

In-Service Training Needs of Teachers for Effective Teaching of Agricultural Science in Secondary Schools in Benue State, Nigeria

¹Shijah, T. S.

*Department of Agricultural Education,
Joseph Sarwuan Tarka University,
Makurdi, Benue State, Nigeria.*

²Ekele, G. E.

*Department of Agricultural Education,
Joseph Sarwuan Tarka University,
Makurdi, Benue State, Nigeria.*

Abstract

The study determined the in-service training needs of teachers for effective teaching of agricultural science in secondary schools in Benue state Nigeria. . Survey research designed was adopted for the study. Three objectives and three research questions were used for the study. The population of the study was 295 participants, comprising 193 old Agricultural service teachers and 102 new Agricultural service teachers. All the population was used because it was manageable for the researchers to handle. Questionnaire title: In-service Training Needs questionnaire (ITNQ) was the instrument which was face and content validated by three (3) experts, all from Joseph Sarwuan Tarka University, Makurdi. To ensure the reliability of the instrument, it was trial tested on 30 respondents. Data was collected and analysed using Cronbach Alpha formula to determine the reliability coefficient of 0.94. The instruments were administered with the help of three trained research assistants. The instrument was an open-ended structure with a four-point rating scale response options of highly needed (HN), slightly needed (SN), not needed (NN), very high extent (VHE), high extent (HE), low extent (LE) and very low extent (VLE) with corresponding values of 4, 3, 2 and 1, respectively. Data collected were analysed using mean and standard deviation to answer research questions. The benchmark was that any item with a mean value of 2.50 or above was regarded as needed, while any item with a mean value of less than 2.50 was regarded as not needed. It was concluded that both old and new teachers need in-service training for effective teaching of Agricultural science in secondary schools in Benue state. It was therefore recommended among others that the government should make provision for training and retaining of teachers through seminars, workshops and conferences.

.Keywords: In-service Training Needs, Effective Teaching, and Agricultural Science Teachers.

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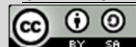
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INTRODUCTION

In-service training for teachers started some years ago in a number of ways in Nigeria. The expansion of the national education system and the subsequent shortage of qualified teachers led to the introduction of in-service training. In-service training is the training organised for professionals to refresh and replenish their knowledge on their professions. It is otherwise called training on the job (Roberts & Dyer, 2013). This means that professionals undergo the training while still on the job, which brings about professional development. In-service training used to be regarded as a form of practical training, short courses or longer formalized programmes. However, in-service training has been reconceptualised as the on-going professional development of teaching practitioners (Doerfert, 2016). The author further stated that, any teacher of agriculture who does not have a good grasp of the subject matter cannot possibly be a successful teacher, therefore teachers will be deemed as having been successful only if they express interest in further development of their professional skills and knowledge to function effectively as agricultural science.

Every active agricultural science teacher should be an effective teacher, current in subject matter and its pedagogy, have the knowledge of what is expected of a teacher and be

skilful hands, conscious in planning, and preparing delivery of lessons. The Federal Republic of Nigeria (FRN, 2013) in its National Policy on Education stated that the teacher factor is very crucial for the success of any educational system. The availability of teachers in sufficient number with relevant qualifications has been among the score point of basic education in Nigeria. Tarhir (2014) stated that teacher in- service education programs must be revised and expanded to develop more competent teachers in agriculture. (Onuka, 2019). Observed that good teachers are essential for the success of any national programme, especially agricultural science.

