

Preparing Agriculture Teachers For An Ideal Agricultural Education Programme At Secondary School Level In Nigeria

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Abstract

The restructuring of Nigerian educational system to meet up with the quest for agricultural and technological development especially at the secondary school level, can only be achieved through effective preparation of teachers of Agriculture. This article discussed the characteristics, job descriptions, motivational roles of agricultural science teachers and the major components of an ideal agricultural education programme for agricultural teachers preparation. Agricultural organizations like Young Farmers Club and Supervised Agricultural Experience was discussed to constitute the agricultural education programme in secondary schools. The major conclusion of the article was that the personal qualities identified should either exist prior to becoming an agriculture teacher or be developed through in-service training, on-the-job training or workshops; and that being an effective agriculture teacher goes beyond classroom teaching or instruction. Based on the conclusions, recommendations were made.

Key Words: Agriculture Teacher, Agricultural Education Programme, Agriculture teacher preparation and Agricultural Education.

Introduction

The quest for technological advancement and economic sufficiency has made restructuring of the Nigeria educational system necessary especially at the secondary school level. The education in Nigeria whether formal, non-formal or informal provided for the youth and or for a personal achievement is presently discouraging. According to Jegede (1984), previous educational orientations given to youths are such that most of them can only be employable in the bureaucratic system of the public sector. This has adversely affected the social, industrial, economic and educational development of the nation.

Education is the aggregate of all the processes by means of which an individual develops abilities, attitudes and other forms of behavior of positive value in the society in which he lives (Fafunwa, 1984). The Nigerian child wants to become self-supporting and independent through his own labor and there are several vocational subjects that can provide skills in such subject area. One of such vocational area is agricultural education.

Agricultural Education is the teaching of agriculture, natural resources, and land management through hands on experience and guidance to prepare students for entry level jobs and further education to prepare them for advanced agricultural jobs (Phipps, Osborne,

Dyer, Ball, Lloyd, Edward, James, Anna, 2008). Areas of agriculture according to Iwena (2010) comprise general agriculture, crop production, livestock production, soil science and agricultural economics which constitute the five major areas in West African Senior Secondary Certificate Examination (WASSCE). Egbule (2004) defines agricultural education as a process of training learners in the process of Agricultural productivity as well as the techniques for teaching of agriculture. It is a subject taught in secondary schools as a means for self-reliance and preparation for further studies in agricultural related occupations. The child obtained an informal education in agriculture through a system of apprenticeship (Taiwo, 1982). Today's secondary educational environment is much more different from what is obtainable some years ago. Requirement for graduation and promotion to the next level are laborious. Besides, students are not given free hand to do elective courses for personal enlightenment, coupled with pressure of passing standardized examinations in form of formative, summative and even diagnostic evaluations (Grady & Dyer, 2004). This requires that effective ways of preparing and improving teachers especially, teachers of agriculture, from time to time through on- the- job training become imperative. Moreover, there are still many teachers that lack the expertise to execute instructions that will bring about better performance in the system (McLean & Camp, 2000). This may be due to the fact that little agreement exists between agriculture teachers about the specific coursework and experiences required to prepare an ideal teacher (McLean & Camp, 2000). Oguntimehin (1987) noted that a teacher including the teacher of agriculture should receive appropriate training in the subject area so that classroom instruction could be above board. Who then is an agriculture teacher?

Agriculture teachers prepare middle and high school students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber, and natural resources systems (Phipps. & Osborne, 1988). Agriculture teachers are trained and groomed from teacher preparation institutions for quality impact of agricultural skills, knowledge, attitudes and values for self-reliance, promotion of agriculture and food security in their future lives. It is therefore, the duty of this crop of teachers to; stimulate and sustain student's interest in agriculture, enable students acquire basic knowledge and practical skills in agriculture, enable students integrate knowledge with skills in Agriculture, prepare and expose students for occupation in agriculture. Attainment of the goals and objectives of agricultural science depends on effectiveness of teaching and learning going on. It has been observed that new content areas such as agricultural pollution, apiculture, snail production among others have been added into the new agriculture curriculum in the secondary school and the teachers are not adequately equipped to handle the tasks, hence, the need for adequate preparation of the teachers for the job. In order to address the above challenges, qualitative research design relying essentially on secondary documentary source material was adopted. Documents were sourced from relevant textbooks and journals and qualitative analysis was employed to organize the data. The article therefore focused on finding answers to the following questions to address the objectives: what are the characteristics of ideal teachers of agricultural education? What are the job descriptions for an agriculture teacher? What are the qualities of an ideal agriculture programme? How should such teachers of agriculture be prepared for an ideal agriculture education programme? Each of the above questions is discussed below for proper understanding of the situation on ground.

