British International Journal of Education And Social Sciences
Vol.7, No.10; October- 2020
ISSN (3342 – 543X);
p –ISSN (4519 – 6511)
Impact factor: 8.11

UTILIZATION OF INSTRUCTIONAL MATERIALS BY AGRICULTURAL SCIENCE TEACHERS FOR IMPROVED ACADEMIC PERFORMANCE OF STUDENTS IN SECONDARY SCHOOLS IN EBONYI STATE

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Abstract: *The purpose of this study was to determine the extent of utilization of instructional materials by agricultural science teachers for improved academic performance of students in secondary schools in Ebonyi State. The study adopted a descriptive survey research design. Two research questions and two null hypotheses guided the study to achieve the purpose of the study. The null hypotheses were tested at probability of 0.05 level of significance and appropriate degree of freedom. The population of the study comprised 470 agricultural science teachers and principals of secondary school. Purposive sampling was used in sampling 140 principals and 249 teachers. The sample size was 389. It was this population that was used for the study. Structured questionnaire was used for data collection made up of 52 items. The instrument was validated by three experts and Cronbach Alpha Statistics was used to determine the internal consistency of the instrument and a coefficient of 0.72 was obtained. A total of 371 copies of questionnaire were retrieved and analysed using weighted mean and standard deviation to answer the research questions and t-test was used to test the null hypotheses. The findings of the study revealed among others that agricultural science teachers select and utilize instructional materials such as improvised materials, audio visual aids, computers, pictures, concrete materials, scientific laboratories, fish pond, farm visits, livestock pen etc to a low extent in Ebonyi State. The null hypotheses tested showed that there was no significant difference between the mean ratings of principals and agricultural science teachers with respect to the extent teachers utilize instructional materials in Ebonyi State. Based on the findings, it was recommended that teachers should select appropriate instructional materials, principals should adequately supervise agricultural science teachers to ensure that they select and utilize instructional materials and the use of the identified instructional materials should be emphasised by the ministry of education during workshops and seminar to teachers.*

Keywords: *Instructional Materials, Utilization, Agricultural Science Teachers, Improve, Academic Performance.*

Introduction

Agricultural science is one of the vocational subjects taught in secondary schools to prepare and equip students with the necessary skills that will make them employable after graduation. It is an integration of many of the basic, pure and applied sciences such as chemistry, biology, physics etc. (Ogbodo, 2016). Agriculture according to National Economic Empowerment Development strategy (NEEDS, 2015) is defined as the application of scientific principles to the growing of crops and rearing of animals for man's use. The role played by agriculture according to Iwena (2017) includes provision of food, shelter, employment, raw materials for industries and a means of foreign exchange. It is through agriculture that food security may be achieved, hence the need to ensure that

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Vol.7, No.10; October- 2020
ISSN (3342 – 543X);
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secondary school students who are future farmers are properly trained in agricultural science.

Agricultural science in secondary school provides students with operative, manipulative, managerial and necessary skills for making a beginning in farming. The objectives of secondary school agriculture according to New National Curriculum as cited by Ukonze (2012) are to:

1) Stimulate and sustain students interests in agriculture
2) Import functional knowledge and practical skills in agriculture to students.
3) Prepare students for further studies in agriculture
4) Prepare students for occupation in agriculture

In order to succeed in reaching the above objectives, it is necessary that teachers of agricultural science in secondary schools should use instructional materials while delivering their lessons. Instructional materials according to Akinmoyewa (2010) are materials that supplement the verbal description by which teachers make their points clear so that the students will find it easy to acquire more understanding of the topic. Jubril (2010) views it as any material gadget or equipment that can be used in the course of teaching to make the lesson more interesting and meaningful to the learners. This implies that any resource that the teacher uses to help him/her to teach the students is an instructional material. In agricultural science, most teaching and learning modules are supposed to be done by means of instructional materials in form of equipment and machines, which make instructional facilities to be of paramount importance. Agriculture is a practical oriented subject that needs land laboratory (farm), scientific laboratory, pictures, tools, conducive classroom, textbooks, livestock shed and pasture, laboratory hardware and equipment for practical demonstration (Akpe, 2019). These facilities interact to elicit the acquisition of both knowledge and practical skills by the learner. This implies that instructional materials (teaching aids) are as important as curriculum content and they must be given due attention and treatment in the entire teaching with respect to selection.

