

**COURSE  
GUIDE**

**AEM 302  
EXTENSION TEACHING, LEARNING PROCESS AND  
METHODS**

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**MAIN  
COURSE**

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## **MODULE 1      THE CONCEPT, PROCEDURE AND PRINCIPLES OF EXTENSION TEACHING**

Unit 1	The Concept, Procedure and Principles of Extension Teaching
Unit 2	Basic Characteristics, Implications and Steps in Extension Teaching
Unit 3	Learning Process in Agricultural Extension
Unit 4	Motivation in Agricultural Extension
Unit 5	Concept and Overview of the use of Extension Methods
Unit 6	Agricultural Extension Methods

### **UNIT 1      THE CONCEPT, PROCEDURE AND PRINCIPLES OF EXTENSION TEACHING**

- 1.1 Introduction
- 1.2 Learning Outcomes
- 1.3 Main Content
  - 1.3.1 The Concept of Extension Teaching
  - 1.3.2 Procedure for Effective Teaching in Extension
  - 1.3.3 Principles of Extension Teaching
- 1.4 Conclusion
- 1.5 Summary
- 1.6 References/Further Readings/Web Resources
- 1.7 Possible Answers to Self-Assessment Exercise (s)



#### **1.1      Introduction**

I believe you have read the course guide? If so, it means you now have a general understanding of what this unit is about and how it fits into the course as a whole. This unit discusses the concept of extension teaching and principles guiding the branch of knowledge of teaching or instructional approaches. Let us look at what you should learn in this unit, as specified in the unit objectives below.



#### **1.2      Learning Outcomes**

By the end of this unit, you should be able to:

- Understand the meaning/concept of extension teaching
- Describe the procedure for effective teaching in extension work
- Identify the principles of extension teaching.



## 1.3 Main Content

### 1.2.1 The Concept of Extension Teaching

Farmers are referred to as adult learners and extension workers as teachers. Education has been defined as the production of changes in human behaviour. Also, education is the fabrication of required transformations in the human behaviour and in the social and cultural aspects of human life. The term social means anything associated to human beings. The term culture means the publically consistent ways of emotions, thinking and performing, which an individual attains as a member of the society. The conduct of an individual is inclined, measured and focused by the cultures, values and the norms that are provided to him by his family members. Extension teaching tries to develop the social conduct of the people, their different social groups and the intra and inter relationship of these social groups.

Extension workers are continuously striving to bring about changes in the behaviour of farmers and their families. They want farmers to discard ancient methods of soil preparation and follow new techniques. They strive to show farmers the advantages of better and improved seeds, of chemical fertilizers, of effective pesticides and with the profits that will follow their use to provide more and better food for their families, better clothing, better housing and happier living. This is teaching in its truest sense. Good extension teaching is the successful creation of opportunities or situations in which people gain abilities and stimulation necessary for successfully meeting their needs and interests in such a way as to attain continuous improvement and self-actualization.

The main function of extension teaching is to disseminate the information to the people who are in need of it (Home Science, 2005). Teaching is closely associated with learning. According to Williams *et al.*, (1984) learning is the process; teaching is closely associated with learning by which an individual through his own activity becomes changed in his behaviour. It is essentially a response to a teaching situation where the learner is an active participant in his own education. Learning is not a “filling up” process but the learner has to be active to require knowledge, skills and interest. Learning is a personal matter in terms of learner’s needs. No one learns for others because learning takes place within the individual. In general, we learn through five physical senses – sights, sound, touch, taste and smell. When we say a learner changes his behaviour through his own activities, what are those activities? Those activities involve using one or more of these five senses for a specific purpose.

**Self-Assessment Exercise 1**

1: State the main function of extension teaching.
---

**1.3.2 Procedure for Effective Teaching in Extension Work**

For effective teaching in extension work, the following procedures should be taken into consideration.

- ❖ Ensure visibility for all. Arrangement of exhibits and other materials such as chairs should not obstruct participants' view. Participants should see clearly what is being taught (Yahaya, 2003).
- ❖ Speaker should speak clearly. Adults comprehend spoken words better than written words. Speaker should be seen by all participants. Talk with and to the people or even at the people
- ❖ Always start with the present needs and problems of the farmers.
- ❖ Presentation should be logical in sequence. One idea or one theme at a time. Be it in written or spoken words, one sentence or one idea is ideal.
- ❖ Use practical devices to show relationship between ideas.
- ❖ Repeat ideas being presented
- ❖ Make physical environment conducive
- ❖ Summarize your presentation

**Self-Assessment Exercise 2**

Identify five physical senses through which farmers learn.
--

**1.3.3 Principles of Extension Teaching**

Principles is a kind of philosophy guiding the branch of knowledge (Learning) of teaching or instructional approaches. Extension teaching has the following principles:

1. Principle of activities. Active in the use of teaching methods or approaches.
2. Principles of linking with life. Link teaching with real life situations.
3. Principle of interest. Interest should be developed in teaching because without interest, specific objectives will not be achieved.
4. Define aim or purpose. That is, teaching should be purposive and definite.
5. Principle of selection. Teacher or extension worker should be able to select appropriate teaching methods.
6. Principle of vision. That is, vision into various teaching methods, individuals and groups.
7. Principles of practice. In teaching, practice is emphasized. There is what is called teaching practice. Practice makes perfection.
8. Principle of communication. Be able to communicate his teaching

- methods.
9. Principle of teaching steps by steps. That is, doing one thing at a time.

### **Self-Assessment Exercise 3**

State the principle of practice.

## **1.4 Conclusion**

This unit has introduced you to the concept or meaning, procedure and principles of extension teaching. From these discussions, you must have learnt the meaning of “Extension teaching” as well as the procedure and principles of extension teaching approaches.



## **1.5 Summary**

The main points in this unit are:

1. The term “Extension Teaching” consists of providing situations on which important things to be learnt are called to the attention of the learners, their interests developed, desires aroused and action promoted.
2. Several procedures for effective teaching in extension were highlighted.
3. Principles guiding extension teaching were also highlighted briefly.



## **1.6 References/Further Readings/Web Resources**

Home Science Higher Secondary First Year. (2005). Tamil Nadu Textbook Corporation. Retrieved January 12, 2022 from <http://www.textbooksonline.tn.nic.in/books/11/std11homesciem.pdf>

Williams, S. K., Fenley, T, J. M. & Williams, C. E. (1984). A manual for Agricultural Extension Workers in Nigeria, Ibadan, Les Syraden Press. 54p.