The Characteristics of an Ideal Agriculture Teacher

The agriculture teacher should possess the same characteristics which are briefly discussed below:

Ability of the Teacher to Plan and Execute Agricultural Instruction: Grady,& Dyer(2004) had emphasized that carrying out effective plan for instructions, effective evaluation of students achievement, communicating well with others, motivating students,

having love for agriculture i.e. being passionate for the subject matter; managing students behavior; maintaining students discipline in class, encouraging counseling, and advising students should constitute what teachers of agriculture should possess. According to Larsen (1992) to be able to effectively determine student's needs, use a variety of teaching techniques, apply science and other areas of curriculum into the agricultural programme, has excellent knowledge of the subject matter, being innovative; uses technology in the classroom, adapt well to changes, being capable of solving problems and handling many different tasks at the same time and is knowledgeable of teaching and learning theory are some of the characteristics of agriculture teacher. It would appear that many teachers of agriculture in secondary school today are deficient in instructional skills related to agricultural science instruction. This requires that agriculture teachers should be adequately prepared for the assignment of being a dynamic and respectful teacher of agriculture.

Ability to Organize Agricultural organizations: Agriculture teachers should have sound knowledge of agricultural organizations, programmes and associations and other professional bodies and become effectively involved in preparing students for agricultural activities. It requires well prepared teachers of agriculture to be able to exhibit the above competencies. Unfortunately, many teachers never belonged to any agricultural organization during their studentship and therefore, cannot effectively organize any agricultural activities or association in schools. One cannot give what he does not possess. Hence preparing agriculture teacher adequately for the tasks of executing an ideal agriculture programme in secondary school level of education becomes very necessary.

Ability to Engage in Supervised Agricultural Experience (SAE): Agriculture teacher according to Grady and Dyer (2004), should be knowledgeable and can actively supervise and encourage SAE projects in institutions. Preparing teacher of agriculture in such related area become very relevant.

Ability to Relate with the Community well: agriculture teacher should be able to work well with parents, establish and maintain good community relations and work well with allumnai and advisory groups. The teachers of agriculture according to Grady,& Dyer (2004) should be able to work well with other teachers and administrators in his/her school, maintain an effective public relations programme, and effectively recruit or admit new students.

Ability to Exhibit Professionalism/Professional growth: Teachers of agriculture should be able to put in extra hours, dedicate oneself to doing good job, display a positive professional image, enjoys teaching and exhibits a positive attitude towards the teaching profession, improves professionally by seeking opportunities for continued learning, and takes actions to prevent burnout and to re-energize himself/herself.

Ability to carry out Programme planning/management: Teachers of agriculture should be able to effectively manage, maintain and improve agricultural laboratories. Effectively manage, operate and evaluate the agriculture programmes on a continuous basis and effectively manage finances, grants, and special projects. This requires adequate preparation for the teacher of agriculture to be able to cope.

Personal qualities: Teachers of agriculture should be able to, care for students, he is motivated, self confident, honest, moral and ethical. Also the teachers of agriculture should be open minded, well organized, has excellent time management and is respectful.

From the foregoing discussions, one can deduce that, characteristics of an ideal agriculture teacher are developed and learnt which not all may be obtained within the 4-walls of the classroom environment. The teacher must first master those attributes that relates to instruction if he will remain relevant (Modebelu & Nwakpadolu, 2013). Bennet, Iverson, Rohs, Langstone, & Edward (2002), observed that ineffective teachers may be dissatisfied with the teaching career and may quit for other professions leaving countless students

without opportunity for education in agriculture. More so, there is a need to acquaint oneself with the job descriptions prior to making choice of being an agriculture teacher for those in training and to live up to the responsibility of already practicing teacher. Effective preparation of agriculture teachers become very necessary if the desired objectives are to be attained in order to achieve success in agricultural education programme at all levels of Nigerian educational system.