Selection is an aggregate of things displayed for choice, purchase, etc, a group from which a choice may be made (www.dictionary.com/browse/selection2020). It may also be seen as a careful choice of a particular person or thing from a group of similar people or things Longman (2020). With respect to this study, instructional materials selection is the processing of choosing from a group of things (teaching aids) that can be used in the course of teaching to make the lesson more interesting and meaningful to the learners. According to Mbah (2012), instructional materials selection and utilization in has given instruction enables a competent teacher to transmit the skills and knowledge with less difficulty. This helps the child (learner) to think because the learner has been given the material to work with. Instructional materials helps to stimulate learning in an environment as opposed to an environment without adequate teaching aids. This means that agricultural Science teachers should provide these teaching aids (facilities) in form of objects, pictures, diagrams, charts, cartoons, textbooks, workbooks, etc.

A teacher of agriculture is one who is trained in knowledge and skills as well as methodology of impacting the skills to students. A teacher of agriculture is described by Olaitan and Mama (2011) as a pivot of the success of agriculture development in the school. The authors went further to outline the functions of an agriculture science teacher as (1) impacting knowledge and skills in various areas of agriculture such as crop, production, soil science, animal science, forestry, fisheries and agriculture management (2) encouraging students to promote growth and development of agriculture. The school through cooperatives and clubs (3) stimulate interest to participate in agriculture activities in the school. This implies that these responsibilities of agriculture teacher will equip the students with adequate knowledge and skills for improved performance in agriculture.

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A student of agriculture can be viewed as a person who is interested in studying agriculture at the secondary school and has enrolled in order to acquire knowledge, skills and attitudes in agricultural science, (Nwosu, 2015). Aneke (2014) noted that it is at the secondary school that students of agriculture are prepared for further studies at the tertiary institutions. Teachers of agricultural science are expected to make adequate plans and present their lessons using relevant instructional materials that would help in transferring knowledge and skills in agricultural science. Ability to use relevant instructional materials shows how competent the teacher is in teaching the subject which will definitely manifest in the students' academic performance.

Academic performance is the extent to which a student, teacher or institution has attained their short or long term educational goals. Williams (2018) sees academic performance as the ability to master a diverse set of skills which extends to achievement outside the classroom. It illustrates intelligence, curiosity and persistence, and qualities attractive to universities and employers. This shows the need for agricultural science teachers to use instructional materials in teaching.

The goal of teaching is to bring about desirable changes in the students' academic performance. Teaching is any activity that helps learners acquire knowledge and think independently (Nnaji, 2017). Eze (2016) sees it as a two way traffic system involving exchange of ideas between the teacher and the students. It is quality teaching that usually influences the academic performance of the students in the subject area. This implies that the agricultural science teachers should employ the necessary methods including utilization of instructional materials in teaching agricultural Science.

For a teacher of agriculture, to perform creditably, one must utilize the competencies gained through training in the use of instructional materials for effective teaching and improved academic performance of the students. Utilization according to Orikpe (2013) deals with making appropriate use of needed capabilities in other to perform a task. The training of students in agricultural science in secondary school needs the utilization of instructional materials to ensure interest development and improved academic performance in future endeavours of the students. But it was observed by Ebenebe (2012) that most agricultural science teachers do not teach with instructional materials thereby making the lesson boring, uninteresting and encourages rote-learning. Equally, it has been observed by the researcher that agricultural science teachers use only lesson notes without instructional materials for lesson delivery. The use of only lesson note lack the instructional delivery method to effectively cause a change in behaviour of the learner. This according to Olaitan and Mama (2011) has resulted in secondary school graduates not acquiring the basic competencies that will enable them fix themselves into the world of works of agriculture in order to make a living. Philips (2011) also submitted that instructional materials are essential for effective agricultural science teaching. Philip noted that these materials do not only awake desires and interest but provide motivation and stimulation. A science oriented subject like agriculture, which is more of practical in nature needs laboratories, conducive classrooms, textbooks, land laboratory (farm), livestock sheds and pasture for effective learning.