Yahaya, M. K. (2003). Development Communication. Lesson from Change and Social Engineering Projects. Pp 197 – 198.



## 1.7 Possible Answers to Self-Assessment Exercise(s)

**SAE I: State the main function of extension teaching.**

The main function of extension teaching is to disseminate information on innovations to the farmers who are in need of it.

**SAE 2: Identify five physical senses through which farmers learn.**

Ensure visibility for all, speaker should speak clearly, always start with the present needs, presentation should be logical in sequence, use practical devices, repeat ideas being presented, make physical environment conducive, summarize your presentation (Any 5).

**SAE 3: State the principle of practice.**

In teaching, practice is emphasized. There is what is called teaching practice. Practice makes perfection.

## **Unit 2    BASIC CHARACTERISTICS, IMPLICATIONS AND STEPS IN EXTENSION TEACHING**

### **Unit Structure**

- 2.1    Introduction
- 2.2    Learning Outcomes
- 2.3    Main Content
  - 2.3.1    Basic characteristics of Extension Teaching
  - 2.3.2    Implication of Teaching Process for Extension Work
  - 2.3.3    Steps in Extension Teaching
  - 2.3.4    Advantages and Limitations of Extension Teaching
- 2.4    Conclusion
- 2.5    Summary
- 2.6    References/Further Readings/Web Resources
- 2.7    Possible Answers to Self-Assessment Exercise(s)



### **2.1    Introduction**

In unit 1, we looked at the concept, procedure and principles of extension teaching. In this unit, we are going to look at some basic characteristics, implications and steps in extension teaching. This unit will help you understand the subsequent units. The objectives below specify what you are expected to learn after going through the unit.



### **2.2 Learning Outcomes**

By the end of this unit, you should be able to:

- Identify some basic characteristics of extension teaching.
- Understand the implications of teaching process for extension work
- Understand the steps in extension teaching.



### **2.3 Main Content**

#### **2.3.1 Some Basic Characteristics of Extension Teaching**

There are a number of characteristics of teaching which if understood by the extension worker can help in assisting the clientele to gain an understanding of the ideas he is trying to sell to them. These include:

1.    Extension teaching requires specific clearly defined objectives. A teaching objective is simply the term used to describe the end

- productdesired. All purposeful teaching should be seen as having specific objectives.
2. Extension teaching usually requires that several methods of presentationbe used for the most effectiveness. No one extension method will reachall the people nor will it influence all it does reach.
  3. Extension teaching requires that learners have effective learning experiences. A learning experience is the mental or physical reactionone makes through seeing, learning or doing the things to be learnt through which he gains an understanding and meaning of the content.
  4. Extension teaching should provide learning situations that include thefollowing elements:
    - a. An effective learning situation include teacher who joins the learning group to provide good stimulation and guidance of learning activity;
    - b. Learners who are properly motivated and recognized the needs for learning;
    - c. Teaching aids should be properly used so that learning experience isidentified.
  5. Extension teaching requires careful evaluation of results which shouldguide future efforts. Extension teacher should constantly evaluate results in a precise and objective manner and base future effort on the findings.
  6. Extension teaching should link up new materials with what is already known. The extension instructor has some responsibility for learning,understanding level of his learning and adequately preparing them fornew understanding.
  7. Extension teaching must accomplish certain kinds of educational changes in relation to the subject matter (topic) to be learnt. Changes in knowledge such as varieties of seeds to plant, amount of fertilizer to use,etc; changes in skills, ability such as mental skill e.g. working out solutions to problems.

### **Self-Assessment Exercise 1**

Extension teaching requires specific clearly defined objectives. Explain.

### **2.3.2 Implication of Teaching Process for Extension Work**

The above characteristics of teaching process have some implications for effective extension work, which can be summarized as follows:

- a. Arrange and use equipment that will enable all the audience to see clearly what is going on.
- b. Adults comprehend spoken word better than written word at every speedof presentation.
- c. Start with the present interests and needs or problems of the group.

- d. Present topic step by step in logical sequence. That is, teaching one thing at a time.
- e. Employ or use every possible practical device to show relationship of ideas and materials.
- f. Repeat frequently ideas to be sold to the group.
- g. Make physical surroundings comfortable and attractive.
- h. Always endeavour to have them leave in a spirit of accomplishment and desire for more.
- i. A good summary of the content, giving what was attempted, what was accomplished, what is yet to be done is always essential.

### **2.3.3 Steps in Extension Teaching**

The extension worker is a teacher. He is continually working to bring about desirable changes in human behaviour. If he is to meet success in his efforts, he must understand and follow the logical steps in teaching:

1. Getting the attention of the learners. Most farmers are quite unaware of the great improvement in farming methods. Those have been developed by scientific research and how the employment of these methods can make farming so much more profitable. The first duty of an extension worker as a teacher is to direct the attention of the farmer to the newer methods of farming suggested by research source.
2. Stimulating the learners' interests. When the farmer's attention has been directed to the newer methods, the next step is to appeal to the interest by showing him how the new method may be of value to him, how it may save labour or increase his yield and profit.
3. Arousing the Learner's Desire for Information. When the attention of the farmer has been directed to a new method and his interest aroused in a way or possibility that his new method may be of direct value in meeting his demand the farmers will want to get all possible information on how the new method may be used to his advantage.
4. Convincing the Learner that he should act. An extension teacher has directed the attention of a farmer to a new method, he has stimulated his interest, supplied him with all information on the new method into operation. When a farmer through the above steps has become convinced that the new method will lead to profit and satisfaction for himself, this is not difficult to do.
5. Getting action by the learner: Teaching is without value unless converted into action. The extension teacher must do everything possible to make action easy. If the improvement requires fertilization or an insecticide or new equipment, the extension

worker must take the responsibility of arranging for its purchase by the farmer at a convenient source and at a fair price. The farmer by himself cannot do this and he will not act if there are obstacles in the way of action.

6. Making certain that the learner derives satisfaction from his action: The extension worker has follow-up job. He must help the learner evaluate the progress made, measure an increase yield and strengthen the satisfaction obtained. A farmer that meets a want by the successful application of a new method becomes a local learner in influencing his neighbours to satisfy their wants by following the same practice and he finds prestige and satisfaction in teaching and helping them (Laogun, 2005). Also, when a farmer has used a new method and realized profit and satisfaction from it, he gains confidence in his own ability to learn and is ready to try other new methods.