Teachers need to have good knowledge of their subject matter; they have to be well equipped with modern teaching methods to be able to stand the test of time and the need for up-dating these from time to time cannot be over looked. The objective of in-service training according to Umoh, (2016). include: (a) To produce teachers who have efficient ways of handling their teaching with most zeal, (b) To produce teachers who have the spirit of enquiry and creativity to be able to read the students properly, (c) To produce teachers who are all-round developmentally, (socially, mentally, morally, psychologically and emotionally) to be able to fit into the society in which they find themselves, (d) To produce teachers who have professional training properly equipped with in-depth knowledge to their various disciplines and (e) To create genuine love in teachers that is love for their profession therefore making them committed to the teaching profession. A teacher is a professional who imparts and facilitates the acquisition of knowledge. According to Dasko (2017) opine that a teacher is a person that imparts knowledge to people, teaches them how to read and write, and explains how problems are solved. A teacher guides the pupils or students and advises them on different matter in relation to their studies and life. Furthermore. Teacher sometimes plays the role of a parent to students by providing for them what they need in class and shows care when the need arises. In most cases, according to Dasko (2017), the teacher is intelligent, knowledgeable, patient, kind, loving, caring, honest, humble, friendly, calm, alert and smart.

These qualities are imperative for teacher because the teacher's responsibilities are enormous and they must be able to adapt to different personalities and situations around them. In the opinion of Quinton (2016) a teacher is more than someone who passes on knowledge; the teacher also provides the interaction, relationship, understanding and encouragement to enable a student or learner to attain his/her full potential. Azunku (2018), a teacher is a person who has acquired special competency required to effectively teach a particular subject area to a group of learners. A teacher is also viewed as someone who has undergone a teacher preparatory programme and charged with the responsibility of managing students (Encarta, 2019) A teacher is key to the learning processes of students in the classroom. In this study, an agricultural science teacher is a person who has acquired rigorous professional training in pedagogy and knowledgeable in different components of technical and vocational education and can teach any components to students at any level appropriate to his/her qualification such as agriculture

Agriculture was introduced into secondary school curriculum in 1967 (Agbulu and Wever, 2011). With the commencement of 6-3-3-4 system of education, agriculture was made a core subject at both junior and senior secondary school curriculum. The present 9 years of continuous schooling made agriculture as an elective subject at the junior secondary level. The broad objectives of agricultural education at secondary school level include: (a) To stimulate and sustain students' interest in agriculture; (b) To enable students acquire basic knowledge and practical skills; (c) To enable students integrate knowledge with skills; (d) To prepare students for further studies in agriculture; (e) To expose students to occupations in agriculture;

(f). To prepare students for opportunities in the field of agriculture. However, agricultural science teachers are saddled with the responsibility of ensuring the achievement of these objectives. There are innovative challenges in teaching agricultural science but unfortunately most teachers seem not to have taken these challenges into account.

Statement of the problem

In-service training programmes for teachers is essential in meeting the high demand of teachers in secondary school. Teaching is not routine job, especially, in this rapid changing global environment and teachers must be prepared to continuously learn to meet the challenges of their students. Unfortunately, four years of undergraduate education is not adequate for someone to master the subjects it on this note NPE (2004) recommends policy changes requiring universities and colleges to develop continuing education programme for preparing teachers to be current in their fields of studies. The provision of in-service training have made it necessary for teachers to update their knowledge for further improvement. Despite all the benefits it was observed teachers in Benue state seems not to understand that in-service training is a way of improving their competency. Further discussion with the teachers also revealed that most the teachers are not aware that in-service training enhances teachers' effectiveness in teaching of agricultural science hence the study

Purpose of the study

The main objective of the study is to examine in-Service training needs of teachers for effective teaching of Agricultural Science in secondary schools in Benue State, Specifically the study sought to:

1. Identify teacher's in-service training needs for effective teaching of Agricultural Science in secondary schools in Benue state.
2. Examine the content of in-service training programmes for agricultural teachers in Benue state.
3. Determine the extent of in-service training contributes to effective teaching of agricultural science in secondary schools in Benue state.

Research questions

Three research questions guided the study;

1. What are the in-service training needs for teaching agricultural science in secondary schools in Benue state?
2. What is the content of in-service training programme for agricultural teachers in secondary schools in Benue state?
3. What is the extent of contributions of in-service training to effective teaching of Agricultural science in secondary schools in Benue state?