In Ebonyi State which is the study area, it seems that teachers of agricultural science find it difficult to use instructional materials or take the students out for practical demonstration despite the fact that there is provision of land laboratories (farm) and scientific laboratories in the school. One now wonders how these agricultural students will acquire the necessary knowledge and skills in agriculture to make them saleable after graduation and to perform better academically. This trend seem to have contributed to poor performance of students in agricultural science in Senior Secondary Certificate Examination. This is not acceptable because secondary education is meant to prepare individuals for useful living and for higher education thereby leading to the provision of trained

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manpower required for national development. It is against this background that the need arose to determine the extend of utilization of instructional materials by agricultural science teachers for improved academic performance of students in secondary schools in Ebonyi State.

Purpose of the Study

The major purpose of the study was to determine:

1. the extent to which agricultural science teachers select appropriate instructional materials for improved academic performance of students in secondary schools in Ebonyi State.
2. the extent to which agricultural science teachers utilize instructional materials for improved academic performance of students in secondary schools in Ebonyi State.

Research Questions

The following research questions guided the study:

1. What is the extent to which agricultural science teachers select appropriate instructional materials for improved academic performance of students in secondary schools in Ebonyi State?
2. What is the extent to which agricultural science teachers utilize instructional materials for improved academic performance of students in secondary schools in Ebonyi State?

Hypothesis

Ho_1: A significant difference do not exist in the mean ratings of the responses of agricultural science teachers and principals on the extent teachers select appropriate instructional materials for improved academic performance of students in secondary schools in Ebonyi State.

Ho_2: A significant difference exist in the mean ratings of the responses of agricultural science teachers and principals on the extent teachers utilize instructional materials for improved academic performance of students in secondary schools in Ebonyi State.

Research Method

The study adopted descriptive survey research design. This is because the study collected data from agricultural science teachers and principals in secondary schools. The study was carried out in public secondary schools in the three education zones of Ebonyi State. These education zones are Abakaliki, Afikpo and Onueke. The population for the study comprised principals and agricultural science teachers in the two hundred and twenty one (221) public secondary schools in the three education zones of Ebonyi State. (Source: Ebonyi State Secondary Education Board, Abakaliki). The 221 principals and 249 agricultural science teachers totalling 470 was used for the study. The sample size was determined using purposive sampling technique. 140 principals were sampled based on secondary school in their school having agricultural science teachers while all the 249 agricultural science teachers were used for the study.

A self-structured questionnaire was used as instrument for data collection. The questionnaire contained a total of 52 structured items on the extent of usage of instructional material items generated from an extensive review of literature and information from agricultural science teachers. Each instructional material item had a four point response scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE).

The instrument was subjected to face validation by two experts from the Department of Technology and Vocational Education and one from the Department of Measurement and Evaluation, Faculty of Education, Enugu State University of Science and Technology, Enugu. They validated the instrument to ensure the appropriateness of the measuring instrument and that the instrument was structured to address the purpose of the study (Uzoagulu, 2011). The comments of the validators were used to modify the final instrument used for data collection. The reliability of the instrument was determined by using Cronbach Alpha reliability method to determine the internal consistency of the instrument. The cluster yielded a coefficient reliability of 0.72.

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A total of 389 copies of the questionnaire was distributed to the respondents with the help of three research assistants. These assistance were given orientation to assist the researcher in administering the instruments to the respondents. A total of three hundred and seventy one (371) were properly filled and returned. The return rate was 95%. It was this 371 properly filled copies that was used for data analysis.

The data collected was analysed using weighted mean with standard deviation to answer the research questions. The t-test was used because the researcher made use of two groups – principals and teachers. The decision was based on the principle of real limit of mean, thus:

Very High Extent (VHE) - 3.50 – 4.00

High Extent (HE) - 2.50 – 3.49

Low Extent (LE) - 1.50 – 2.49

Very Low Extent (VLE)- 1.00 – 1.49

The null hypothesis was rejected if the t-calculated was less than the t-critical, but accepted if the t-calculated exceeds the t-critical.

Result

The result obtained from the data analysed are presented in tables below according to the research questions and hypotheses that guided the study.

Research Question I

What is the extent to which agricultural science teachers select appropriate instructional materials for improved academic performance of students in secondary schools in Ebonyi State?