### *Steps in Extension Teaching*

SATISFACTION
ACTION
CONVICTION
DESIRE
INTEREST
ATTENTION

### **Self-Assessment Exercise 2**

Why must the extension worker do everything possible to get the attention of the learners?

#### **2.3.4 Advantages and Limitations of Extension Teaching**

##### **Advantages of Extension Teaching**

- It stimulates and guides learning activities towards goal.
- Specify desired changes in the behaviour of people
- Assist the clientele to gain an understanding of ideas the agent is trying to impact or sell them.

##### **Limitations**

- Requires a lot of time for preparations
- Problem of individual differences, and
- Not all clientele (farmers) may be attentive to teaching

## 2.4 Conclusion

This unit has examined some basic characteristics of teaching implications of teaching process and steps in extension teaching. I hope by now, you would be able to understand some basic issues in extension teaching.



## 2.5 Summary

The summary of the major points in this unit include:

1. Some basic characteristics of extension teaching viz: specific clearly defined objectives, several methods of presentation, effective learning experience; careful results evaluation, linking up new materials and accomplishment of educational changes.
2. Some implications for effective extension work; clear visibility of use of equipment by the audience, comprehension of spoken words by adults, interest and needs of the group; use of every possible practical device; present topic step by step; comfortable physical surrounding and good summary of the content.
3. Steps in extension teaching include: Attention, interest, desire, Conviction, action and satisfaction (AIDCAS).



## 2.6 References/Further Readings/Web Resources

- Laogu, E. A. (2005). Extension Teaching/Learning Process and Methods. In: S. F. Adedoyin (ed). Agricultural Extension in Nigeria. Publication of Agricultural Extension Society of Nigeria, pp – 202 -203.
- Williams, S. F. T., Fenley, J. M. & Williams, C. E. (1984). A manual for Agricultural Extension Workers in Nigeria, pp–57-58.



## 2.7 Possible Answers to Self-Assessment Exercise(S)

**Self-Assessment Exercise 1: Extension teaching requires specific clearly defined objectives. Explain.**

**ANSWER:**

- A teaching objective is simply the term used to describe the end product desired. All purposeful teaching should be seen as having specific objectives.

**Self-Assessment Exercise 2:**

**Why must the extension worker do everything possible to get the attention of the learners?**

**ANSWER:**

Most farmers are quite unaware of the great improvement in farming methods. That have been developed by scientific research and how the employment of these methods can make farming so much more profitable. The first duty of an extension.

## UNIT 3      LEARNING    PROCESS    IN    AGRICULTURAL EXTENSION CONTENTS

### Unit Structure

- 3.1    Introduction
- 3.2    Learning Outcomes
- 3.3    Main Content
  - 3.3.1    Concept of Learning
  - 3.3.2    How to learn in Extension
  - 3.3.3    Transfer of Learning
  - 3.3.4    Characteristics of Learning in Extension
  - 3.3.5    Factors Affecting Learning
  - 3.3.6    Principles of Learning in Extension
  - 3.3.7    Essentials in Adult Learning
- 3.4    Conclusion
- 3.5    Summary
- 3.6    References/Further Readings/Web Resources
- 3.7    Possible Answers to SAEs in the Content



### 3.1      Introduction

In unit 2, we discussed characteristics, implications, steps, merits and demerits of extension teaching. In this unit, we are going to treat concept of learning, how to learn, transfer of learning, characteristics and essentials in adult learning. After studying this unit, you are expected to have achieved the listed objectives below.



### 3.2 Learning Outcomes

By the end of this unit, you should be able to:

- Understand the concept of learning
- Explain how people learn in extension
- Explain how transfer of learning takes place in extension
- Identify the characteristics of learning in extension
- State factors affecting learning
- Discuss the principles of learning
- Understand the essentials in adult learning.



### 3.3 Main Content

#### 3.3.1 Concept of Learning

Learning is a process by which an individual through its own activities become changes in his behaviour (knowledge, attitude) (Williams *et al.*, 1984). Learning is essentially a response to a teaching situation. The learner is no longer regarded as a passive agent, but an active participant in his own education. Learning is not a “filling up” process. The learner has to be active to acquire knowledge, skills, attitude which satisfied his or her needs and interest. Learning is a personal matter in terms of learners needs. No individual can learn for others because learning takes place within the person.

There are two types of learning namely incidental and deliberate learning's. Incidental learning occurs when learning takes place without efforts. Deliberate learning results from a specific purposeful activity or experience, i.e., it results from some motivated efforts. The learner directs his learning along a definite planned manner. Abdullai (2002) defined learning situation as one in which all elements necessary to promote learning are present such as: (a) Instructor (agent), (b) Learners, (c) subject matter, (d) Learning materials (e) physical factor. Learning experience is a mental or physical reaction one makes through seeing, learning or doing the things to be learnt through which one gains the meanings and understandings of the materials to be learnt. Learning is the process by which one becomes changed in behaviour, skills, understanding, interest, and appreciation as a result of his experience. The essence of learning is to systematically acquire knowledge and experience.

#### 3.3.2 How We Learn in Extension

We learn through five physical senses – sight, sound, touch, taste and smell. When we say a learner (farmer) changes his behaviour through his own activities, what are those activities? Those activities involve using one or moreof these five senses for a specific purpose. There are seven major ways by which learning takes place in individuals. That is, the ways by which we learn.

1. Conditioning: This is when learning takes place through the establishment of a connection between a stimulus and a response, referred to as conditioning. Pavlov, in his experiment, conditioned dogs to salivate when a bell is rung.
2. Trial and Error: When an individual is faced with a problem, he discovers a solution by trial and error. This procedure takes a longtimeand it is not efficient. Considerable time is wasted in

- unsuccessful efforts.
3. Problem solving: This procedure involves the use of the product of the previous learning experiences when faced with a problem. It also involves higher mental processes such as reasoning, concept formation and testing a hypothesis.
  4. Training: Training is similar to conditioning. It is especially useful in skills, habits and attitudes development. There is considerable use of rewards and punishment during training for success and failure respectively.
  5. Insight Learning: During insight learning, a solution is found as a flash. There is the feeling of relief when a solution occurs in a flash. The learner does not have complete understanding about how the solution works.
  6. Imitation: This implies copying and following a pattern of behaviour without much reasoning. Opinions and beliefs expressed by leaders and books are adopted quickly by many people.
  7. Memorization: This is learning without understanding but attempt is made to commit everything under focus to memory verbatim.

