



Farm Workshops and the Need for Safety Awareness Programmes in Agricultural Science Teacher Education in Nigerian Schools

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ABSTRACT

Farm workshops in agricultural science teacher education are the training grounds for youths and adults intending to settle in any agricultural occupation. But, of importance and perhaps fundamental in all agricultural activities is the concept of safety. This paper therefore focused on farm workshops and the need for safety awareness programmes in agricultural science teacher education. Specifically, it has discussed the concept of farm workshops and safety, agricultural science teacher education programme, the need for safety awareness programme, areas of agricultural enterprises for safety awareness programme, characteristics of a good safety programme, suggested curriculum components of agriculture enterprise safety awareness programmes as well as implications of safety awareness programmes on safe, successful and sustainable agriculture enterprise occupations.

Keywords: Farm workshops, Safety Awareness Programmes, Teacher Education, Sustainable Agriculture Enterprise

INTRODUCTION

The introduction of agricultural science and agricultural education in the curricula of secondary and tertiary institutions in Nigeria is geared towards equipping teachers and students with certain knowledge and skills of practical value in agriculture. Agricultural science teacher education is an academic and vocational programme of preparing personnel for imparting agricultural knowledge and skills of practical value to the school youths. The practical training in the view of Ekong (2001) equips the trainee with the needed vocational skills and competencies for effective performance of agricultural occupation through hands-on experiences. Gyuse (1986) opined that for effective teaching and better understanding of the subjects (Agricultural Science and Agricultural Education), right from the junior secondary level, farm workshops must be available. Farm workshop is sine-qua-non for vocational training in any agricultural occupation in both secondary and tertiary levels. The steady increase in the need for and use of farm workshops in schools, colleges, universities and various training institutions, lies in the fact that they are useful. One basic rationale for the use of farm workshop in teaching-learning process is that they possess the ability to stimulate the learners through both auditory and visual controls. However, most of the instructional equipment in the farm workshop are fragile requiring safe keeping and handling. The philosophy is that when the issues of safety are properly conceptualized, our farm workshops will be safer and wards will be free to practice their vocational skills without problems. Additionally, when such skills are acquired, it will be extended beyond the farm workshops to other facet of life as it will become part and parcel of the individual.



Concept of Farm Workshop and Safety

Farm workshop is a discipline that provides training for the hands, eyes and ears as well as the brain (Green, 1995). For Olaitan and Dada (2009), farm workshop is a specially designed area where tools, equipment and machines are kept and other engineering services carried and controlled for the benefits of farm operators. Workshop is an area of land or building in which things are made or repaired using tools or machinery (Hornby, 2006). A farm workshop is a place used for experimental study of natural objects, happenings and the forces/energy controlling the happenings. The farm workshop (Ukonze, Eze and Olaitan, 2010) is intended to provide services that will improve the shelf life of tools, equipment and machines; provide efficiency of operation by the operator and good health for the operator through training for safety during operation.

The farm workshop must be a safe place to work. Safety strategies in the workshop (Olaitan, Nwachukwu, Igbo, Onyemachi and Ekong, 1999) are the art of planning for a safety conscious workshop environment conducive for teaching, learning and research. The acquisition of safety practice skills by teachers of agriculture is an important prerequisite for effective use of the farm workshops. Safety in the view of Wikipedia (2009) is the condition of being protected against physical, emotional, psychology or other types or consequences of failure, damage, error, accident, harm or any other event which could be considered non-desirable. Safety practices by the teachers of Agriculture could help to minimize or eliminate the occurrence of accident in farm workshop; and it could also control hazardous situation which may lead to injury to persons, wastage of farm materials and damage to tools, equipment and machines which can cause harm to human beings. The author further stated that the teacher of Agriculture should be a safety conscious person who should be aware of potential hazards in the farm workshop and takes appropriate preventive measures when planning his/her practical lessons.

Agricultural Science Teacher Education Programme

Agricultural science teacher education is an all-embracing programme for the training of personnel for the Agricultural world of work to serve as teachers, extension personnel, programme planners among others. It is a designed programme described by Ekong (2000) as an all-embracing professional activity aimed at producing competent teachers for efficient performance of agriculture teaching functions. It also describes an academic and vocational programme of preparing agriculture teaching personnel in the art of imparting knowledge and skills of practical values to the school youths. The objectives of the teacher preparation as articulated by Ekong (1999) include:

- the production of highly motivated, conscientious and efficient agriculture teachers,
- the encouragement of the spirit of enquiry and creativity in the agriculture teachers,
- helping agriculture teachers to fit into social life of the community and society at large to enhance commitment to national objectives,



- the provision of agriculture teachers with intellectual and professional background adequate for their assignments and for their adaptability to changing situations in the life of Nigeria and the world at large,
- enhancing agriculture teacher's commitment to agriculture teaching profession.

The pattern for the training of agricultural science teachers are categorized by Olaitan and Ekong (2001) as being in two parts– the pre-service and the in- service patterns. The pre-service pattern involves the admission of unemployed but qualified candidates who may be interested in teaching for the training at the Nigeria Certificate in Education or at the Bachelor's degree level. The trainees are exposed to rudiments of science, technology, methodologies and general education as well as other professional contents. But the safety components based on the experiences of the author as agricultural science educator is observed to be absent and for incorporation into the training curriculum considering the inherent hazards in the agriculture world of work. The in-service pattern is meant for knowledge and skill update of agricultural science teachers on the field. The need for in-service programmes is associated with new developments the teachers should be exposed to. The arrangement could be through conferences, workshops, seminars or regular short courses. The teacher education patterns were generally observed by Offorma (1992) as having some deficiencies of being too academic, theoretical, inadequate and unstable. Offorma's observation might not exclude the absence of safety programmes to ensure safety in production operations and consumption of agricultural produce and products. Such a situation of course is dangerous.