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Table 1

Mean ratings and standard deviation of respondents on the extent agricultural science teachers select appropriate instructional materials for improved academic performance of students in Ebonyi State.

S/N	The extent agricultural science teachers select the following appropriate instructional materials are	Principals		Teachers		Overall		Decision
		$\bar{X}_1$	SD_1	$\bar{X}_2$	SD_2	$\bar{X}$	SD	
1.	Lesson notes	2.68	0.47	2.64	0.48	2.66	0.47	HE
2.	Improvised materials	2.49	0.52	2.16	0.79	2.32	0.66	LE
3	Simple tools	2.57	0.56	2.72	0.50	2.65	0.53	HE
4	Audio visual aids	2.08	0.78	2.15	0.57	2.12	0.68	LE
5	Work books	2.03	0.57	2.51	0.51	2.52	0.54	HE
6	Resource persons	2.43	0.56	2.51	0.86	2.47	0.71	LE
7	Farm visits (established farms)	2.40	0.50	2.01	0.71	2.21	0.61	LE
8	Plants and animal products	2.42	0.63	2.49	0.57	2.46	0.60	LE
9	Multimedia (e.g. film show)	2.06	0.83	2.25	0.73	2.16	0.78	LE
10	Exhibits	2.47	0.59	2.38	0.78	2.43	0.69	LE
11	Agricultural show	2.01	0.62	2.65	0.59	2.33	0.61	LE
12	Traditional resources	2.12	0.67	2.50	0.50	2.31	0.59	LE
13	Computer aided instruction	2.43	0.75	2.50	0.50	2.46	0.63	LE
14	Textbooks	2.53	0.57	2.51	0.51	2.52	0.54	HE
15	Life examples materials (e.g. animals in sects, etc.	2.23	0.87	2.01	0.48	2.12	0.68	LE
16	Livestock pens/pasture	2.43	0.56	2.51	0.86	2.47	0.71	LE
17	Teacher made resources (carrying the teacher creates e.g. hand-outs, projects work sheets, quizzes, tests)	3.01	0.51	3.19	0.87	3.10	0.69	HE
18	Fish pond	2.35	0.57	2.45	0.74	2.40	0.66	LE
19	Scientific laboratories	2.01	0.72	2.23	0.84	2.12	0.78	LE
20	Flow charts, diagrams, tables, graphs (graphic organizers)	2.26	0.77	2.62	0.99	2.44	0.88	LE
21	School farms (land laboratory)	3.25	0.67	3.46	0.53	3.36	0.60	HE
22	Concrete objects (e.g. soil sample fertilizes, organic manure, etc)	2.35	0.65	2.45	0.83	2.40	0.74	LE
23	Pictures/pictorials	2.07	0.67	2.49	0.81	2.28	0.74	LE
24	Diagrams	2.50	0.50	2.75	0.44	2.63	0.47	HE
25	Charts	2.26	0.77	2.62	0.99	2.44	0.82	LE
26	Fliers	1.98	0.93	2.27	0.85	2.13	0.89	LE
	Grand Cluster value	**2.39**	**0.64**	**2.50**	**0.68**	**2.42**	**0.66**	**LE**

The data presented in Table 1 shows that the items denoted by item 1, 3, 5, 14, 17, 21 and 24 were identified as appropriate instructional materials selected by the agricultural science teachers to a high extent. They had mean ratings of 2.66, 2.65, 2.52, 2.52, 3.10, 3.36 and 2.63 respectively. Other items had mean ratings ranging from 2.12 to 2.47 indicating that these items were selected by agricultural science teachers to a low extent in Ebonyi State.

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Hypothesis 1

A significant difference do not exist in the mean ratings of the responses of agricultural science teachers and principals on the extent teachers select appropriate instructional materials for improved academic performance of students in secondary schools in Ebonyi State.

Table 2

Summary of t-test analysis of mean ratings of agricultural science teachers and principals on the extent agricultural science teachers select appropriate instructional materials for improved academic performance of students in secondary schools in Ebonyi State.