### **Self-Assessment Exercise 1**

Differentiate between learning situation and learning experience in extension

#### **3.3.3 Transfer of Learning in Extension**

Transfer of learning takes place when an idea in one situation is used in another. An extension agent is concerned with the transfer of learning because when the agent teaches an idea to a farmer the learning situation (e.g. a demonstration or field trip) is not the same situation as that on the farm of the farmer. Learning should not be the compartmentalization of learned matter. The transfer may be knowledge, skill, ideas, and attitude from one situation to another, (Yahaya, 2003).

Transfer of learning depends upon a number of similar components in the two situations and the degree of generalization that can be achieved for deriving principles that can be applied to various situations. The transfer of learning also depends upon the mental capacity of the learner. Transfer of learning can be achieved in the following ways:

- a. Encourage the learner to look for similarities in various situations.
- b. Encourage learner to apply the ideas in other similar situations.
- c. Encourage learner to generate principles personally rather than being told, allowing the learner discovers similarities and principles.
- d. Discourage memorization of data or content of learning process by the learner. Lay more emphasis on understanding and application

of ideas.

### **3.3.4 Basic Characteristics of Learning in Extension**

These characteristics of learning are being examined as a foundation for planning and executing extension outreach programme.

- a. Learning is meaningful. Learning should enable the learners to be able to solve related problems. This is attained by relating new terms and knowledge to that which the learners already known, i.e. there should be a connection between familiar and unfamiliar concepts.
- b. Learning is facilitated when two or more senses are used by the learners/farmers. While in the process there should be a variety of learning activities to use more of our senses.
- c. Learning is more effective where the learner actively participates. The learner is more active when he realizes that learning goals are not forced on him.
- d. Learning is affected by physical and social environments. The general physical environment should be suitable to the kind of learning taking place and to the activities selected for the learning situation. The extension worker/teacher should recognize and use the effect of the social environment on learning.
- e. Learning is growth-like and continuous. New knowledge should be built on the old. In essence then, learning is cumulative in nature and is a gradual process. Hence, learning is a lifelong activity.

### **3.3.5 Factors Affecting Learning**

Some factors are related to the characteristics of the subject matter, or of the external situation in which learning takes place. Others are characteristics of the individual and what he brings to the learning situation.

- i. Motivation Influences: Motivation has influence on learning in form of reward or punishment intent to learn, intrinsic and extrinsic motivation –(extrinsic includes hunger, thirst, etc., Intrinsic – interest in the learning task, and is anxious to learn for its own sake), long-term goals, and stress and group participation.
- ii. Characteristics of materials to be learnt: This includes amount which should be within the memory span e.g. four to six units can be remembered at one time, familiarity of material and meaningfulness.
- iii. Efficient conditions of practice: These include; knowledge of results, distributed versus massed practice i.e. short well placed learning periods and long concentrated ones, whole versus part learning, guidance as an aid to learning, special aid learning such as films, visual aids, television, etc. (Onwubuya, 2005).

- iv. Learning under special conditions: These include learning during sleep. Studies have shown that there is no learning during sleep but there is evidence that proved learning may be achieved under hypnotism use of drugs, beverages and drinks bring down output in learning, poor nutritional status of the individual.
- v. Comfort while learning: Such as quality of chairs or furniture, aeration, humidity, noise, etc. distracts learning.
- vi. Emotional problems: Lower efficiency of learning.
- vii. Fatigue: Due to tiredness brings in discomfort and reduces efficiency especially where operations require to be performed.
- viii. Monotony of presentation: Also reduces level of attention, interest and attitude in learning.

#### **Self-Assessment Exercise 2:**

**Outline four ways of achieving transfer of learning.**

#### **3.3.6 Principles of Learning in Extension**

There are guidelines or factors to be considered by extension workers or teachers in instructional process:

- a. Learning is growth like and continuous. Its growth depends on the past experiences of the learner. So commence where the learner is. He / She has got certain ideas and knowledge before e.g. Pests reduce yield or production – what do they know about pest control on their farms / fields and from here introduce the use of pesticides for large areas. Relate new ideas to the old as this increases effectiveness. Ideas to be learnt should be brought to the attention of the learners repeatedly.
- b. Learning is purposeful: Learning is purposeful when it makes sense to the learner i.e. meaningful from the learner's viewpoint. Help farmers to fix achievable goals through helpful activities e.g. field trips, demonstrations, etc. to satisfy needs.
- c. Learning is challenging: It is more effective if it is more appropriate and timely and recognition is given to the learners' achievements. It is also challenging if the standard demands of the learner are suited to his ability i.e. the extension worker/teacher helps the learner to build a mental picture of himself in the new situation.
- d. Learning is effective if it results in fundamental understanding: Memorizing is useless unless there is practical application to it. Activity that stimulates the actual situation is most effective and there must be need for information.
- e. Learning is influenced by the social or physical environment: the instructor should see that the physical conditions are appropriated and the learner has no fear.

- f. Gradual process: Usually it requires several exposures before change is observed. For effective learning, several exposures are to be made to get over each point.
- g. Learning is an active process: The learner is an active, behaving, exploratory individual and learning results from the activities of the individual and learning also results from the activities of the individual learner. It is what he does when he learns: skills – the learner must practice them, facts – the learner must relate them, attitudes – he must change them.

### **3.3.6 Essentials in Adult Learning**

There is a saying that “The teacher has not taught if the pupil has not learned”. Since an extension worker is a teacher, he should understand very well the principle factors in adult learning.

