

Inservice Needs and Problems of Agricultural Science Teachers in Krara State, Nigeria

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The world population has increased from **2.5 billion** in 1950 to 3.678 billion in 1970 (Johnson & Dailey, **1987**) to 5 billion in October 1987. Many nations of the world suffer from famine as food distribution and production fail to meet the demands of their increasing populations. There is a need to educate and teach agriculture to the younger generation in order to contribute to food production and distribution. This is also true in the case of Nigeria.

Vocational education in agriculture was introduced to Nigeria in the early 1970s by farm institutes owned and administered by the various state governments of this West African nation. These Institutes enroll boys who have completed six years in primary schools. Students receive classroom instruction in modern methods of farming with some training on the school farm (Mayer & Onazi, 1976).

Agricultural education in high schools requires professional teachers who understand the psychology, principles and techniques of teaching and the learning process. In recent years, there have been changes in technology in every field of learning. Teachers of agriculture need to be current with agricultural development and technology. Teachers need to improve their knowledge and competency on the job beyond what was required for initial certification in order to become effective professionals. Teachers in agriculture need well-planned and organized Inservice training (Lindley, 1975).

However, agricultural education in Nigerian secondary schools has not developed to its potential. The agricultural science curriculum in Nigeria is primarily concerned with academic preparation for entry into university studies while neglecting vocational or occupational education. At least one previous study has reported that students lack the opportunity to apply classroom instruction (Okorie, 1975).

Then too, in some states of Nigeria, secondary schools are administered by two separate bodies. For example, in Kwara State, the Kwara State Ministry of Education and the Kwara State Educational Management Board administer secondary schools. In 1985, the Ministry of Education was in charge of 89 secondary schools while the Educational Management Board was in charge of 242 secondary schools. The Federal Military Government launched a program in 1976 called Operation Feed the Nation and recommended that the teaching of agricultural science should include the keeping of farms, gardens, and poultry in the secondary schools. The Operation Feed the Nation program was revived and launched again as Green Revolution in 1982 during the civilian administration. However, in Kwara State, many secondary schools under the Educational Management Board taught science subjects such as chemistry, biology, and physics while few schools offered agricultural science (Oduanya, 1983).

A review of literature indicated there was a lack of knowledge concerning the agricultural science teachers' inservice education needs and the problems those teachers encounter while teaching agricultural

science in the secondary schools of Kwara State, Niger-la. What were the inservice education needs and the problems of agricultural science teachers in Kwara State, Nigeria?

Research Questions

To address the problem, this study was undertaken to answer the following research questions:

1. What were the inservice education needs of agricultural science teachers?
2. What were the major problems confronting teachers in teaching secondary school agricultural science?

Methods and Procedures

Population

The population for the study consisted of agricultural science teachers in the 60 secondary schools that offered an agricultural science course during the 1985 school year. The schools surveyed were those under the Kwara State Educational Management Board office. All agricultural science teachers in the 60 schools agreed to participate in the study.

Instrument Design

A questionnaire was designed to **collect** the data concerning the inservice needs of the teachers and the problems of teaching agricultural science. Section I of the questionnaire sought background information about the population. Specific characteristics such as age, sex, years of **teaching experience**, **why** teachers were in the teaching profession, the number of agricultural science teachers in each school, and the highest **level** of education earned were identified. Section II of the questionnaire was designed to identify the inservice education needs of teachers. The questions asked about the availability of inservice education programs to teachers, why the teachers needed inservice programs, the preferred format of inservice programs, the topics to be included in the inservice courses, and the factors that might inhibit teacher participation in the inservice education programs. Section III of the questionnaire identified the major problems of teaching agricultural science in the secondary schools. The teachers were asked to rate a list of possible problem items as they applied to their schools in categories of most serious, very serious, serious, least serious, and not a problem.

The questionnaire was developed and pretested by six randomly selected agricultural science teachers in Kwara State secondary schools. The six teachers completed and returned the questionnaire. A few suggestions were made by the teachers and the questionnaire was modified. The content of the questionnaire was determined to be valid for **collecting** the data.