Respondents	N	t_{-cal}	df	Sig	Mean difference	Decision	Std error difference
Principals Agricultural science teachers	140 231	0.784	369	0.384	2.68002	0.39506	NS

The t-test analysis presented in Table 2 above shows that the t-value at 0.05 level of significance and 369 degree of freedom for the 26 items is 0.784 with significant value of 0.834. Since the significant value 0.384 is more than the 0.05 level of significance, the null hypothesis is not significant. The implication is that there is no significant difference between the mean ratings of principals and agricultural science teachers on the extent of selection of appropriate instructional materials for improved academic performance with respect to these 26 items in Ebonyi State. Therefore the null hypothesis of no significant difference was not rejected.

Research Question 2

What is the extent to which agricultural science teachers utilize instructional materials for improved academic performance of students in secondary schools in Ebonyi State?

Table 3

Mean ratings and standard deviation of respondents on the extent agricultural science teachers utilize instructional materials for improved academic performance of students in Ebonyi State.

S/N	The extent agricultural science teachers utilize the following instructional materials are	Principals		Teachers		Overall		Decision
		$\bar{x}_1$	SD_1	$\bar{x}_2$	SD_2	$\bar{x}$	SD	
1.	Lesson notes/plan	3.25	0.65	3.35	0.53	3.30	0.59	HE
2.	Improvised materials farm	2.13	0.59	2.24	0.73	2.19	0.66	LE
3	Simple farm tools	2.75	0.44	2.50	0.50	2.63	0.47	HE
4	Audio visual aids	1.96	0.93	2.27	0.85	2.12	0.89	LE
5	Work books	3.25	0.69	3.48	0.53	3.37	0.61	HE
6	Resource persons	2.10	0.75	2.25	0.73	2.18	0.74	LE
7	Farm visits (established farms)	2.23	0.87	2.01	0.48	2.12	0.68	LE
8	Plants and animal products	2.05	0.64	2.44	0.56	2.25	0.60	LE
9	Multimedia (e.g. film show)	2.45	0.59	2.51	0.83	2.48	0.71	LE
10	Exhibits	2.17	0.52	2.35	0.66	2.26	0.59	LE
11	Agricultural show	2.29	0.60	2.30	0.52	2.30	0.56	LE
12	Traditional resources	2.23	0.92	2.28	0.68	2.26	0.80	LE
13	Computer aided instruction	2.50	0.50	1.98	0.93	2.24	0.72	LE

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14	Textbooks	2.68	0.47	2.64	0.48	2.66	0.48	HE
15	Life examples materials (e.g. animals in sects, etc.	2.43	0.54	2.46	0.87	2.45	0.71	LE
16	Livestock pens/pasture	2.47	0.69	2.28	0.74	2.38	0.72	LE
17	Teacher made resources (e.g. hand-outs, projects work sheets, quizzes, tests)	2.50	0.50	2.75	0.44	2.63	0.47	HE
18	Fish pond	2.00	0.75	2.25	073	2.13	0.74	LE
19	Scientific laboratories	2.05	0.64	2.44	0.56	2.25	0.60	LE
20	Flow charts, diagrams, tables, graphs (graphic organizers)	2.14	0.51	2.25	0.84	2.20	0.68	LE
21	School farms (land laboratory)	2.50	0.50	2.75	0.44	2.63	0.47	HE
22	Concrete objects (e.g. soil sample fertilizes, organic manure, etc)	2.09	0.91	2.49	0.50	2.29	0.71	LE
23	Pictures/pictorials	2.20	0.71	2.60	0.78	2.40	0.75	LE
24	Diagrams	2.53	0.57	2.51	0.51	2.52	0.54	HE
25	Charts	2.01	0.71	2.40	0.50	2.21	0.61	LE
26	Fliers	2.39	0.59	2.24	0.84	2.32	0.72	LE
	Grand Cluster value 26 items	**2.35**	**0.64**	**2.47**	**0.64**	**2.41**	**0.62**	**LE**

The data presented in Table 2 shows that the items denoted by item 1, 3, 5, 14, 17, 21, and 24 were identified as instructional materials utilized by agricultural science teachers high extent. They had mean ratings of 3.30, 2.63, 3.67, 2.66, 2.63, 2.63 and 2.52 respectively. Other items had mean ratings ranging from 2.13 to 2.48 indicating that these items were utilized by agricultural science teachers to a low extent in Ebonyi State.

