

INNOVATIONS AND TRANSFORMATION IN TEACHING AND LEARNING OF VOCATIONAL AGRICULTURE

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Abstract

Innovations and transformation in teaching and learning of vocational agriculture is an essential part of agricultural science that enables students to understand the concept being taught. This paper therefore highlights its importance, problems in the context of agricultural education, required resources and strategies for effective teaching at the senior secondary level. Applications of relevant methods are proffered for effective teaching to take place. It recommends among others: constant review of curriculum which should be tailored to the need of industries so that products of vocational training are employable; repositioning of the teacher preparation institutions in order to enable them produce virile staff of agriculture for quality and quantity teaching and learning and government should collaborate with community to provide instructional aids and equipment for effective attainment of agricultural science goals.

Vocational Education is any form of education whose primary purpose is to prepare persons for employment in recognized occupations (Okoro, 1993). It has also been explained as the sum total of all educational experiences systematically organized and presented by an institution to enable the learner acquire basic productive skills (Oharisi, 2007). Therefore, Vocational Education also called

Career and Technical Education, prepares students for jobs and careers that are based on mostly manual or practical activities. The term does not apply to the development of professions acquired via tertiary institutions. Vocational education is low on theoretical or academic activity and is generally related to learning a specific trade or occupation. It is sometimes referred to as *technical education*, as the learner directly develops skills in a

particular trade that promotes considerable self – employment.

From ages past, vocational agriculture has been exclusively field oriented. The early man knew next to nothing about the laboratory yet, he was able to produce what he needed for his survival via subsistent farming which metamorphosed into large – sale mechanized farming as a result of science and technology development. Meanwhile vocational agriculture does not mean farming alone. Being a broad discipline, other areas such as animal husbandry, fishery, poultry and forestry are the scope of agriculture.

Vocational agricultural education is the type of education that is employed in training learners in the basic art of farming combined with the science of teaching of agriculture (Olayiwola, 1997). To live up to this belief, diversified strategies needed to be employed in its delivery.

According to Olotu (1992), there is hardly any teaching method which is not applicable to agricultural science teaching prominent among which are field trips/excursions, experimentation and inquiry approaches. As suitable as those strategies are, opined Olayiwola. (1997) appropriate choice and correct application are essential for meaningful achievement to be made. Against this background, the paper focuses on the strategies for teaching and learning agriculture for self

– reliance and transformation of the economy through increase in productivity.

Techniques for Teaching and Learning Agriculture for Self – Reliance

Acquisition and development of useful skills in Agricultural Education is affected by the following factors:

- (i) The curriculum
- (ii) The teacher and
- (iii) The implementation of the curriculum

The curriculum: This is the totality of all the teaching experiences meant for a group of learners under a given learning condition. The Encyclopedia of education (1971) defines curriculum as all the experiences that a learner has under the guidance of the school which include the goals, objectives, contents, process, resources as well as the means for evaluating all the learning experiences planned for the learner both in and out of the school. These include all the theoretical and practical work to be done. It therefore demands the acquisition of certain skills for mastery. The teaching and learning of the skills therefore present a special challenge to both the learners and their teachers. This therefore brings the teacher to focus in this discussion.

The teacher: He is an important single factor in a given school situation. His temperament, training and general disposition goes a long way in affecting

the entire learning outcomes. The teacher is an educator who knows the right approach to effective teaching and learning. This entails the ability:

- (a) to move with the trend in teaching method of teacher centred to learner centred method.
- (b) to plan lessons and write lesson notes
- (c) to utilize adequate teaching method per topic.
- (d) to utilize adequate teaching strategies
- (e) to utilize adequate instructional aids
- (f) to utilize adequate teaching skills
- (g) to implement the Chinese axiom which says: 'Don't give me fish but teach me how to fish'.

Egbule (2004) emphasized that every Agricultural Science teacher must be effective liberally educated, current in subject matter and its pedagogy, aware of what is expected of teachers and schools, skilful and conscientious in planning, preparing for, carrying out instruction, respectful towards students and have concern about their welfare, be actively involved in faculty, professional and community affairs.

Learner centred method: This is the point of focus in the teaching and learning process. Agricultural students should occupy a prominent position in the teaching and learning of agricultural

science. Teachers should therefore make these students centre of all activities. This entails:

- (a) Encouraging active participation of agricultural science students in the teaching and learning process.
- (b) Agricultural science students being always actively involved in a manner that they interact with the teacher, with instructional aids and with the environment.
- (c) Teaching and learning agricultural science that promotes students development of basic life skills.
- (d) Evaluating students to utilize the learnt skills in solving their everyday problems using their own initiatives.
- (e) Agricultural science teacher's effort to discourage rote learning and passivity in the classroom.

