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TEACHERS' INSTRUCTIONAL COMPETENCY NEEDS IN TEACHING AGRICULTURE AS A PRE-VOCATIONAL SUBJECT IN JUNIOR SECONDARY SCHOOLS IN KOGI STATE

BY

Ochijenu, Mercy Asibi, Ph.D.: Department of Science Education, Faculty of Education, Prince Abubakar Audu University, Anyigba

Abstract

The study investigated teachers' instructional competency needs in teaching agriculture as a pre-vocational subject in junior secondary school, three research questions guided the study which was carried out in Kogi state, Nigeria. The study adopted a descriptive survey design. The research was carried out in Kogi State, Nigeria. The population for the study was 1,769 pre-vocational agricultural science teachers of Junior Secondary Schools and 43 educational supervisors from the teaching service commission in the three educational zones of the eastern part of the state totaling 1,812. The sample for the study was made up of 198 pre-vocational agricultural science teachers and 22 educational supervisors giving the total sample of the study to 220 which were obtained with the use of a stratified random sampling technique. The instrument for data collection was a questionnaire. Data collected were analyzed using mean and standard deviation to answer the research questions and t-test statistics to test three formulated hypotheses at 0.005 level of significance. The study found that the behavioral objectives, previous knowledge, determining instructional materials, organizing instructional materials sequentially, use of reliant teaching aids, involving ICT in teaching, and reinforcing learning activities are the instructional competency needs in planning for teaching prevocational agriculture in Junior Secondary School for agricultural productions.

Keywords: Teachers, Prevocational subjects, Education, Agriculture and Instructional competency

Introduction

Teachers are the curriculum implementers; they fulfill the desires of the curriculum planners. The teacher is a helper, facilitator and role model. Mpa (2009) describes the teacher as the fulcrum on which everything revolves and the key that unlocks the doors of freedom from the chains of ignorance and dungeon. Teachers are those who are found worthy in content, knowledge, skills, methods, technique and are capable of providing good teaching by virtue of their professional training and competencies required for any given task. According to Nwagwu (1998), teachers are professionals who consciously and deliberately use their wealth of experience, training skills, competencies, attitudes, interests, knowledge, or content with the help of instructional materials, methods, and techniques to impart to a less experienced person. In the light of the study, a teacher is a person who teaches especially in a school that is a teaching professional who is meant to help the students to gain knowledge, competencies, and virtue. The functions of the teacher are carried out through the process of teaching. Teaching is a process of instructing to impart knowledge, facts, skills, attitudes, interests, and aptitude from a knowledgeable and more experienced person to less knowledgeable and inexperienced individuals. Teaching is an enabling job, a noble activity and profession that involves a lot of activities to facilitate this noble process. For teaching to be effective, the teacher must possess a great level of instructional competency. Competency as opined by Ifeanyieze, Iheji, and Ishiwu (2014) is the knowledge, skills, and attitude required by teachers for the maintenance of tools and equipment. Meanwhile, Onipede and Lawa (2018) also stated that competency is the knowledge, skills, and attitude required by teachers for maintenance of tools and equipment. Amusa (2009) views competency as standardized requirements on which an individual performs a given task. As regards this present study, competency is referred to as the standard abilities required to perform in teaching prevocational subjects. These subjects are offered at the middle basic and upper basic educational introduced by the Federal government of Nigeria.

The study's emphasis is the upper basic education which is the junior secondary school. The objectives of junior secondary education as stated in the national policy on education (2014) are to provide the learner with diverse basic knowledge and skills for entrepreneurship and educational advancement, and develop patriotic young people equipped to contribute to social development and the performance of their civic responsibilities among others. To achieve the objectives of the basic education in Nigeria, pre-vocational education must be given top priority, because they are very important to the economy of Nigeria as it's a firm foundation for the teachers' interest and focus on the development of most nation which is globalization, information and communication technology (ICT) and entrepreneurship (Nerdc, 2007). The objectives of agricultural science in junior secondary school as in the national curriculum on agriculture on secondary school development by Nigeria. It should be noted from the above objectives that, the government vested interest on pre-vocational education is to fast-track or encourage the process of economic and technological development of the country to meet up with globalization, information and communication technology and entrepreneurship which the world is billing to today. The pre-vocational subjects offered in the upper basic education or junior secondary schools are agriculture, home economics etc but described agricultural science as the branch of science that deals with growing of crops and rearing of domestic animals for the benefit of man and raw materials for the industries as well as providing food, and shelter. It equally involves the science of processing, preservation, storage, marketing, and distribution of agricultural products.