METHODOLOGY

Descriptive survey research design was used for the study. The population of the study was 295 respondents comprising of 193 old agricultural in-service training teachers and 102 new agricultural training in-service teachers. There was no sampling because the researcher was able to manage the population. Questionnaire was used as instruments for data collection. The instrument was an open-ended structured with a four-point rating scale response options of highly needed (HN) slightly needed (SN), not needed (NN), very high extent (VHE), high extent (HE), low extent (LE) and very low extent (VLE) with corresponding values of 4,3,2 and 1 respectively. The instrument was face and content validated by 3 experts, all from the Joseph Sarwuan Tarkaa University Makurdi-Nigeria. The questionnaire was trial tested on

thirty (30) agricultural science teachers in Nasarawa state to determine the internal consistency of the questionnaire. Cronbach's Alpha method was used to establish internal consistency estimate of reliability coefficient. 0.94 indication the instrument was reliable. The researcher employed the services of three research assistants in administering the research questions. (295) copies of the questionnaires were administered to agricultural science teachers and two hundred and ninety-two were retrieved immediately and return which were used for data analysis. The data collected was analysed using descriptive statistics like mean to answer research questions. The bench mark was any item with a mean value of 2.50 or above was regarded as needed while any item with a mean value of less than 2.50 was regarded as not needed.

RESULTS

Research Question One

What are the in-service training needs for effective teaching of agricultural science in secondary schools in Benue state?

Table 1: Mean Ratings and Standard Deviation of Respondents on In-service Training Needs for Effective Teaching of Agricultural Science in Secondary Schools (N= 295: n₁ = 193 Old Agricultural Science Teachers; n₂ =102 New Agricultural Science Teachers)

S/N	Section A: Needs for Teacher Training	\bar{X}_1	SD ₁	\bar{X}_2	SD ₂	\bar{X}_g	SD _g	Rmk
1.	Very clear and concise statement of instructional objectives	2.83	.78	2.27	.78	2.81	.79	Needed
2.	Use of various methods of teaching	2.81	.84	2.77	.85	2.80	.85	Needed
3.	Use of very well written lesson notes	3.08	.88	3.06	.87	3.07	.88	Needed
4.	Teacher's mastery of the subject matter of instruction	2.95	1.01	2.91	1.02	2.94	1.01	Needed
5.	Use of good grammar during teaching	2.96	.87	2.93	.89	2.95	.88	Needed
6.	Regular attendance of well-organized field trips	2.96	.57	2.93	.60	2.95	.58	Needed
7.	Provision of adequate and clear guidelines during field trips	3.09	.95	3.08	.95	3.09	.95	Needed
8.	Well formulated code of conduct during field trips	2.65	1.16	2.61	1.17	2.63	1.17	Needed
9.	Supervision of students during field trips	3.55	.82	3.58	.81	3.56	.82	Needed
10.	Use of hosts, help during field trips	3.01	.74	3.00	.77	3.01	.75	Needed
11.	Use of adequate and appropriate equipment during farm laboratory practical	3.31	.93	3.31	.95	3.31	.94	Needed
12.	Demonstration	3.13	.92	3.14	.91	3.14	.92	Needed
13.	Giving clear instruction before and during farm laboratory practical	3.04	.65	3.00	.64	3.04	.65	Needed
14.	Supervision of students work	2.82	.61	2.91	.66	2.85	.63	Needed
15.	Provision for students' safety during farm laboratory practical	2.86	.69	2.94	.71	2.89	.70	Needed

SD_g = grand Standard deviation of respondents.

Data presented in Table 1 showed that all the 15-item statement on in-service training needs for effecting teaching of agricultural science in secondary schools in Benue state had their grand mean values ranging from 2.63 to 3.56, indicating that their mean values were above the cut-off point of 2.50. This shows that the respondents agreed that they were in-service training needs for effective teaching of agricultural science in secondary schools in Benue state. The Table also showed that the grand standard deviation of the items ranged from .58 to 1.17, indicating that the respondents were not too far from the mean and from the opinion of one another in their responses on in-service training needs for effective teaching of agricultural science in secondary schools in Benue state.

Research question 2

What is the content of in-service training programme for agricultural science teachers in secondary schools in Benue state?