Implementation of the curriculum:

The first issue that comes to mind on the implementation of the curriculum is the method of instruction to be adopted by the teacher. Before choosing a particular method of teaching, the teacher should remind himself of the objectives he intends to achieve. In teaching – learning situation, a lot of factors come into play. These include:

- i) The learning environment (classroom, farm, workshop, laboratory and others).

- ii) The teacher (his emotion, competence and temperament).
- iii) The objectives as subject matter; and.
- iv) The learner (maturity, motivation, readiness and others).

There is therefore an intrinsic relationship and interaction between the teacher and the learner, between the learner and his environment and between the teacher and his environment. Madueke (1997) observed that it is in the process of this interaction that real learning takes place.

Modebelu and Duvie (2012) recommended four innovative teaching methods that could enhance quality and effective teaching and learning of subjects/courses. These could be adopted and applied by agricultural science teachers. These methods are:

1. Information transformation reception method.
2. Cognitive strategies development method.
3. Attitude development method.
4. Cognitive and motor skills development method

These modern approaches require combination of methods to achieve a purpose. Other methods relevant include: assignment, demonstration, project, field – trip, inquiry, experimental etc.

The teacher's challenge there therefore, is choosing his contents and drawing the objectives to reflect the

domains. Objectives in Agricultural Education are mostly in the area of cognitive and psychomotor domains which deal with the acquisition of knowledge and skills germane to both the teachers and the learners as practitioners. Since cognitive domain of Agricultural Education curriculum are easily achieved in the classroom and laboratory, the problems of most teachers have remained how to accomplish the psychomotor component of the curriculum. The situation has been worsened by the inadequate equipment and facilities for teaching and evaluating most of these skills and competencies.

Techniques for Using Community Based Resources to Maximize Instructions

Another approach by which the teacher of agriculture can use to contribute to rural development is by using of community based resources to maximize instruction. By their nature community resources are not usually located within the school environment. To avail the students the opportunity to learn with this resources therefore the teacher's initiatives are usually challenged. To this end, the teacher may arrange to either invite a resource person or take his students out to the resources location.

This could be achieved through a number of way which include the following

1. The field – trip method: field – trips are mostly undertaken by the

teachers with the students for learning or study purposes. Okorie (1979) describe field – trip as very valuable since it provides students with direct firsthand experiences. Brown, J.W., Roy, C, & Clark, L.H. (1973) however mentioned that when proposing a field – trip, its potential instructional value should be assessed as a first consideration. Other considerations for proposing a field – trip method of instruction include:

- (a) Provide additional experiences which the school cannot afford e.g games and forest reserve.
 - (b) Enable the student to know the community and its environs more;
 - (c) Reveal the vocational agricultural opportunities in the community e.g lumbering and fish farming.
 - (d) Encourage the students develop the sense of admiration and likeness for the immediate environment.
2. Invitation of resource persons: due to the fact that the teacher is not an island to himself, it is a worthwhile consideration on his part to visit resource persons from time to time. Such persons may include learned experts or professionals in agro – allied establishments. They may be invited to the school to give talks, lectures, conduct field or workshop practice on their special areas. Surveyors, tractor operators, pest

control officers, animal health officers may be among such group.

3. The work experience method: Student's Industrial Work Experience Scheme (SIWES) yet presents another organised school – community cooperation. Students take leave of their schools to a chosen community based establishment for a period of four months. Here they learn on the job as well as practice most of the theories taught in the school. SIWES is described as an instructional programme which combines learning experience gained through regular supervised employment in the community. It has the following advantages:
- (a) It makes for better application of students acquired skills.
 - (b) It enhances a closer relationship between school and the community.
 - (c) It improves occupational experiences and subsequent career choice of the students.

Though, the critics of using community resources for instruction argue that it wastes time and it is risky. The gains of well planned community based learning is so tremendous to be compared with the above lapses if and only if the instructional objectives are achieved.

Conclusion

The innovative methods focus on the revitalization of vocational agricultural curriculum especially through teacher's improve capacity to use new pedagogy centre on students learning and equip students with the skills and confidences.

The second strategy focus on using community resource – based for practical and high – value agriculture. If these strategies are adopted, it will go a long way in repositioning the lapses being experienced in vocational education training which is a key for a well – rounded development of a nation.

Recommendations

1. The Federal Government must take deliberate steps to address the imbalance between technical/vocational schools by coming up with legislation that would force the establishment of more vocational institutions rather than the conventional universities.
2. Government should enforce standards for existing tertiary institutions and university to guarantee the quality of graduates from these institutions.
3. The curriculum of vocational schools and institutions should be tailored to the need of industries so that products of vocational training are employable.
4. Government agencies should collaborate with community to provide relevant instructional aids and equipment required for effective attainment of agricultural science goals.

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