- i) Adults Learn most rapidly when they have a strong desire to learn. A farmer has a crop that is being damaged by insects. He knows that this crop will soon be destroyed unless the insects are killed but he does not know what spray to apply, how to mix it or how to use it. He therefore, comes to an extension officer for advice. He is eager to learn rapidly because there is a strong desire on his part to learn how to protect his crops. The desire to learn must be stimulated in many people by extension officer.
- ii) Farmers learn best when they have clear goals. A farmer learns best when he knows exactly what he wants to accomplish.
- iii) Adults farmers learn best when they put forth an effort to learn. Each individual must do his own learning, because learning is an individual matter. No one else can do it for him. In teaching a new knowledge or skill, the extension worker must follow through with each farmer until the skill or knowledge has been put into practice. Only repetition or continued practice will completely establish the new learning as a habit.
- iv) Adults learn best when they receive satisfaction from what they have learned. Adults earn best when they receive some rewards from learning. The reward may be in form of more profit from the sale of a crop grown by improved methods. In every case, success and reward from some new learning always disposes the individual favourably towards more learning. Satisfaction from one learning experience stimulates desire for learning in other field.

### **3.3.8 Thorndike's Laws of Learning:**

#### **1) Law of Readiness:-**

First primary law of learning, according to Thorndike, is the ‘Law of Readiness’ or the ‘Law of Action Tendency’, which means that learning takes place when an action tendency is aroused through preparatory

adjustment, set or attitude. Readiness means a preparation of action. If one is not prepared to learn, learning cannot be automatically instilled in him, for example, unless the typist, in order to learn typing prepares himself to start, he would not make much progress in a lethargic & unprepared manner.

## **2) Law of Exercise:-**

The second law of learning is the ‘Law of Exercise’, which means that drill, or practice helps in increasing efficiency and durability of learning and according to Throndike’s S-R Bond Theory, the connections are strengthened with trial or practice and the connections are weakened when trial or practice is discontinued. The ‘law of exercise’, therefore, is also understood as the ‘law of use and disuse’ in which case connections or bonds made in the brain cortex are weakened or loosened. Many examples of this case are found in case of human learning. Learning to drive a tractor, a bicycle, singing or memorizing a poem or a mathematical table, and music etc. need exercise and repetition of various movements and actions many times.

## **3) Law of Effect:-**

The third law is the ‘Law of Effect’, according to which the trial or steps leading to satisfaction stamps in the bond or connection. Satisfying states lead to consolidation and strengthening of the connection, whereas dissatisfaction, annoyance or pain leads to the weakening or stamping out of the connection. In fact, the ‘law of effect’ signifies that if the response satisfies the subject, they are learnt and selected, while those which are not satisfying are eliminated. Teaching, therefore, must be pleasing. The extension agent must obey the tastes and interests of his clientele. In other words, greater the satisfaction stronger will be the motive to learn. Thus, intensity is an important condition of ‘law of effect’.

Besides these three basic laws, Throndike also refer to five subordinate laws which further help to explain the learning process. These are:

## **4) Law of Multiple – Response-**

According to it the organism varies or changes its response till an appropriate behaviour is hit upon. Without varying the responses, the correspondence for the solution might never be elicited. If the individual wants to solve a puzzle, he is to try in different ways rather than mechanically persisting in the same way. Throndike’s cat in the puzzle box moved about and tried many ways to come out till finally it hit the latch with her paw which opened the door and it jumped out.

## **5) The Law of Set or Attitude-**

Learning is guided by a total set or attitude of the organism, which determines not only what the person will do but what will satisfy or annoy

him. For instance, unless the cricketer sets himself to make a century, he will not be able to score more runs. A student, similarly, unless he sets to get first position and has the attitude of being at the top, would while away the time and would not learn much. Hence, learning is affected more in the individual if he is set to learn more or to excel.

#### **6) Pre-potency of Elements:-**

According to this law, the learner reacts selectively to the important or essential in the situation and neglects the other features or elements which may be irrelevant or non-essential. The ability to deal with the essential or the relevant part of the situation makes analytical and insightful learning possible. In this law of pre-potency of elements, Thorndike is really anticipating insight in learning which was more emphasized by the gestaltions.

#### **7) Law of Response by Analogy-**

According to this law, the individual makes use of old experiences or acquisitions while learning a new situation. There is a tendency to utilize common elements in the new situation as existed in a similar past situation. The learning of driving a tractor, for instance, is facilitated by the earlier acquired skill of driving a motor cycle or even riding a bicycle because the perspective or maintaining a balance and controlling the handle helps in steering the car.

#### **8) The Law of Associative Shifting-**

According to this law we may get a response, of which a learner is capable, associated with any other situation to which he is sensitive. Thorndike (1932), illustrated this by the act of teaching a cat to stand up at a command. A fish was dangled before the cat while he said ‘stand up’. After a number of trials by presenting the fish after uttering the command ‘stand up’, he later ousted the fish and the overall command of ‘stand up’ was found sufficient to evoke the response in the cat by standing up on her hind legs.

### **3.4 Conclusion**

In this unit, we have been able to examine the concepts of learning, how learning takes place, transfer and basic characteristics of learning, factors affecting learning, principles of learning in extension and essentials of adult learning. The unit finally highlights the Thorndike’s laws of learning.



### 3.5 Summary

The main points in this unit are:

1. Learning is a process by which an individual through its own activities become changed in his behavior.
2. Learning takes place in individual through: conditioning, trial and error, problem solving, training, insight learning, imitation and memorization.
3. Basic characteristics of learning includes: Learning is meaningful, learner's active participation, physical and social environments, growth – like and continuous.
4. The following factors affect learning: motivation influences, characteristics of materials to be learnt, learning under special conditions, efficient conditions of practice, comfort, emotional problems, fatigue and monotony of presentation.
5. Principles of learning: Learning is purposeful and challenging, fundamental, understanding, social or physical environmental influences, gradual and active processes.
6. Adult farmers learn best when they have clear goals, put forth an effort to learn, strong desire to learn and satisfaction from what they have learned.



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### 3.7possible Answer to Self-Assessment Exercise(S)

#### **Self-Assessment Exercise 1:**

Differentiate between learning situation and learning experience in extension.

#### **Answer**

Learning situation as one in which all elements necessary to promote learning are present such as: (a) Instructor (agent), (b) Learners, (c) subject matter, (d) Learning materials (e) physical factor. Learning experience is a mental or physical reaction one makes through seeing, learning or doing the things to be learnt through which one gains the meanings and understandings of the materials to be learnt.

#### **Self-Assessment Exercise 2:**

Outline four ways of achieving transfer of learning.

#### **Answer**

Transfer of learning can be achieved in the following ways:

- a. Encourage the learner to look for similarities in various situations.
- b. Encourage learner to apply the ideas in other similar situations.
- c. Encourage learner to generate principles personally rather than being told, allowing the learner discovers similarities and principles.
- d. Discourage memorization of data or content of learning process by the learner.