Table 2: Mean Ratings and Standard Deviation of Respondents on the Content of In-service Training Programme for Agricultural Science Teachers in Secondary Schools (N= 295: n₁ = 193 Old Agricultural Science Teachers; n₂ =102 New Agricultural Science Teachers)

S/N	Section B: Content of In-service Training Programme	\bar{X}_1	SD ₁	\bar{X}_2	SD ₂	\bar{X}_g	SD _g	Rmk
16.	Communication in English	2.79	.65	2.89	.64	2.83	.65	Needed
17.	Library and Information Science	2.81	.65	2.92	.67	2.85	.66	Needed
18.	Peace studies and conflict resolution	2.81	.68	2.95	.70	2.86	.69	Needed
19.	History of education	2.82	.62	2.90	.63	2.85	.63	Needed
20.	Philosophy of education	2.76	.65	2.87	.65	2.80	.65	Needed
21.	General teaching methods	2.74	.61	2.83	.61	2.77	.62	Needed
22.	Educational planning and administration	2.77	.63	2.89	.64	2.81	.64	Needed
23.	Introduction to agriculture	2.72	.59	2.85	.63	2.77	.61	Needed
24.	Principles and method of agricultural education	3.62	.61	3.37	.77	3.53	.68	Needed
25.	Anatomy and physiology of farm animals	3.42	.67	3.18	.83	3.34	.74	Needed
26.	Crop anatomy, taxonomy and physiology	3.21	.77	3.12	.77	3.18	.77	Needed
27.	Introduction to soil science	3.23	.74	3.03	.82	3.16	.78	Needed
28.	Animals diseases	3.18	.68	3.50	.59	3.29	.67	Needed
29.	Introduction to farm machinery	3.26	.72	3.38	.71	3.31	.73	Needed

N= number of respondents, \bar{X}_1 = mean old agricultural science teachers, SD₁= standard deviation of old agricultural science teachers, \bar{X}_2 = mean of new agricultural science teachers, SD₂ = standard deviation of new agricultural science teachers, \bar{X}_g = grand mean of respondents SD_g = grand Standard deviation of respondents, Rmk=Remark

Data presented in Table 2 revealed that all the 14-item statement on the content of in-service training programme for agricultural science teachers in Benue state had their grand mean values ranging from 2.77 to 3.53, indicating that their mean values were above the cut-off point of 2.50. This shows that the respondents agreed that there were content of in-service training programme in Benue state. The Table also showed that the grand standard deviation of the items ranged from .61 to .78, indicating that the respondents were not too far from the mean and from the opinion of one another in their responses on the extent of the content of in-service programme for agricultural science teachers in Benue state.

Research question 3

What is the extent of the contribution of in-service training to the effective teaching of agricultural science in secondary schools in Benue state?

Table 3: Mean Ratings and Standard Deviation of Respondents on the Extent of the Contribution of In-service Training to the Effective Teaching of Agricultural Science in Secondary Schools (N= 295: n₁ = 193 Old Agricultural Science Teachers; n₂ =102 New Agricultural Science Teachers)

S/N	Section C: Contribution of In- service Training for Effective Teaching	\bar{X}_1	SD ₁	\bar{X}_2	SD ₂	\bar{X}_g	SD _g	Rmk
30.	Planning and delivering lessons to utilize higher order thinking	2.81	.73	2.75	.77	2.90	.75	H-Ext.
31.	Teaching leadership skills	2.80	.73	2.98	.79	2.80	.76	H-Ext.
32.	Development of teamwork and students collaboration	2.92	.77	2.93	.85	2.93	.81	
33.	Adopting innovative teaching methods	2.86	.84	2.81	.92	2.84	.87	H-Ext.
34.	Effective time management	2.87	.76	2.86	.82	2.87	.78	H-Ext.
35.	Meeting the needs of students leaning style	2.85	.58	2.82	.62	2.84	.60	H-Ext.
36.	Working with culturally, socially and economically diverse students	3.33	.85	3.33	.90	3.33	.87	H-Ext.
37.	Use of multimedia for curriculum implementation or delivery	2.97	1.03	2.91	1.11	2.95	1.06	H-Ext.
38.	Effective stress management by teachers	3.39	.83	3.51	.81	3.43	.83	H-Ext.
39.	Preparing students for higher learning opportunities	3.09	.78	3.12	.72	3.10	.77	H-Ext.
40.	Application of problem based learning	3.32	.78	3.27	.85	3.30	.81	H-Ext.
41.	Effective student-teacher relationship	3.25	.86	2.18	.53	2.88	.92	H-Ext.

