriculum in secondary schools in Afikpo Education Zone of Ebonyi State. *PGDE Project, Department of Technology and Vocational Education*, Ebonyi State University, Abakaliki.
- Federal Republic of Nigeria (2007). *National curriculum for Agricultural science for secondary schools*. Lagos Nigeria.
- Federal Republic of Nigeria (2013). *National Curriculum for Secondary school agricultural science*. Lagos, Nigeria.
- Lorschach, A. & Tobin, C. (2006). *The Art of Teaching Sciences, Teachers Resources*. New York: Routledge.
- Ndem, J.U. (1996). Evaluation of the status of agricultural science teaching in secondary schools in Municipal Area Council, Abuja. *PGDE Project, Department of Vocational Teacher Education, University of Nigeria, Nsukka*.
- Ndem, J.U. (2013). Achieving food security through effective skill training in agriculture at the secondary school level. *Journal of qualitative education in Nigeria*. 9(3) 108-114.
- Ngoddy, P.O. (2000). Nigerian agriculture and challenges of the 21<sup>st</sup> century: The Strategic role of food processing. *Agro-science Journal of Tropical Agriculture, Food, Environment and Extension*. 1(1)29-41.
- Nwani, A. & Ogonnaya, O. (2007). *Principles and practice of Effective Teaching: A Guide to Student Teachers*. Abakaliki: Saltcoast Press.
- Obasi, S.C. & Njoku, O.U. (2000). Trace element, composition of meal and oil of Rubber and Sanbox. *Agro-science Journal of Tropical Agriculture, Food, Environment and Extension*. 1(1)91-93.
- Okinsanmi, O. (1988). *Certificate Agricultural Science*. Singapore: Longman Publishers.
- Umaru, K. (2000). Influence of instructional materials on the performance of students in agricultural science in secondary schools in Kwara State, Nigeria. *M.Sc. Dissertation, Department of Vocational and Technical Education, ABU, Zaria*.
- Urevbu, I. (1991). *Approaches to teaching and learning*. Enugu: New land publishers.