## UNIT 4 MOTIVATION IN AGRICULTURAL EXTENSION

### Unit Structure

- 4.1 Introduction
- 4.2 Learning Outcomes
- 4.3 Main Content
  - 4.3.1 Concept of Motivation
  - 4.3.2 Types of motivation
  - 4.3.3 Factors influencing motivation
  - 4.3.4 Motivational Needs
  - 4.3.5 How to motivate village people
  - 4.3.6 Motivating Extension Workers
- 4.4 Conclusion
- 4.5 Summary
- 4.6 References/Further Readings/Web Resources
- 4.7 Possible Answers to SAEs in the Content



### 4.1 Introduction

This unit will introduce you to concept and types of motivation, motivational factors and needs, and how to motivate village people and extension workers. Therefore, after studying this unit, certain things will be required of you which are listed in the objectives below.



### 4.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain the concept of motivation
- Identify the major types of motivation
- Explain factors influencing motivation
- Identify motivational needs
- Describe how to motivate village people
- State how to motivate extension workers.



### 4.3 Main Content

#### 4.3.1 Concept of Motivation

Motivation is a general term for factors that make one intent on a particular behaviour. These factors include needs, drives, motives, incentives, urges and goals. It underlines every phase of human behaviour

and human relations. Motivation is a process of initiating a conscious and purposeful action (Onwubuya, 2005). Motive means an urge or combination of urge to induce conscious or purposeful action. Motives can be referred to as “sets” and needs that involve incentives and goals. It is a compound of feelings, appetites, inclinations and instinctive impulses. It becomes objectified as an interest and unless prevented by internal or external obstacles, leads to action in pursuit of that interest.

Motivation is also a goal directed and needs satisfying behaviour. Needs are tensions within the individual, which tends to organize the field of the individual in regard to certain incentives or goals and to excite activity directed towards their attainment. A goal can be seen as any object or event that terminates an on-going activity of an individual. According to Folajin and Tunde (1999) Motivation refers to all phenomena which are involved in the stimulation of action toward particular objectives where previously there was little or no movement toward those goals. Motivation considers basic or internal drives as well as external incentives or rewards. Motivation endows the person with the drive and direction needed to engage with the environment in an adaptive, open-ended and problem-solving sort of way (Reeve, 2015).

Motivation is necessary in extension for mobilizing village people and the extension workers if extension programmes are to succeed. In pre and post independent Nigeria, most development programmes could not bring the desired results because there was no proper motivation in the extension workers. Because of this, the extension workers could not achieve results and their efforts could not motivate most village people. In the administration, there was absence of:

- a) Zeal and enthusiasm for service to the nation;
- b) Recognition and appreciation of their work;
- c) Monetary rewards and advancement in cadre;
- d) Stimulus and incentives;
- e) Educative behaviour of the superiors;
- f) Proper training and orientation of extension workers;
- g) Recognition of the significance of extension work and extension workers.

In the absence of these factors, the approach of the extension workers was like a boss and not that of a missionary and servant of the nation (Onwubuya, 2005). Efforts are now being made to change the attitude. It is advantageous to be concerned with conditions associated with various needs arouse and direct the behaviour of individuals towards satisfaction of needs. Motives or stimulus conditions, which direct our response fall into two groups:

1. Biological Drives: The term drive refers to internal stimulus conditions of an individual which impels him to activity, thus

biological drives are those resulting from issue needs. They motivate the behaviour of individual in directions that lead to satisfaction of those needs e.g. hunger drives motivate individuals to seek and eat food, necessary to maintain metabolism. The knowledge of drives (hunger, thirst, fatigue,sleep, etc) will help extension works realize the problems of the people to be able to handle them sympathetically.

2. Psychological and social Drives: These types of drive are necessary to keep the individual in equilibrium to perform his normal behaviour. They are tied up closely with his relationship with other people and his happiness in life. The extension worker must have the knowledge of the basic psychological and social drives of the people with whom he has to work.

### **4.3.2 Types of Motivation**

There are two major types of motivation:

**Intrinsic Motivation:** is that resulting from stimuli within an individual. For example, ordinarily one is persuaded to perform a job and he is given an incentive over several times. But if he is persuaded and made to know that he needs to do the last and how beneficial it will be to him, he makes up his mind to it through achievement of courage and cooperative attitude.

**Extrinsic Motivation:** Is that resulting from external stimuli. For example, to achieve an objective, medals certificates are given, the standard of performance to achieve will be influenced and will assist the person in his life later.

In extension, both types have value in learning and are used because the farmers are responsible for taking care of their family, a means of income and social status as their goals. Some of these goals have priority given to different goals, the farmers need to be motivated as such. Motivation is also involved in setting of goals and execution e.g. motivation to get only money. Give the farmers improved knowledge and help them in the application of the knowledge gained to develop certain skills. There is need to motivate farmers before teaching them.

### **4.3.3 Factors Influencing Motivation**

The following factors influence motivation:

- i. Willingness: If an individual has a desire for something mentally, motivation will be easier in most situations.
- ii. Readiness: This includes physical and mental readiness. If an individual desires something but during its presentation, he is

- either ready or not ready mentally or physically, motivating him will be most influenced by these.
- iii. Aspiration: All normal individuals have aspirations. Aspiration is the level of achievement or standard one is ready to work for in spite of certain levels of difficulties. People then have high or low aspirations inline with efforts they are prepared to make. It is very difficult to motivate people with low aspirations.
  - iv. Attitude: This involves the mental position one has towards an idea, either favourable or unfavourable. It is usually very difficult to motivate people with unfavourable attitude.
  - v. Anxious: When a person is anxious, he is always worried about his environment. If the level of his anxiety is low, he is easily motivated and vice versa. If one is of high level of anxiety, he may be in flexible and rigid and cannot be motivated easily.