Agriculture teacher's job description

An ideal teacher should be prepared towards executing the following as outlined in the job description as presented by Phipps, Osborne, Dyer, Ball, Edward, James & Anna (2008) that any individual that professes to be an agriculture teacher must attain. These include the ability to: (i) Prepare course materials such as syllabi, homework, assignments, and handouts in agriculture related discipline, (ii) Evaluate and grade students' class work, laboratory work, assignments, and papers in agriculture, (iii) Keep abreast of developments in their field by reading current literature, talking with colleagues, and participating in professional conferences, (iv) Initiate, facilitate, and moderate classroom discussions, (v) Conduct research in agriculture related field of knowledge, and publish findings in professional journals, books, and/or electronic media, (vi) Supervise laboratory sessions and field work, and coordinate laboratory operations, (vii) Compile, administer, and grade examinations, or assign this work to others, (viii) Advise students on academic and vocational curricula, and on career issues, (ix) Plan, evaluate, and revise curricula, course content, and course materials and methods of instruction, (x) Maintain student attendance records, grades, and other required records, (xi) Collaborate with colleagues to address teaching issues, (xii) Maintain regularly scheduled office hours in order to advise and assist students, (xiii) Participate in student admission, registration, and placement activities, (xiv) Select and obtain materials and supplies such as textbooks and laboratory equipment, (xv) Act as advisers to student clubs e.g. young farmers club, (xvi) Participate in school and community events, (xvii) Serve on academic or administrative committees that deal with institutional policies, subject matters, and academic issues and (xviii) Perform administrative duties such as serving as head of department. Focus group discussion with some teachers of agriculture in secondary schools showed gross lack of agricultural knowledge and job description of the agricultural teachers currently teaching in the secondary school system today. Perhaps, such teachers in the system were not adequately prepared for the testing assignment for which they were initially prepared. The need for better preparation of agriculture teacher becomes very relevant if they must meet up with the current job requirement and challenges facing the agriculture education programme.

Note that an important step to becoming a truly professional as contained in Agriculture teacher education manual (A guide to local program success, 1997), highlighted some ethics to support the above assertion to include: never violate the integrity of a student, always speak positively about colleagues, avoid the use of appropriate language, realizes personal habits and often emulated by students, hold to high moral standards, stand firm on convictions as to what is right and wrong, hold fast to a single standard and avoid being alone with a student on non-academic issues. To be a successful teacher, motivation of students is a necessity (Foster & Finley, 1995). The paper is crowned up with 50 tips for motivating students which teachers can use in course of the programme as suggested by Sullivan & Wircenski (1988). Such tips include:

(1) Know your students, and use their names often, (2) Plan every class; never try to "wing it." (3) Pay attention to the strengths and limitations of each student. Reward their strengths and strengthen their weaknesses, (4) Set your room in a "U" shape to encourage interaction among students, (5) Send positive messages with posters, bulletin boards and pictures, (6) Be sure your classroom is comfortable; check air circulation, temperature, lighting and humidity,

(7) Keep the laboratory well organized and efficient, (8) vary your instructional strategies; use illustrations, lectures, demonstrations, discussions, computers, tutoring, coaching and others, (9) Review class objectives each day, and help students see the scope of the entire program and (10) Make your instruction relevant. Show students how the content relates to them and the world of work. For teachers of agriculture to demonstrate these motivational strategies, adequate preparation is needed in order to achieve success in agricultural education programme in secondary school level and other relevant institutions.

Preparing Agriculture teacher for Agricultural Education Programmes

The Agricultural education at junior and senior secondary level, have over the years been concentrated with theoretical instruction components. The teacher goes to class, plan, teach, and evaluate lesson without consideration for students' welfare, live experience in the real world and no partnership with other sectors. An ideal agriculture science curriculum should consist of programme of instruction, agricultural organizations in form of young farmers club, and Supervised Agriculture Experiences (SAEs). To develop a successful program, bind the three components together with a clear mission for the program and the teacher.

Instruction component consist of executing the teaching and learning process which answers questions such as what (content), how (methods), where (place), when (time) and why (objectives) of the subject matter (Lockaby & Vaughn (1999). Ten tips are available for success in lesson content delivery in classroom. These include: Plan the instructional program in advance, Prepare the lesson content well, Be present whenever possible, Be on time, Be personally interested in each member of the class, Be attentive to the physical conditions of the classroom, Begin and end promptly, Do not do all the talking and Do not permit arguments in the class, Realize your serious responsibilities, and Be interested in the members of the class. Each country education department typically has set course descriptions used by agricultural science education teachers. Use the document called the syllabus to collect outlines of materials to which the teacher is exposed through the pre-service training. Keep a written or tape-recorded diary on a daily basis.

The young farmers club and other farmers' organizations can provide motivation, fun and recognition for students, the program and the teacher. Ensure success by seeking information and encouraging student leadership.

Supervised agricultural experience (SAE) programs are teacher-supervised, individualized, hands-on, student-developed activities that give students real-world experience directly applicable to careers in the broad fields of agriculture. An SAE may involve student ownership of an agriculture-related enterprise or placement in an agriculture-related job, either at a job site or in a school agriculture laboratory. SAEs will be unique and vital components of the agricultural education program, and the role in guiding and supporting students is an important one (A guide to local program success.,1997). Preparing the agriculture teacher in accomplishing these required tasks in agriculture education programmes is very demanding. The article shall highlight some ways for preparing agriculture teachers to achieve the objectives of agricultural education programme.