N= number of respondents, \bar{X}_1 = mean of old agricultural science teachers, SD₁= standard deviation of old agricultural science teachers, \bar{X}_2 = mean of new agricultural science teachers, SD₂ = standard deviation of new agricultural science teachers, \bar{X}_g = grand mean of respondents SD_g = grand Standard deviation of respondents. H-Ext=Higher Extent, Rmk=Remark

Data presented in Table 3 showed that all the 12-item statement on the extent the in-service training contributes to the effective teaching of agricultural science in secondary schools in Benue state had their grand mean values ranging from 2.80 to 3.43, indicating that their mean values were above the cut-off point of 2.50. This shows that the respondents agreed that the in-service training contributes in high extent to the effective teaching of agricultural science in secondary schools in Benue state. The Table also showed that the grand standard deviation of the items ranged from .60 to 1.06, indicating that the respondents were not too far from the mean and from the opinion of one another in their responses on the extent of in-service training contributes to effective teaching of agricultural science in secondary schools in Benue state.

Discussion of findings

Results of the study in Table 1 revealed that all the 15-items were needed in in-service training needs for effective teaching of agricultural science in secondary schools in Benue state include: Clear and concise statement of instructional objectives, use of various methods of teaching, use of very well written lesson notes, teacher’s mastery of the subject matter of instruction, use of good grammar during teaching, regular attendance of well-organized field trips, provision of adequate and clear guidelines during field trips, and well formulated code of conduct during field trips among others. Their findings are in agreement with Hester (2017) and Agbulu and Ekele (2014) who maintained that use of very well written lesson notes, teachers’ mastery of the subject matter of instruction are in-service training needs for the effective teaching of agricultural science in secondary schools in Benue state.

The result of the study in Table 2 showed that all the 14- items are content of in-service training programme for agriculture, principles and method of agricultural education, anatomy and physiology of farm animals, educational planning and administration, history of education, philosophy of education, peace studies and conflict resolution, crop anatomy, General teaching

method among others. This is in consonance with Adeboyeje (2018) and Ojedeje (2019) who maintained that the courses taught during in-service training are introduction to agriculture educational planning and administration.

The result of the study in Table 3 revealed that all the 12-items are the extent of contribution of in-service training to effective teaching of agricultural science. This include teachers should use variety of teaching techniques to enhance learning outcomes, problems based learning should be used to teach agricultural concepts, planning and delivering lessons to utilize higher order thinking, teaching leadership skills, development of teamwork and students collaboration, adopting innovative teaching methods, effective time management, meeting the needs of students leaning style, use of multimedia for curriculum implementation or delivery, working with culturally, socially and economically diverse students among others. This is in agreement with Obi (2020) and Akpabio (2016) who maintained that teachers should use variety of teaching techniques to enhance learning outcomes and problems-based learning of agriculture.

Conclusion

Based on the findings of the study, it was concluded that the old and new agricultural science teachers in Benue state agreed on 41-items are for in-service training needs of agricultural science teaching in secondary schools in Benue State. The study also revealed that there was no significant difference in the mean rating of the response of old and new agricultural science teachers on in-service training need and the extent of contributions of in-service training for the effective agricultural science teaching in secondary schools in Benue state.

RECOMMENDATIONS

Based on the findings of the study, it was recommended among others that;

1. Government should make provision for training and re-training of teachers through seminars, workshops and conferences.
2. New innovation of learning techniques should be made available to the exposure of the teachers to enable acquaint themselves with new knowledge.
3. In-service training of teachers should be encourage regularly as a way of improving the effectiveness of teachers.

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