

Effectiveness of Extension Teaching Methods in Acquiring Knowledge, Skill and Attitude by Women Farmers in Osun State

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Abstract: In this study effectiveness of extension teaching methods in acquiring knowledge, skill and attitude by women farmers in Osun State is investigated. Information was collected from randomly selected eighty women farmers from the three agricultural zones of the state using interview schedule. Analysis of data was carried out using frequency counts, percentages, means and weighted mean scores and correlation. A positive and significant relationship existed between effectiveness of extension teaching methods and farming experience ($r=0.324$), age ($r=0.278$) and level of education ($r=0.235$). The result implied that age, farming experience and level of education had impact on effectiveness of extension teaching methods which by implication is a determinant of acquiring knowledge, skills and attitude. Therefore it becomes imperative that these significant variables determining factors to the effectiveness of the extension teaching methods in achieving the main tasks of extension service.

Key words: Effectiveness, Extension Teaching Methods, Knowledge, Skill, Attitude.

INTRODUCTION

Extension Education is the primary process through which the farmers can learn the reason for change, the value of change, the results that can be achieved through change. Extension is a type of education that is functional rather than formal and its main task is to convey meaningful information to the farmers. It is the major source to make farmers aware of alternatives from where they can choose the most desirable as well as how the different methods that exist for carrying out their farming and other operations^[7]. Extension education is concerned with three basic educational tasks:

- dissemination of useful and practical information related to agriculture and home economics,
- practical application of such knowledge to help farmers and house-wives analyse their problems,
- assisting farmers and housewives in using the technical knowledge gained to better solve their own problems.

Since Extension is an on-going process of getting useful information to people, it therefore assists the farmers to acquire necessary knowledge, skill and attitude to utilize this information or technology effectively with the ultimate aim of raising their efficiency and achieving higher level of living. In achieving this broad aim, extension uses a variety of teaching methods in training the rural people with the notion that the more the variety of ways a topic is

presented and practised, the quicker the people tend to grasp the subject matter.

Extension teaching methods therefore are tools used by the extension workers/agents to achieve their set goals or objectives as a teacher. These are special tools needed to appeal to the desire of farmers to change^[6]. Gaforth^[2] classified extension teaching methods into three broad classes in terms of area of coverage as follows: (a) Individual method (b) Group method (c) Mass method. Individual contact methods usually are superior for conviction and action because of face-to-face relationship of teacher and learner, for example farm and home visits, office calls, telephone calls, correspondence and result demonstration.

Group contact methods are usually well suited to bringing specific information about practices, helping to move the individual through the desire for conviction and sometimes to taking action. Examples are method demonstration, Small Plot Adoption Techniques (SPAT), result demonstration, general meeting, lectures, group discussion and excursions.

Mass media methods attract attention and stimulate the interest and desire for further information. They are the methods used to reach many people at the same time at different locations. Examples are bulletins, circulars, letters, leaflets, radio, television and cinema.

The effectiveness of these methods is measured by their ability to change a static situation into a dynamic one. Farinde^[1] reported that group and individual contact methods were mostly employed in teaching farmers improved agricultural practices and that to create awareness of new farm technologies farm visits,

radio and group meetings were employed. Many situations and factors affect the choice of extension methods to be used. Examples are nature of subject matter, amount of time the extension worker intends to devote to the method and the time the farmers can devote, reinforcement, steps in extension teaching, materials and possible teaching situation available, preference and ability of the extension worker to perform successfully the various methods and evaluation performance. It is therefore imperative that agricultural extension agents cannot bring about any significant change in the knowledge, skill and attitude of the farmers without employing the right mode of these extension teaching methods. Ogunwale[4] stressed that the effective extension workers must not only have at their finger tip a variety of tools and methods to do their job, they must also know where to use them. Jibowo^[3] identified eight factors that can affect the effectiveness of the teaching methods. Such factors include openness, linkage, structure, reward, capacity, proximity or nearness, synergy and feedback. Okunade^[5] found a positive and significant relationship between openness and effectiveness of extension teaching methods. However there are no significant relationships for other variables: cost, feedback, linkage, synergy, capacity, reward, proximity and structure.

An effective extension communication system is therefore a necessity for extension service to achieve its broad set goal of farmers acquiring knowledge, skill and attitude and in the overall, better their economic strength and hence their level of living. Therefore the focus of this study was to determine the effectiveness of extension teaching methods in acquiring knowledge, skill and attitude by the women farmers in Osun State. The study provided answers to the following questions:

- What are the extension teaching methods used by the Osun State ADP extension agents?
- How effective are these methods in acquiring knowledge, skill and change attitude by the women farmers?