### **Self-Assessment Exercise**

- |   |
|---|
| 1. Differentiate between intrinsic and extrinsic motivation |
| 2. Differentiate between aspiration and attitude.           |

#### **4.3.4 Motivational Needs**

Organic Needs or Appetite: Man is constructed in such a way that he requires certain things other than he may keep living. This is so complicated that these needs make themselves felt in such a way as to initiate activity that will eventually satisfy them. These needs include air to breath, food to eat, liquid to drink, rest after activity, sleep, a changing environments, the elimination of waste products and sexual expressions. These are all basic organic needs, which demand continued satisfaction. These are motives or directing influences because they initiate and sustain activity and also direct the activity until the need is satisfied. These may be called appetite and may be given as follows:

1. **Hunger:** The organic sensation arising from an emptied stomach is the basis of hunger. Habit or custom plays significant role here making individual eat 3 or 4 meals daily rather than need.
2. **Thirst:** The need for this activity is stimulus for moisture, vindicated most accurately by sensation from the throat part.
3. **Sex appetite:** Sex is not all of life or marital relationship. The thwarting of the sex attitude by economic or social taboos has forced this appetite to find other outlets in behaviour. The secrecy, shame and suggestions of indecency connected with sex activity provide the ground for pervasions of habits and thought. Better management of the attitude is required such as in the enjoyment or production of art or in the companionship of the opposite sex in reading.
4. **Appetite for Change or variety:** In modern organization or industry where there is specialization changes to different areas are

- divided and so brings discontent and boredom. The search for pleasure and recreation is because of drudgery of understanding.
5. **Wants:** Each individual acquires his different set of personal needs on the foundation of universal needs such as likes and dislikes for specific foods, play, sex, etc. Since want has been acquired functions like a need, a person cannot be happy unless he finds some way to satisfy.

#### **4.3.5 How to motivate village People**

Rewards in extension may be in form of money, material, symbolic and public recognition. They are effective devices to motivate the village people as well as extension workers. However, the following considerations must be made while administering the award system in our areas (Onwubuya, 2005).

- i. Award should be designed to encourage wide participation and activity by giving them adequate spread.
- ii. The potential ability of competitors should be considered e.g. age training, experience it so that awards are nearly as possible equally attainable by all contestants.
- iii. The “Learning experience” as a result of “award motivation” should be the objective and should be geared towards improvement of definite value to the contestants.
- iv. The criteria for allotment of rewards should be planned, publicized and understood by all contestants,
- v. Awards should be made for “Personal” resources and should include achievement, cooperation and leadership.
- vi. Award should be planned to reward the work of the competitor himself for his group and not that accomplished with outside help.
- vii. The activities learned as a means of obtaining the award should be on which is desirable as a ‘habit’.
- viii. An award should be attainable within a reasonable period after it is earned.
- ix. Award should be of durable nature preferably of the intrinsic type which will encourage further knowledge or skill in the field of interest of the participants. Intrinsic awards when used should be well chosen to perform a similar function i.e. books, scholarship, etc.
- x. Award should where possible be made on a “Group” or “club” basis to develop cooperation rather than egoism.
- xi. Competent, impartial judges should determine winners and the basis for awards should further encourage, motivate and prepare for future competition.

### 4.3.6 Motivating Extension Workers

It is necessary that extension workers get motivated because they have feeling of belongingness to the extension organization, love to the profession, are true to their duties and have a missionary zeal. They have high morale and form that are motivated towards the goal. This could probably be achieved if the following factors are considered:

- a. Selection and training of workers
- b. Proper stimuli and incentives.
- c. Development of an effective code of ethic for extension workers.
- d. Orientation of new workers towards the goal of the extension programme.
- e. Supervision
- f. Development of high morale.

## 4.4 Conclusion

In this unit you have learnt the concept, types, needs, factors influencing motivation and how to motivate village people and extension workers. From these discussions, you now know that motivation is something we encounter every day in our lives.



## 4.5 Summary

The main points in this unit include the following:

1. Motivation is a process of initiating a conscious and purposeful action.
2. There are two major types of motivation namely: intrinsic and extrinsic motivations.
3. Factors influencing motivation include: willingness, readiness, aspiration, attitude and anxiety
4. Motivational needs include: hunger, thirst, sex appetite, appetite for change and wants.
5. Rewards in extension may be in form of money, material, symbolic and public recognition. Considerations must be made while administering the award system in our society.
6. Selection and training of workers, proper stimuli and incentives, supervision, high morale, development should be considered in motivating extension workers.



#### **4.6 References/Further Readings/Web Resources**

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## 4.7 Possible Answer to Self-Assessment Exercise(S)

### Self-Assessment Exercise

#### 1. Differentiate between intrinsic and extrinsic motivation

**Answer:**

**Intrinsic Motivation:** is that resulting from stimuli within an individual. For example, ordinarily one is persuaded to perform a job and he is given an incentive over several times. But if he is persuaded and made to know that he needs to do the last and how beneficial it will be to him, he makes up his mind to it through achievement of courage and cooperative attitude.

**Extrinsic Motivation:** Is that resulting from external stimuli. For example, to achieve an objective, medals certificates are given, the standard of performance to achieve will be influenced and will assist the person in his life later.

**2. Aspiration:** All normal individuals have aspirations. Aspiration is the level of achievement or standard one is ready to work for in spite of certain levels of difficulties. People then have high or low aspirations in line with efforts they are prepared to make. It is very difficult to motivate people with low aspirations.

**Attitude:** This involves the mental position one has towards an idea, either favourable or unfavourable. It is usually very difficult to motivate people with unfavourable attitude.

## UNIT 5 CONCEPT AND OVERVIEW OF THE USE OF EXTENSION METHODS

### Unit Structure

- 5.1 Introduction
- 5.2 Learning Outcomes
- 5.3 Main Content
  - 5.3.1 Concept of Extension Methods used in effective Agricultural Transformation
  - 5.3.2 Conditions necessary for effective use of teaching methods
  - 5.3.3 An overview of the use of Extension Methods
- 5.4 Conclusion
- 5.5 Summary
- 5.6 References/Further Readings/Web Resources
- 5.7 Possible Answers to SAEs in the Content



### 5.1 Introduction

This unit will introduce you to the concept and overview of the utilization of extension methods employed in agricultural extension. We are now going to look at this concept in detail. The objectives below specify what you are expected to have learnt after studying this unit.



### 5.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain the concept of extension methods utilized in effecting agricultural transformation
- Identify the necessary conditions for effective use of teaching methods.
- Describe an overview of the use of extension methods.