The Need for Safety Awareness Programme

Safety awareness agenda is a designed and developed activities directed at exposing individuals or groups of individuals to safety principles, practices and their applications. The need for safety awareness programmes in agriculture world of work with its numerous enterprises is diverse and dynamic with component hazards which of course could culminate into accidents. To stem accident-prone situations in farm workshops justifies the need for safety awareness programme so long as it would perform the following roles towards achieving such objectives as articulated by Ekong (2002);

- it would provide an avenue and condition for the development of safety attitudes and habits among agriculture teachers,
- it would prepare the trainee teachers for effective application of safety measures in the agriculture enterprises he/she or students developed would be engaged in graduation,
- the attitude of ensuring adequate facility maintenance would be ensured in those exposed to the experiences,
- agriculture teacher trainees would be developed in the skills of carefulness, precautions, attentiveness and good judgement,
- agriculture science teacher trainees would be exposed to potential hazards and accident prevention strategies or measures applicable to agricultural enterprises and practices,



- the safety programmes would go a long way to help agricultural science teacher trainees to develop proper guidelines on the utilization of farm tools, equipment and machines,
- the students passed through organized experience of safety awareness programme would be in a position to appreciate pre-planned approaches for handling emergency accident situations that may occur in any agriculture enterprise.

Areas of Agriculture Enterprises for Safety Awareness Programmes

Safety awareness programmes developed for incorporation into the agricultural science teacher education curriculum of secondary and tertiary institutions in Nigeria would contribute in ensuring safe environment for agriculture enterprise practitioners in the farm workshops. They would also be armed with developed attitudes and skills as viable tools to facilitate safety operations. With such view in mind, safety awareness programmes for agriculture enterprises could be developed in such areas as:

- Agricultural production
- Agricultural produce processing for quality and ensured supply
- Agricultural produce/product storage technologies for safe practices
- Agricultural commodity marketing and distribution to ensure putting in place safety mechanism for successful engagement in the enterprises
- Agricultural chemicals utilization (such as fertilizers, pesticides herbicides, rodenticides, among others) to ensure the safe manipulation by users and consumers of agricultural products.

Characteristics of a Good Safety Programme

The characteristics of a good safety awareness programme as adapted from those of the Colorado industrial arts association in 1984 would be as follows: the programme should:

- be well organized with provision for periodic reviews and evaluation,
- have inbuilt discipline , that is the ensuring and insisting on the safety mechanisms right from the first day of classes,
- have reasonable and prudent actions in place in the interest of the learners safety and welfare,
- have provision for restricting infringement on the safety rights of others among the learners,
- be practical enough to eschew rigidity in practices and applications,
- be motivated enough through flexible instructional approaches rather than translating into enforcement of set rules,
- ensure students' participation in agriculture enterprises operation in terms of the implementation and ready acceptability of their inputs for adjustments,
- be relevant to the needs of the learners as determined by the entrepreneurial situations they are expected to function,
- be result oriented, that is ensuring accident-free enterprise engagements based on specified focus of the enterprise.



Suggested Curriculum Components of Agriculture Enterprises Safety Awareness Programmes

Since agriculture enterprises are diverse and dynamic with simple and /or complex tools, equipment, machines and other facility utilization, the safety programmes that would be developed should have such components as:

- Safety concept definitions and explanations
- Safety inspection
- Accident report writing
- Tools , equipment and machine operational safety
- Enterprises locational and residential safety policy
- Technology information education (guidelines on the operation and preventive , maintenance of tools , equipment and other facilities)
- Electricity utilization safety
- Fire safety , such as the use of fire extinguishers, storage of fuel at homes
- First aid activity safety , that is what should be done and with what in emergency accident situations
- Individual /personal safety , interims of personal safety precautions and practices
- General safety practices for the learners and their teachers and operators of agricultural enterprises
- Communication system safety devices
- Production operational safety
- Processing operational safety
- Storage facility operational safety
- Marketing and distribution operational safety
- Safety supervisory roles of agricultural science teachers, prefects, farm supervisors among others.

Implications of Safety Awareness Programme on Safe, Successful and Sustainable Agriculture Enterprise Operations

The fundamental assumption underlying safe, successful and sustainable agriculture enterprises operation is the integration of well-articulated safety awareness programmes in agricultural science teacher education. The agricultural science is primarily concerned with the development of youths and adult famers for successful engagement in agriculture vocations. If the agricultural science teacher is well trained in safety in agriculture enterprises, he or she would in turn produce safety conscious youth from school. Such youths constitute the potential farmers who would succeed the older generation and practice safety oriented agriculture production, processing, storage, marketing and distribution. The fear of consumption of unfit food products shall have been a thing of the past with adequate safety awareness mechanism; it will ensure successful and sustainable engagement in chosen agriculture enterprises. If the non- safety agricultural practices persist then the status quo of daily occurrence of one form of accident or the other in agricultural enterprises will also persist. The dangers inherent in agricultural production, processing, storage and so on related to accidents could easily manifest. The lives of stakeholders in designed agricultural enterprises would be endangered.



CONCLUSION

The need for safety in the farm workshops calls for a well-articulated safety awareness programmes in agricultural science teacher education in Nigeria. This paper has highlighted a number of safety awareness programmes in agriculture enterprises as well as suggested safety awareness programmes in agriculture curriculum contents for agricultural science teachers' education. The suggestions should be considered by curriculum developers and implementers of agricultural science teacher education programmes for the production of quality and safety conscious agricultural science teachers, who would in turn equip the youths in school with safety-conscious attitudes. Hopefully, such would ensure safer, successful and sustainable engagement in the various agriculture enterprises.

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