Objective of the Study: The main objective of this study was to determine the effectiveness of extension teaching methods in acquiring knowledge, skill and change in attitude by rural women farmers in the state.

The specific objectives are to:

- identify the socio-economic characteristics of the women farmers.
- identify the improved agricultural practices introduced to the farmers.
- identify the extension teaching methods used by Osun State ADP Extension Agents.

- determine the effectiveness of the extension teaching methods in acquiring knowledge, skill and change in attitude.

Hypothesis of the Study: There is no significant relationship between effectiveness of extension teaching methods and personal and socio-economic characteristics.

Methodology: This study was carried out in Osun State of Nigeria. The state comprises three agricultural zones: Ife/Ijesa, Iwo and Osogbo zones. For the purpose of this study 7 blocks were selected out of the existing 12 blocks. sixteen villages were later selected from the blocks through a multistage sampling technique. Eight women farmers resident in the selected village normally reached by extension agents were randomly selected for the study. A well structured interview schedule was used to collect information from the farmers on their personal and socio-economic characteristics, extension teaching methods used, its effectiveness in acquiring knowledge, skill and change in attitude and improved farm technologies introduced to the farmers. Statistical techniques like frequency counts, mean, weighted mean scores, percentages and correlation were used to analyze the data.

The Measurement of Variables: The dependent variable was the effectiveness of extension teaching methods. It was measured on a four point Likert scale: Very effective (3 points), Effective (2 points), fairly effective (1 point) and Not effective (0 point). The maximum score points was 48 while the minimum point was zero

RESULTS AND DISCUSSIONS

Personal and Socio-Economic Characteristics: The data in Table 1 show the distribution of women farmers by personal and socio-economic characteristics. Majority (81.25%) of the women farmers fell in the age range of 21-50 years, 12.5 percents were 20 years and below while 6.25 percent were 50 years and above. Majority (83.75%) of the women were married, 6.25 percent were single and widowed respectively. Twenty five percent were divorced while only 1.25 percent were separated. About 48.75 percent of the women farmers had primary school completed, 15 percent had secondary school education while 13.75 percent of the women had adult literacy education. 12.5 percent had post secondary school education but 10 percent of the women farmers had no education at all. Majority (87.5%) had their farm size between 1 and 5 acres. About 6.25 percent had

Table 1: Distribution of Women Farmers by their Personal and Socio-Economic Characteristics

Personal and Socio-Economic Characteristics	Frequency	Percentage
Age (Years)		
20 and below	10	12.5
21-30	15	18.75
31-40	35	43.75
41-50	15	18.75
50 and above	5	6.25
Marital Status		
Single	5	6.25
Married	67	83.75
Divorced	2	2.5
Separated	1	1.25
Widowed	5	6.25
Level of Education		
Illiterate	8	10
Adult literacy	11	13.75
Primary school	39	48.75
Secondary school	12	15.0
Post secondary school	10	12.5
Farm Size (acres)		
1-5	70	87.5
6-10	4	5.0
11-15	5	6.25
15 and above	1	1.25
Farming Experience (years)		
1-10	18	22.50
11-20	22	40.0
21-30	20	25.0
31-40	7	8.75
41-50	3	3.75
Religion		
Christianity	45	56.25
Islam	35	43.75
Primary Occupation		
Farming	75	93.75
Trading	3	3.75
Civil servant	2	2.75

between size between 11-15 acres while 15 percent had between 6-10 acres but only 1.25 percent had farm size of 15 acres and above. About 73.75 percent of the women farmers had years of experience between 11-40 years, 22.50 percent had experience between 41-50 years. About 56.25 percent were Christians while 43.75 percent were Muslims. Majority (93.75%) of the women were farmers, 3.75 percent were traders while 2.75 percent were civil servants. The result shows that majority of the Farmers are middle-aged, married, had one form of education or the other with average years experience. The result implies that all these variables would serve as a guide to the extension agents to determine which of the methods to use for particular group of farmers.

Improved Farm Practices Introduced to the Farmers: The data in the table 2 show that a hundred percent each of the respondents are aware of improved maize seeds cassava cuttings, spraying of herbicides, application of fertilizer and use of herbicides respectively. About 98.75 percent were aware of improved storage technique of maize and processing technique of cassava respectively. Majority (97.5%) was aware of improved soyabean seeds, processing technique of maize, improved storage

Table 2: Distribution of Women Farmers by Improved Technologies Introduced to them.