Data Collection and Analysis

A cover letter explaining the purpose of the study was mailed with the questionnaires to the **sixty** principals of Kwara State secondary schools that offered agricultural science to ask their support in **collecting** the data from the agricultural science teachers. The researcher mailed the principal enough questionnaires to be administered to **all** agricultural science teachers in that secondary school. The principals

administered the questionnaires to the agricultural science teachers and returned the completed questionnaires to the researcher.

The population surveyed consisted of agricultural science teachers in 60 secondary schools that offered an agricultural science course. Fifty-eight principals (n = 60, 97% response rate) returned the questionnaires. One hundred thirteen agriculture science teachers (from the 58 schools) completed a questionnaire. The data were tabulated as the completed questionnaires were returned by the principals. The data were summarized into frequencies and percentages.

Results

The age of the teachers ranged from 20 years to 50 years. Ninety-two of the 113 teachers (81%) were males and 21 were females (19%). The teachers' teaching experience in secondary schools ranged from less than 1 year to 25 years.

Research Question 1. What were the Inservice education needs of agricultural science teachers?

Ninety-four teachers (83%) indicated there were no inservice education programs during the past five years. Seventeen teachers (15%) indicated they had participated in Inservice education programs. Teachers were asked to identify the reasons why they needed inservice education programs. Seventy-seven teachers (68%) either needed to increase their knowledge in agriculture or to update and keep current in agricultural development. Those reasons receiving the lowest response by teachers were to be more employable, to increase salary, and to spend leisure time (Table 1).

Table 1

Agricultural Science Teachers' Inservice Needs in Kwara State, Nigeria, 1985

Teachers' Needs for Participation in Inservice Programs	Teachers	Responding
	f	%
Increase knowledge in agriculture	42	37
Update and keep current in agriculture	35	31
Increase professionalism	21	18
Share experience with peers	9	8
Increase salary	3	3
Be more employable	2	2
Spend leisure time	1	1
Total	113	100

Fifty teachers (44%) preferred a one-week long inservice course and workshop at the state university campus. This was followed by a one-week long Inservice course and workshop at the College of Education and

a two-days special topic seminar and workshop at the local government Ministry of Agriculture headquarters every holiday of a term. One-day lectures from an invited expert on the school compound was the format least preferred by the teachers (Table 2). Eighty-six (76%) of the teachers wanted the inservice course to be away from the vicinity of the local school.

Table 2

Agricultural Science Teachers' Preference for Inservice Program Format in Kwara State, Nigeria, 1985

Inservice Program Format	Teachers' Preference	
	f	%
One-week-long inservice course and workshop at the state university campus	50	44
One-week-long inservice course and workshop at the College of Education, Ilorin	36	32
Two-day special topic seminar and workshop at the local government Ministry of Agriculture headquarters every holiday of a term	22	20
One-day workshop on the school compound once in a term	4	3
One-day lecture from invited expert once in a term on the school compound	1	1
Total	113	100

Table 3 data identify the frequency and percentage of special topics needed to be included in inservice courses. Fifty-three teachers (47%) wanted to know more about teaching methods and techniques. Forty teachers (35%) wanted topics on the selection, use, and maintenance of teaching aids and farm equipment included in their inservice courses.

Teachers were asked to indicate the most important inhibiting factors to their participation in inservice programs. Fifty-seven teachers (50%) indicated lack of funds from school, 30 teachers (27%) indicated no or late information from inservice provider, and 18 teachers (16%) indicated unsuitable time of inservice activities as the most important inhibiting factors to their participation in inservice training programs. Teachers' lack of interest was not considered as an inhibiting factor for participation in inservice programs (Table 4).

Research Question 2. What were the major problems confronting teachers in teaching secondary school agricultural science?