Hypothesis 2

A significant difference do not exist in the mean rating of the responses of agricultural science teachers and principals on the extent agricultural science teachers utilize instructional materials for improved academic performance of students in secondary schools in Ebonyi State.

Table 4

Summary of t-test analysis of mean ratings of agricultural science teachers and principals on the extent agricultural science teachers utilize instructional materials for improved academic performance of students in secondary schools in Ebonyi State.

Respondents	N	t_{-cal}	df	Sig	t_{-tab}	Mean difference	Std error difference	Decision
Principals Agricultural science teachers	140 231	0.862	369	0.103	0.38	2.656	0.3871	NS

The t-test analysis presented in table 4 shows that the t-value at 0.05 level of significance and 369 degree of freedom for the 26 items is 0.862 with significance, value of 0.103. Since the significant value 0.103 is more than the 0.05 level of significant, the null hypothesis is not significant. The implication is that there is no significant difference between the mean ratings of principals and agricultural science teachers on the extent of utilization of instructional materials for improved academic performance with respect to these 26 items in Ebonyi State. Therefore the null hypothesis of no significant difference was not rejected.

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Findings

The following findings were made based on the result of the data analysed.

1. Agricultural science teacher select appropriate instructional materials to a low extent for improved academic performance of students in secondary schools in Ebonyi State.
2. A significant difference did not exist between the mean ratings of the responses of agricultural science teachers and principals on the extent agricultural science teacher select appropriate instructional materials for improved academic performance of students in secondary schools in Ebonyi State.
3. Agricultural science teacher utilize instructional materials to a low extent for improved academic performance of students in secondary schools in Ebonyi State.
4. A significant difference did not exist between the mean ratings of the responses of agricultural science teachers and principals on the extent teachers utilize instructional materials for improved academic performance of students in secondary schools in Ebonyi State.

Discussion

The result of the study according to research question one showed that all the itemized instructional materials were selected by agricultural science teachers to a low extent. These items had a grand mean of 2.42 and standard deviation of 0.66. The instructional materials include improved materials, audio visual aids, resource persons, farm visits, agricultural shows, fish ponds, multimedia, computer aided instruction, livestock pens/pasture, scientific laboratories, concrete objects, pictures and fliers. The implication of this is that agricultural science teachers in the study area have not realized the positive impact of instructional materials on the academic performance of students. This findings is against the opinion of Mbah (2012) that instructional material selection and utilization enables a competent teacher to transmit the skills and knowledge with less difficulty. The author gave examples of teaching aids as objects, pictures, diagrams, charts, cartons, etc. Akpe (2019) in supporting Mbah (2012) stated that instructional materials are those teaching aids that enable the teacher to impact the knowledge for proper understanding by the learners. In the view of Akinmoyewa (2010), instructional materials supplement the verbal description by which teachers make their points clear so that the students find it easier to acquire more understanding of the topic. It should equally be noted that agricultural science is a practical oriented subject that needs land laboratory, scientific laboratories, pictures, tools, livestock pens/pasture, conducive environment, agricultural shows, visits to established farms, equipment for practical demonstration etc. Therefore selecting the appropriate instructional material at any given time will help to elicit the acquisition of both knowledge and practical skills by the learners – which will help in improving the academic performance of the students as well as meet the needs of the students who will become future farmers.

The hypothesis tested on selection of appropriate instructional materials showed that there is no significant difference in the mean ratings of agricultural science teachers and principals regarding the extent of selection of appropriate instructional materials by the teachers. The non-significant difference showed that the respondents were not influenced with respect to the responses to these items.

A grand mean of 2.41 with standard deviation of 0.62 were obtained for all the items 1 – 26 on instructional materials to be used to improve the academic performance of the students in secondary school. This showed that all the itemized instructional materials are generally utilized to a low extent by the teachers. These instructional materials include improvised materials, audio visual aids, resource persons, farm visits, multimedia, exquisites, computer aided instruction, livestock pens and pasture, fish pond, scientific laboratories, concrete objects, pictures and fliers. This upholds the observation made by Ebenebe