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Agricultural science contributes a lot to the development of the nation as stated in the national policy on education (2014) to provide the learner with diverse basic knowledge and skills for entrepreneurship and educational advancement, so it should be taught theoretically and practically in order to develop the right skills and values in agricultural production in the students. Agricultural production, according to Bakare (2017), is the science of growing plant and rearing of animals and processing them for man's use. In the same vein, Bakare (2017) described agricultural production as the farm product produced through the practice of agriculture. In relation to this study, agricultural production is the growing of crops, rearing of animals. It also involves processing, preserving, packaging and marketing to the consumers for economic growth of the nation. To enhance increase in agricultural production and to achieve the objectives of the pre-vocational subjects i.e. agricultural science, the teachers implementing the agricultural science curriculum must be competent enough in terms of teaching the students in theory and practical to enable the students pass their examinations so as to proceed on further studies in agricultural science and for the students to become good and effective farmers for food and other agricultural productions for the economic and technological growth of the nation.

It has been observed in most secondary schools and in the West African Examination Council (WAEC) (2018) that the number of agricultural science enrollment for the senior secondary school certificate examinations (SSCE) has reduced drastically as compared to the same examinations few years ago. It was observed by the national examination council of Nigeria (NECO) in 2019 that, not only the number of students' enrollment for agricultural science has reduced, but the number of those that passed the subject at credit level also reduced. In view of the above reason, not many students gain admission to the tertiary institutions to study or pursue a career in vocational agriculture which has led to shortage of agricultural science teachers in most secondary schools and few people are left to pursue a career in agriculture reducing the number of entrepreneurs in agriculture and related enterprises. If this ugly trend is allowed to continue, the objectives of the government on pre-vocational agriculture at the Junior Secondary schools and vocational agricultural curriculum objectives at the senior secondary schools cannot be achieved. The question is, what are the causes of the agricultural science students' mass failure in the external examinations and low enrollment of the students into the nation's tertiary institutions such as colleges of education, polytechnics and universities to pursue courses in vocational agriculture and other related enterprises? Could it be that the students were not well taught pre-vocational agriculture at the junior secondary school level? Were there no appropriate teaching methods used for teaching and so on? If this situation continues without remedy, the laudable objectives of vocational agricultural science at secondary school cannot be achieved. It is as a result of these that the study is designed to ascertain teachers' instructional competency needs in teaching pre-vocational subjects at junior secondary schools for agricultural productions.

Objectives of the Study

The main objective of the study was to investigate teachers' instructional competency needs in teaching pre-vocational subjects in junior secondary schools for agricultural productions. Specifically, the study sought to:

1. Ascertain teachers' instructional competency needs in planning the teaching in prevocational agriculture at junior secondary schools for agricultural production.
2. Ascertain teachers' instructional competency needs in presenting the contents in prevocational agriculture in junior secondary schools for agricultural production.

Research Questions

1. What are the teachers' instructional competency needs in planning the teaching in prevocational agriculture at junior secondary school for agricultural production?
2. What are teachers' instructional competency needs in presenting the contents in prevocational agriculture in junior secondary schools for agricultural production?

Hypotheses

The following hypotheses were formulated to guide the study:

Ho1: There is no significant difference between the mean ratings of the teachers and supervisors of education on the instructional competency needs in planning the teaching in prevocational agriculture at junior secondary school for agricultural production.

Ho2: There will be no significant difference between the mean ratings of the teachers and supervisors of education on the instructional competency needs in presenting the contents in prevocational agriculture in junior secondary school for agricultural production.