The most serious problems were: Sack of agricultural laboratory (mean = 4.9), lack of mechanical tools (4.6), and the lack of teaching aids and materials (4.5). A lack of support (funds) from the administrator (4.1) was considered to be a very serious problem. The problems, classified as least serious were limited class period (2.3), students' lack of interest (2.2), student discipline (2.2), and curriculum does not meet students' needs (2.1) (Table 5).

Table 3

Special Topics for Agricultural Science Teachers in Inservice Education Courses In Kwara State, Nigeria, 1985

Special Topics	Teachers Responding	
	<u>f</u>	%
Teaching methods and techniques	53	47
Selection, use, and maintenance of teaching aids and farm equipment	40	35
Animal production	10	9
Student discipline	7	6
Crop production	3	3
Total	113	100

Table 4

Factors That Inhibit Agricultural Science Teachers' Participation in Inservice Education Programs In Kwara State, Nigeria, 1985

Inhibiting Factors for Participation In Inservice Programs	Teachers Responding	
	<u>f</u>	%
Lack of funds from school	57	50
No or late information	30	27
Unsuitable time	18	16
improper arrangement	4	3
Teacher preoccupied	2	2
Distance of school from place of Inservice	2	2
Lack of interest	0	0
Total	113	100

Table 5

Problems in Teaching Agricultural Science in Secondary Schools of Kwara State, Nigeria. 1985

Major Problems	Mean of Teachers' Ratings ^a
Lack of agricultural laboratory	4.9
Lack of mechanical tools	4.6
Lack of teaching aids and materials	4.5
Lack of support (funds) from the administrators	4.1
Overpopulation of students per class	2.9
Teachers not trained for teaching	2.9
Shortage of teachers	2.8
Lack of textbooks	2.5
Location of school in relation to available Sand	2.5
Limited teaching class period	2.3
Students lack interest	2.2
Student discipline	2.2
Curriculum does not meet students' needs	2.1

^aRating Scale--1 = Not a problem, 2 = Least serious problem, 3 = Serious problem, 4 = Very serious problem, 5 = Most serious problem.

Teachers were asked to list their suggestions on how to improve agricultural science teaching in Kwara State secondary schools. The following were the most frequently made suggestions by teachers:

1. The State Educational Management Board should provide funds for schools to buy agricultural equipment and teaching aids.
2. Agriculture laboratories should be built and equipped in all schools.
3. Teachers should be trained in the special needs of agricultural education.
4. Teachers should be given study leave with pay for further education and inservice training regularly to enlighten teachers in agricultural developments.
5. Teachers should form an Agricultural Science Teachers' Association for coordination of teaching and enlightenment in the field of agriculture.
6. Agricultural science should be made compulsory and vocational for all secondary schools in the state.
7. Students should go on field trips outside their schools.
8. Agricultural science contests and fairs should be conducted for students among schools, local government areas, and at the state level.

Conclusions

Based on the findings, the following conclusions were formulated. Teachers needed technical agricultural inservice training, and these

inservice programs were not available. Teachers needed inservice training programs to increase their agricultural knowledge and skills. Teachers wanted one-week-long inservice courses and workshops at either a university campus, College of Education, or Ministry of Agriculture farm center.

Lack of funds, poor information, and unsuitable times were the factors inhibiting teachers' participation in inservice training programs. Teaching methods and techniques, and the selection, use, and maintenance of teaching aids and farm equipment were the topics most preferred in inservice courses. Lack of mechanical tools, teaching aids and materials, Laboratories, and support in terms of funding from the school administrators were the most serious problems encountered in teaching secondary agricultural science, as perceived by teachers.

Recommendations

School administrators in the secondary schools administered by the Kwara State Educational Management Board should design and implement a short-range and long-range plan for inservice training programs for agricultural science teachers. A long-term plan for funding inservice programs should be developed for the agricultural science teachers in those schools. Inservice workshops in agricultural mechanics should be provided for teachers to develop, use, and maintain farm machinery. Funds should be provided for agricultural science departments to build and equip agricultural science laboratories.

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