Improved Farm Practises	Frequency	Percentage
Improved maize seeds	80	100
Improved cassava cuttings	80	100
Improved cowpea seeds	77	96.25
Improved soyabean seeds	78	97.50
Improved vegetables seeds	66	82.50
Processing techniques of maize	78	97.5
Processing techniques of cassava	79	98.75
Processing techniques of cowpea	76	95.0
Processing techniques of soyabeans	75	93.75
Processing techniques of rice	72	90.0
Processing techniques of vegetables	77	96.25
Processing techniques of palm-oil	76	95.00
Improved storage technique of maize	79	98.75
Improved storage technique of cassava	73	91.25
Improved storage technique of cowpea seeds	76	95.0
Improved storage technique of soyabeans	78	97.5
Application of fertilizers	80	100
Spraying of herbicides	80	100
Use of insecticides	80	100
Improved management practices of livestock	76	95
Control of ectoparasite of livestock	76	95
Intensive feed garden	72	90
Use of crop residue to feed L/S	75	93.75

technique of maize respectively. Over ninety percent were aware of improved cowpea seeds (96.25%), improved vegetable seeds (95%), processing technique of soyabean (95%), processing technique of palm-oil (95%) improved storage technique of cowpea seeds, (95%) improved management practices of livestock (95.0%), control of ectoparasite of livestock (95.0%), use of crop residue to feed livestock (93.75), improved storage technique of soyabean (93.75) improved storage technique of rice (90%) and intensive feed garden (90%) while 82.50 percent were aware of improved rice seeds.

Extension Teaching Methods Used: The data in Table 3 show the distribution of extension teaching methods used by women farmers. A hundred percent each of the farmers identified Farm and Home visit, office call, result demonstration, field day, agricultural show, SPAT and method demonstration as the extension teaching methods used for them by the extension agents. About 96.25 percent identified posters while 93.75 percent identified exhibits. Other extension teaching methods identified are leaflets (87.50), radio programme (83.75%) video tapes (68.75%), slides (62.5%), audio-cassettes (62.5%) television programme (25%) and telephone call (12.5%).

Rank Order of Effectiveness of Extension Teaching Methods in Acquiring Knowledge: Data in Table 4 show the rank order of extension teaching methods by knowledge acquisition. Farm and Home visit ranked highest with a weighted mean score (WMS) of 2.35. Followed closely is office call (2.10) and radio

Table 3: Distribution of Extension Teaching Methods by Women Farmers in Osun State

Extension Teaching Methods	Frequency	Percentage
Farm and home visit	80	100
Office call	80	100
Telephone call	10	12.5
Result demonstration	80	100
Radio programme	67	83.75
Television programme	40	50.0
Slides	20	25
Posters	50	62.5
Leaflets	77	96.25
Video tapes	55	68.75
Exhibits	75	93.75
Method demonstration	80	100
SPAT	80	100
Audio cassette	50	62.5
Agricultural show	80	100
Field day	80	100

Table 4: Rank Order of Effectiveness of Extension Teaching Methods by Knowledge

Methods	WMS
Farm & home visit	2.35
Office call	2.10
Radio programme	2.00
Video tape	1.98
Audio cassette	1.98
Slides	1.93
Posters	1.83
Result demonstration	1.80
Method demonstration	1.77
SPAT	1.76
Agricultural show	1.70
Field day	1.67
Exhibit	1.60
Television	1.55
Telephone call	1.42

programme (2.00). Other methods are in the following order: leaflets (1.98), videotape (1.98), audio-cassette (1.93) slides (1.89), Posters (1.83), result demonstration (1.80), method demonstration (1.77), SPAT (1.76), Agricultural show (1.70) field day (1.67), exhibit (1.60), television (1.55) and the least, telephone call (1.42).

Rank Order of Effectiveness of Extension Teaching Methods in Acquiring Skill:

Table 5 shows the rank order of methods in acquiring skill. Method demonstration ranked highest with WMS of 2.43. Next is result demonstration with mean of 2.33. This is followed closely by SPAT (2.10), videotape (2.01) and slides (2.00). Others are in the following order: Farm and Home visit (1.99), field day (1.90), Agricultural show (1.86), Television programme (1.70) audio-cassette (1.64), office call (1.60), leaflet (1.56), posters (1.41), Telephone call (1.38), exhibit (1.33) and the least is radio programme (1.28).