Methodology

The study adopted a descriptive survey design. The research was carried out in Kogi State, Nigeria. The population of the study was 1,769 pre-vocational agricultural science teachers from Junior Secondary Schools and 43 educational supervisors from the teaching service commission from the three educational zones eastern of the state totaling 1812. The sample for the

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study was made up of 198 prevocational agricultural science teachers and 22 educational supervisors giving the total sample of the study to 220 which were obtained with the use of a stratified random sampling technique. The instrument used for data collection was a self-developed questionnaire structured on four scale point rating scale of strongly needed (NS), Needed (N), Not Needed (NN) and Strongly Not Needed (SNN) were used for the respondents for each item. Each of the items was assigned a. 4 value; NS =4, N=3, NN=2, and SNN-1. Any mean of 2.50 and above was accepted and anyone below 2.50 was rejected. The instrument entitled, *Teachers' Instructional Competency Need in Teaching Pre-vocational Subjects* (TICNTPS), was validated by three (3) experts. One was from the measurement and evaluation department and two others were from the science education department of Prince Abubakar Audu University, Anyigba, Kogi State Nigeria. The questionnaire was administered to the respondents with the help of three (3) research assistants. The research assistants were properly briefed on how administer and retrieve the questionnaires. Obtained reliability test was carried out to using Cronbach Alpa to obtain an alpha value of 0.86. After (30) instruments were administered to 30 prevocational agricultural science teachers and supervisors who were not part of the sampled population for the study in a separate educational zone apart from being used for the study of 0.86 was obtained. Data collected were analyzed using mean and standard deviation to answer the research questions and t-test statistics to test two formulated hypotheses at 0.005 level of significance.

Results

Research Question 1: What are the teachers instructional competency needs in planning for teaching prevocational agriculture at junior secondary school for agricultural production?

Table 1: Mean and standard deviation ratings of the two groups of respondents of teachers and supervisors of education on the instructional competency needs in planning for teaching prevocational agriculture in Junior Secondary for agricultural production

S/N	Variables	N	X	SD	T-Value	Remark
1	Stating the behavioral objectives	217	3.11	1.01	1.92	Needed
2	Stating the previous knowledge	217	2.88	1.18	1.92	Needed
3	Determining instructional materials	217	3.10	1.01	1.92	Needed
4	Organizing instructional materials subsequently	217	2.54	1.81	1.92	Needed
5	Use of relevant teaching aids	217	2.80	1.06	1.92	Needed
6	Involving ICT in teaching	217	3.07	1.16	1.92	Needed
7	Reinforcing learning activities	217	2.55	1.81	1.92	Needed
8	Involving students to teach	217	2.14	1.06	1.92	Needed

N=Sampled Population, X=Mean, SD=Standard Deviation

The data in Table 1 above revealed that the respondents accepted items 1-7 except item 8 as the instructional competency needs in planning for teaching prevocational agriculture in Junior Secondary Schools for agricultural productions. In the table, all the items except item 8 had a mean in the range of 2.56 to 3.11. 2.50 and were needed. The standard deviation is between 0.01 and 1.10. item 8 was not accepted because the mean value fell below 2.50, indicating that, it was not needed.

Research Question 2: What are the teachers instructional competency needs for teaching the contents of prevocational agriculture in junior secondary school for agricultural production?

Table 2: Mean and standard deviation rating of the two groups of respondents of teachers and supervisors of education on the instructional competency needs for teaching the contents of prevocational agriculture in junior secondary school for agricultural production

S/N	Variables	N	X	SD	T-Value	Remark
9	Stating meaning of agriculture	217	3.05	0.94	1.92	Needed
10	Classification of crops	217	2.52	1.61	1.92	Needed
11	Identifying simple farming tools	217	2.94	1.12	1.92	Needed
12	Identification of farm animals	217	3.01	1.06	1.92	Needed
13	Explanation of agricultural system	217	3.10	0.93	1.92	Needed
14	Taking farm record	217	3.09	0.92	1.92	Needed
15	Stating importance of agriculture to man	217	2.01	1.03	1.92	Needed
16	Importance of agriculture to Nigeria's economy	217	3.00	1.04	1.92	Needed
17	Effective planning	217	2.86	1.04	1.92	Needed
18	Advertising of agricultural products	217	2.96	1.00	1.92	Needed
19	Export promotion in agriculture	217	2.97	1.01	1.92	Needed
20	Demonstrating packaging and repackaging criteria	217	2.88	1.18	1.92	Needed