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(2012) that most agricultural science teachers do not teach with instructional materials thereby making the lesson boring, uninteresting and encourages rote-leaning. This is also in line with Orikpe (2013) who states that utilization is making appropriate use of needed capabilities in order to perform a task. For a teacher to perform creditably, the teacher must utilize the competencies gained through training in the use of instructional materials for effective teaching so as to improve the academic performance of the students. This is also in line with Akinmoyewa (2010) that opined that instructional materials are materials that supplement the verbal description by which teachers make their points clear so that the students find it easier to acquire more understanding of the topic. Jubril (2010) also supporting Akinmoyewa stated that instructional materials are gadgets or equipment that can be used in the course of teaching to make the lesson more interesting and meaningful to the learners. This implies that in order to stimulate and sustain students' interest in agriculture and acquire basic knowledge and practical skills in agriculture, which are among the objectives of agriculture in secondary schools, the teachers must utilize structural materials to a high extent.

Furthermore, Ajayi (2011) noted that instructional materials provide the direct interaction of the students with the realities of the social and physical environment. They give initial concepts which are correct, real and compete. Orikpe (2013) opined that instructional materials do not only awake zero desires and interest, but provides motivation and stimulation. This implies that agricultural science as a practical oriented subject needs the teachers to use scientific laboratories, pictures, tools, livestock houses and pastures, concrete objects, computer aided instructions, resource persons demonstrates farm visit etc to teach the students to improve their academic performance and equally meet the need of the students who will become future farmers.

Asuquo (2010) in supporting the need for utilization of instructional materials by agricultural science teachers to a high extent opined that in this modern age of information and communication technology, computer has become necessary in teaching and learning. There is need that agricultural science teachers should utilize to a high extent computer and its facilities in order to impact knowledge and skills to the students to improve their academic performance. This is because computers and other ICT facilities could be used to present pictures, video and even demonstrate to the students the content of instructional package (Akpe, 2019). Offor (2012) equally indicated that students who learn with real objects are prone to gain the first hand information and learn by experience. This is because the learner can now think as the learner has been given the material to work with. This implies that teachers of agricultural science should provide the students with concrete objects in form of life examples of plants and animals and their products, tools, soil samples, manures (organic and inorganic) chemicals (e.g. herbicides, pesticides) farm inputs.

The study also revealed that the items the teachers utilize to a high extent were lesson notes, simple farm tools, work books, textbooks, teacher made resources (hand-outs, quizzes, tests, etc), school farms, diagrams. From the items listed, one may deduce that they are only the items the teachers see as being compulsory and can be easily available. This is against the submission of Jubril (2010) that in agricultural science most teaching and learning modules are supposed to be done by means of instructional materials in form of equipment and machines. Olaitan and Mama (2011) equally revealed that the use of only lesson note resulted in secondary school graduates not acquiring the basic competencies that will enable them fix themselves up into the world of work of agriculture in order to make a living. This shows that the utilization of appropriate instructional materials are as important and as curriculum content and they must be given due attention and treatment in the entire teaching.

The hypothesis tested on the utilization of instructional materials showed that there is no significant difference in the mean ratings of principals

and agricultural science teachers regarding the utilization of instructional materials by teachers. The non-significant difference showed that the respondents were not influenced with respect to the responses to these items or the principals and teachers position had no influence on their responses to the extent of utilization of instructional materials to improve the academic performance of students in secondary schools.

Conclusion

Agricultural science in secondary school provides students with operative, manipulative, managerial and necessary skills for making a beginning in farming when properly taught. In order to succeed in achieving the above and improve the students' academic performance, it is necessary that the agricultural science teachers in secondary school should use instructional materials while delivering their lessons. This is because instructional materials supplement the verbal description by which teachers make their points clear, so that the students will find it easier to acquire skills and have more understanding of the topic. Hence the goal of teaching is to bring about desirable changes in the students' academic performance and to acquire knowledge and think independently.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. Agricultural science teachers should select appropriate instructional materials for lesson delivery to elicit the acquisition of both knowledge and practical skills.
2. Agricultural science teachers should improve on their use of instructional materials for improved academic performance of the students.
3. Principals of schools should adequately supervise agricultural science teachers to ensure that they utilize instructional materials.
4. Government should provide schools with adequate instructional materials.
5. The use of the identified instructional materials should be emphasized by the ministry of education during workshops and seminars for teachers.

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