Rank Order of Effectiveness of Extension Teaching Methods in Acquiring Attitude:

Table 6 shows the rank order of methods in acquiring attitude. SPAT

Table 5: Rank Order of Extension Teaching Methods by Skill

Methods	WMS
Method demonstration	2.43
Result demonstration	2.33
SPAT	2.10
Video tape	2.01
Slides	2.00
Farm & home visit	1.99
Field day	1.90
Agricultural show	1.86
Television program	1.70
Audio cassette	1.64
Office call	1.60
Leaflet	1.56
Posters	1.41
Telephone call	1.38
Exhibit	1.33
Radio program	1.28

Table 6: Rank Order of Extension Teaching Methods by Attitude

Methods	WMS
SPAT	2.44
Exhibits	2.40
Field days	2.31
Agricultural shows	2.20
Result demonstration	2.10
Method demonstration	2.05
Farm and home visit	1.88
Office call	1.85
Video-tapes	1.83
Slides	1.80
Television programme	1.75
Radio	1.72
Audio-cassette	1.69
Posters	1.63
Leaflets	1.60
Telephone call	1.55

Table 7: Relationship Between Effectiveness of Extension Teaching Methods and Personal and Socio-Economic Characteristic

Characteristics	Coefficient of Correlation @
Age	0.278*
Marital status	0.149
Level of education	0.235*
Farm size	0.141
Farming experience	0.324*
Religion	0.069
Occupation	0.015

r-value (0.05) = 0.232

(2.44) ranked highest in acquisition of attitude. Next in the order are exhibits (2.40). This is followed by field day (2.31), agricultural show (2.20), result demonstration (2.10) and method demonstration (2.15). Other methods are in the following order: farm and home visit (1.88), office call (1.85), videotapes (1.83), slides (1.80), television programme (1.75), radio (1.72) audio-cassette (1.69), Posters (1.63), leaflets (1.60) and the least 1.55.

Relationship Between Effectiveness of Extension Teaching Methods and Personal and Socio-Economic Characteristic:

The data in Table 7 show the relationship between personal and socio-economic characteristics and effectiveness of extension teaching

methods. The result showed that farming experience ($r = 0.149$), age (0.278) and level of education ($r = 0.147$) had positive and significant relationship with effectiveness of extension teaching methods. However, marital status ($r = 0.149$) farm size ($r = 0.147$) religion ($r = 0.067$) and occupation ($r = 0.015$) had positive but non-significant relationship with effectiveness of extension teaching methods.

Conclusion: Majority (81.75%) of the women farmers are in the age range between 21-50 years. About 83.75 percent are married while 90 percent had one form of education or the other. Majority of the women are small-scale farmers with mean farm size of 5.2 acres. Many of the farmers had years of farming experience ranging from 11-40 years with mean of 25 years. The result of the study showed that individual contact method and mass method of extension teaching methods ranked highest in the order of acquiring knowledge. This may be as a result of the characteristic nature of the methods of giving information and deeper understanding of the innovation concerned. The individual method enhances interaction which may enhance much emphasis on the technology thereby enhancing better understanding.

Also, the mass media methods will arouse the interest and the desire for more information which will enable the farmer to have better understanding of the innovation. It was also revealed that skill is better acquired through group contact methods. These methods have the nature of practical demonstration which will help the farmer from desire stage through conviction and probably into taking action. Group contact methods also ranked highest in acquiring attitude. This is also possible because the methods bring specific information about practices and proved that practice brings benefits locally. All these will prompt the farmer to take action which invariably leads to a change in attitude. The significant relationship between age, level of education and farming experience with extension teaching methods can be explained thus: the older the farmer, the more years of farming experience, the better the understanding of extension teaching methods used for them and the better the decision that such farmer would take in adopting improved farm technologies. Likewise, the higher the level of education, the better and quicker the understanding of the extension teaching methods and the better the decision that such farmer would take in adoption of innovations.

Recommendations: Based on the findings of this study, the following recommendations are made:

- Adequate training must be given to the extension agents as regards the proper manipulations of extension teaching methods to bring out the desired result.
- Extension agents must have adequate knowledge of the characteristics of each of the extension teaching methods as well as know the characteristics of the respondents. These will enable them to use appropriate methods for appropriate group of farmers.
- Appropriate extension teaching methods must be used to pass across appropriate technologies given the nature of the technology to disseminate.

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