N=Sampled Population, X=Mean, SD=Standard Deviation

The data in Table 2 above reveals that the respondents accepted all the 12 items in the research question as the teachers' instructional competency needs for teaching and the content of prevocational agriculture in Junior Secondary Schools for agricultural productions. In the table, all the items were within the range of 2.52 to 3.09. this indicates that each of the means

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is above the criterion mean of 2.50 and were all needed. The standard deviation is between 0.92 and 1.00 which is below the table value of 1.98. This indicates that the items in their deviations are close to one another and not too far from the mean, so all the items presented were needed.

Ho1: There is no significant difference between the mean ratings of the teachers and supervisors of education on the instructional competency needs in planning the teaching in prevocational agriculture at junior secondary school for agricultural production.

Table 3: Summary of the T-test analysis response of prevocational agricultural teachers and supervisors of education on the instructional competency needs in planning for teaching prevocational agriculture at Junior Secondary School for agricultural production

Respondents	N	X	SD	T
Educational supervisor	22	2.57	0.35	1.52
Agricultural science teachers	195	2.63	0.31	

0.05 Significant Level; Df = 272; N = 217; Critical Table = 1.92

The table presents the calculated t-value as 1.52. This value was tested for significance by comparing it with the critical t-value of 1.92 at 0.05 alpha level with 272 degree of freedom, The obtained t-value (1.52) was less than the critical t-value of 1.92. Hence the null hypothesis was retained. The result indicates no significance difference in the mean responses of pre-vocational agricultural science teachers and supervisors of education on the instructional competency needs of planning for teaching prevocational agricultural science at Junior Secondary Schools for agricultural production.

Ho2: There will be no significant difference between the mean ratings of the teachers and supervisors of education on the instructional competency needs in presenting the contents in prevocational agriculture in junior secondary school for agricultural production

Table 4: Summary of the T-test analysis response of prevocational agricultural teachers and supervisors of education on the instructional competency needs for teaching the contents of prevocational agriculture in junior secondary school for agricultural production

Respondents	N	X	SD	T
Educational supervisor	22	2.53	0.37	1.50
Agricultural science teachers	195	2.85	0.34	

0.05 Significant Level; Df = 272; N = 217; Critical Table = 1.92

The table presents the calculated t-value as 1.50. This value was tested for significance by comparing it with the critical t-value of 1.92 at 0.05 alpha level with 272 degrees of freedom. The obtained t-value (1.50) was less than the critical t-value of 1.92. Hence the null hypothesis was retained. The result indicates no significant difference in the mean responses of pre-vocational agricultural science teachers and supervisors of education on the instructional competency needed on the teaching methods for teaching prevocational agricultural science at Junior Secondary Schools for agricultural production.

Discussion of the Findings

The findings from the study show that the respondents accepted the following stating the behavioral objectives, previous knowledge, determining instructional materials, organizing instructional materials sequentially, use of reliant teaching aids, involving ICT in teaching and reinforcing learning activities as the instructional competency needs in planning for teaching prevocational agriculture in Junior Secondary School for agricultural productions. The findings are in agreement with Dumbri (2016) in a study conducted on professional improvement needs of teachers of agricultural science for effective teaching in senior secondary schools in Delta State. As it was found out that teachers of agricultural science need improvement on 30 professional skills for effective teaching of students in Senior Secondary Schools.

The findings from the study also show that the respondents accepted the following, stating the meaning of agricultural classification of the crop, identifying simple farm tools, identification of farm animals, explaining of agricultural system, taking farm records, stating the importance of agriculture to man and many others are the teachers' instructional competency needed for teaching the content of prevocational agriculture at Junior Secondary Schools for agricultural production. These findings are in tandem with the Federal Republic of Nigeria's national curriculum on agriculture for Junior Secondary Schools developed by Nigerian Education Research and Development Council (NERDC) (2007) which identified the contents of the curriculum to include the items mentioned above. This study also validated the findings of Adekola (2014).