Accordingly, the entry qualification, duration of programme of study, periods of teaching practice and methods of evaluation for agriculture education programme for agriculture teachers need to be improved. Firstly, one should possess a minimum of five credits in science subjects including mathematics and English language before being admitted to read agricultural education at NCE level unlike the practice now where pass in chemistry and mathematics is recommended. Also admission to any degree awarding institution be given to one who has NCE with upper credit or be given an extra year in the programme. This line of action should continue until one attains doctorate degree in agricultural education. Secondly, the duration of the programme should be four years for

NCE programmes with pre-NCE compulsory in order to incorporate new content areas introduced into the secondary school curriculum and to cope with the challenges of the 21st century and beyond which the subject come with it. Degree programme be increased to four years with one year internship scheme making up five years for teachers to be equipped with necessary skills needed in the world of work. The training institution should liaise with industry to actualize this dream. Thirdly, the period of teaching practice for agriculture teachers should be twelve months, 6 months at NCE level and 6 months at degree level. The teaching practice need to be spread out as follows; NCE 2, 3 months; NCE 3, 3 months and 3 months each for 300 level, and 400 level at degree category respectively. Lastly, in order to ensure adequate preparation for the agriculture teacher, evaluation component of the training programme should constitute 50% theory and 50% practical at all levels of the training programme except for the one year internship after degree programme that should be 100% practicals and should be carried out within the institution if it is properly equipped with facilities or outside the training institution if facilities needed for the internship is deficient.

Ways of preparing teachers of agriculture

a) For Pre-service teacher Preparation

(i) Preparing agriculture teacher through Hand-on Experience ('doing to learn, learning to do'): These offer preparation for any career one chooses. Teachers' of agriculture should adopt on-farm experience and move from theoretical teachings in class to field practicals. Hand-on experience exposes teachers of agriculture to what real world is like which cannot be accessed through book (ffanewshorizons.org/doing to learn).

(ii) Preparing Agriculture teacher through promoting the outstanding students who succeeds academically in agriculture and their career to become teachers (ffanewshorizons.org/doing to learn).

(iii) Preparing agriculture teacher through strict adherence to the provisions of the Teacher Registration Councils of Nigeria (TRCN) and other relevant bodies: TRCN (2005) spelt out that only registered, licensed and qualified teachers be allowed to practice the profession. There is need to accreditate, monitor and supervise all courses and programmes of teachers training to ensure that it meets up with national and international minimum standard. One year internship schemes for fresh agriculture education graduate to equip them with relevant professional skills before licensing them for full time practice. All teachers of agriculture should undergo a professional examination and interviews to determine teachers for registration.

(iv) Preparing agriculture teacher for subject matter requirement: subject content should encompass all the following dormains. The dormain include plant and soil science, Ornamental horticulture, animal science, environmental science and natural resource management, agricultural business and economics, and Agricultural system technology. According to Irving, Dickson, and Keyser (1999), improving teachers' content knowledge needs to be made a priority in national education.

(v) Agriculture teacher need to be trained in leadership in order to be effective in professional practices (Simonsen & Birkenholz, 2010). Preparing agriculture teacher for an ideal agriculture programme is therefore a collective responsibility of the institutions, stakeholders and professional bodies not forgetting the teachers themselves.

b) In-service Preparation for teachers of Agriculture

All certified teachers should be made to improve themselves through sandwich courses, workshops, conferences and short intensive training to improve teachers' deficiencies. This will make them be acquainted with the requirements of being good teachers of agriculture. Finally the moral aspect of the preparation for agriculture teachers is very relevant. These morality, values and ethics are embedded in the three religion bodies in Nigeria.

Recommendations

1. The Student Industrial Experience schemes (SIWES), a programme that enhances the acquisition of skills at the post-secondary level be introduced at secondary school level in form of hand-on experience.
2. Training and retraining of agriculture teachers be done on regular basis so as to enable them cope with new challenges in the subject.
3. Teachers should cultivate the habits of attending workshops seminars and conferences at local and international level for career development.
4. Only teachers who have acquired a minimum university degree on agricultural education and NCE and has been certified by the Teacher Registration Council of Nigeria (TRCN) be allowed to teach Agricultural science in the secondary schools.

Conclusion

In conclusion, to produce effective teachers, the personal qualities identified in this study must either exist prior to the time students enter teacher education programs, or be developed through in-service training, on-the-job training or workshops and being an effective agriculture teacher goes beyond classroom teaching or instruction.

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