The findings from the study show that the respondents accepted that demonstration methods, field strip methods, discovery/inquiry, discussion, project, assignment, cooperate, peer guided, advanced organizer, and computer-assisted instruction methods are teaching methods used in teaching prevocational agriculture at Junior Secondary Schools for agricultural production. The study corroborates the findings of Azih and Nwosu (2011) who found that modern teaching methods were superior to conventional methods in improving the achievement of both male and female students.

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Conclusion

Teachers' instructional competency needs for teaching prevocational agricultural subjects at Junior Secondary Schools for agricultural productions is very important in this particular period for the economic re-orientation of this country, Nigeria. The interest of every nation's development plan is now focused on globalization, information and communication technologies (ICTs) and entrepreneurship, which is also in line with Nigeria's National Policy on Education objectives for secondary schools and the national curriculum for secondary school on agriculture. This study focused on teachers' instructional competency needs for planning, teaching the content, and teaching methods to teach prevocational agriculture at Junior Secondary Schools for agricultural productions. The result of the study showed that teachers of prevocational agriculture need competencies in the areas of planning, teaching content, and teaching methods to achieve agricultural production as well as secondary school agricultural science, agricultural education graduate, and other agricultural-related courses or professional that will increase agricultural production in Nigeria.

Recommendations

Based on the findings of the study, the following recommendations were made for implementation by the stakeholders:

1. Incentives and motivation should be given to teachers that are not qualified by government to obtain further studies to become professionals.
2. Non-governmental organizations, private business individual can organize workshops, conferences, agricultural shows to create interest in the youth to take up careers in agriculture.
3. Agricultural science teachers at the Junior Secondary Schools should make use of the National Secondary School agricultural science curriculum effectively in carrying out duties and instructional responsibilities.
4. Supervisors of education should ensure strict adherence to the planning, teaching of the contents and appropriate use of teaching methods when teaching.

References

Adekola, B. O. (2014). Collaborative learning method and its effect on students' academic achievement in teaching comprehension. *European Journal of Humanities and Social Science*, 32(1), 1768 1775.

Amusa, T. A. (2009). *Competency improvement needs of farmers cocoyam production in Ekiti State, Nigeria* Unpublished project submitted to the Institute of Education, University of Nigeria, Nsukka.

Azih, N., & Nwosu, B. O. (2011). Effects of instructional scaffolding on the achievement of male and female students in financial accounting in secondary schools in Abakaliki Urban of Ebonyi State, Nigeria. *Current Journal of Education*, 5(2), 43 48.

Bakare, J. A. (2017). Management skills required by farmers in making cell phone effective for boosting agricultural education. *Teachers Association of Nigeria*, 1(1), 264 272.

Bareja, B. G. (2014). *What is agriculture, definition agriculture*. Retrieved from: https//www.cropsreview.com.what-is-agriculture.html

Dumbili, D. N. (2016). Professional improvement needs of agricultural science for effective teaching in senior secondary school in Delta State. *Technical and Vocational Education Journal*, 5(1), 79 -89.

Federal Republic of Nigeria (2007). *National curriculum for secondary school agricultural science*. Federal Government of Nigeria (2014). National policy on education. NERDC Press.

Ifeanyieze, F. O., Iheji, A. & Ishiwu, E. C. (2014). Competency improvement needs of lecturers of agricultural education in maintenance of equipment in university in South-East, Nigeria for production of employable graduates. *Nigerian Journal of Educational Research and Evaluation*, 13(1), 115-124.

Ndem, J. U. (2013). Achieving food security through effective skill training in agriculture at the secondary level. *Journal of Qualitative Education in Nigeria*, 13(1), 34-45.

Nwagwu, P. A. (1998). *Teachers and teaching in Nigeria: Issues, challenges and projects of the Nigerian academics of education.* Yearbook 2.

Mkpa, N. D. (2009). *Teaching methods and strategies for curriculum, theory and practice*. Retrieved from www.google.com 18/7/22

Okonkwo, A. F. (2014). Effects of collaborative instructional strategy on students' achievement in essay writing in English in Abakaliki Urban Education Zone of Ebonyi State. *Research Journal of Education*, 5(2), 43 48.