### 5.3 Main Content

#### 5.3.1 The Concept of Extension Methods

Extension Teaching Methods (ETMs) may be defined as the devices that are utilized to create situations and conditions in which meaningful communication can take place between the instructor and the learners. Also, extension teaching methods are devices used to create situations in which new information can pass freely between the extension worker and

the farming communities. Extension teaching methods are formulated in order to implement various kinds of functions, these are, to make provision of effective communication, so that the learner is able to see, hear and do the things that are required to be learnt (National Agriculture and Livestock Extension Programme [NALEP] (2011). To make provision of stimulation and motivation that leads to desired psychological and physical action on the part of the learner. It is the function of the extension workers or teachers to use the extension methods which provide opportunities for rural people to learn and which stimulate mental and physical activities among the people. For extension workers to be successful, they must be proficient in technical knowledge and educational process and must also know the right attitude towards rural people.

The extension methods employed by the extension workers during the extension of development programme directly affect the effectiveness of their efforts. An understanding of the strength and weakness of the various extension methods available to an extension worker is important because the results of the extension worker's effort is dependent on the types and intensity of the methods he uses to pass on information to farmers and to persuade them to adopt new farm technologies.

Extension education assists farmers in effectively using the resources available to them in solving their present farm and domestic problems. By giving farmers educational and material services, utilizing effective extension methods, the extension service stimulates them to make such changes in their farm operations as will result in more efficient production and more profitable marketing of their farm products. The extension worker should be careful and selective about the methods he uses. Extension work requires many methods and tools of teaching. People are influenced to make changes in behaviour in proportion to the degree of their contact with several different methods. A good extension worker must not only have in his command a variety of teaching methods, but must know also where to use them when to use them and how to use them to achieve best results. The teaching methods used by the extension workers differ according to farmers' circumstance and their stance in the various stages of the adoption process.

### **5.3.2 Conditions Necessary for Effective use of Teaching Methods**

The following conditions are necessary for effective utilization of teaching methods.

1. The Learning Situation. This comprises the extension worker who has clear objectives, knows the subject matter to be taught and is able to communicate freely with the farmers. The learning also

- includes the people who are capable of and interested in learning and the subject matter which must be pertinent to farmers' needs and which is taught at people's intellectual level. In physical terms, the learning situation should be true from outside distraction and should be comfortable. Teaching equipment should be suitable to the subject matter presented and be available when required.
2. The Learning Objectives. As a precondition, objectives for the use of extension methods must be clearly stated. An objective is defined as an end towards which teaching is directed. Any purposeful teaching has specific objectives which must contain four basic elements namely; people to be taught, behavioral changes to be made, subject matter to be taught and life situation in which action is to take place.
  3. Use of effective Learning Experiences. A learning experience is referred to as the mental or physical reaction one makes in a learning situation through seeing, hearing or performing activities during a learning process.
  4. Use of a variety of teaching methods. This is the final condition. Provisions should be made for the opportunity to utilize a variety of extension methods.

#### **Self-Assessment Exercise**

- |  |
|--|
| 1: What do you understand by extension teaching methods?<br>2. Write short notes on an overview of the use of extension methods. |
|--|

#### **5.3.3 An Overview of the Use of Extension Methods**

Extension workers are often concerned about what constitutes the most appropriate methods among all the array of approaches available. It should be noted that there is no single rule-of-thumb that is applicable in all conditions. The nature of the subject matter and the circumstances of the farmers such as their level of education will help to determine the type of method to be utilized. A number of studies have shown the relative importance which extension staff attach to the use of extension methods. In one of the studies, Pandy (1998) asked a group of 92 staff members of the Western Nigeria Ministry of Agriculture how they distribute their time among the various methods.

In response, 52 of them said they often held extension meetings, 25 said they often carried out demonstration of new farm practices, while 39 reported that they conducted demonstrations occasionally and 28 of them never carried out demonstration. Twenty one of the respondents often used posters to show new practices, 59 said that farmers called to them to seek advice. 31 often took farmers on tours, while 18 often gave out pamphlets and bulletins. Similarly, Obibuaku and Hursh (1994) studied the effects of radio, demonstrations, personal contact with extensions

staff, films, lectures, newsletters, pamphlets on farm practices, adoption in the East Central State of Nigeria. The results showed that the radio and agricultural demonstrations were the means most used in reaching the farmers. The significant of the two methods may be related to the fact that the majority of the farmers were illiterate and thus responded more to those methods which emphasized seeing and hearing in contrast to those methods which emphasized reading.

Also Tenebe and Mundi (2008) carried out a research on comparative study of direct extension teaching methods (DET) and Open and Distance Learning (ODL) on technology adoption rate by cowpea farmers in Bauchi State of Nigeria. The DET methods used included contact lectures/seminars, workshop, field demonstration and on-farm trials while ODL methods included the use of print materials (pamphlets, posters and bulletins), radio and television. The study revealed that the use of radio as a method of ODL is more effective than DET method and therefore recommended for successful technology adoption by cowpea farmers in Bauchi State of Nigeria. The study also attempted to determine the effects of the various methods in helping to bring about improvements on the farm.

From the study, the researchers concluded, the results of this study indicate that in teaching farmers with little or no education, extension workers should be selective in the methods they use. Very little use can be made of pamphlets, bulletins, circular letters and the like. However, where the farmers are literate, extension written materials can make valuable contributions because of the specific nature of their message and the fact that they are available for easy reference. The radio appears to be significant in making illiterate farmers aware of extension programmes. But it is less significant in when deciding on changes in farm practices. From these and similar studies, it can be seen that extension workers in Nigeria are not making adequate use of extension methods in their work. For example, 28 out of 92, or 30.43% of the extension staff in Western Nigeria never used demonstrations in their teaching. It is therefore necessary for all extension staff to understand the classification and usefulness of various extension methods.

#### **5.4 Conclusion**

In this unit we have been able to explain the concept of extension methods, conditions for effective utilization of extension methods and overview of the use of extension methods from these discussions, you now know what extension methods imply.



## 5.5 Summary

The main points in this unit are as follows:

1. Extension methods refer to devices used to create situations in which information can pass freely between the extension worker and the farmer.
2. Conditions necessary for effective use of extension methods include: Learning situation, learning objectives, learning experiences and variety of teaching methods.
3. It is very important for all extension workers to understand the classification and utilization of various extension methods.



## 5.6 References/Further Readings/Web Resources

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## 5.7 Possible Answer to Self-Assessment Exercise(S)

### Self-Assessment Exercise

1. What do you understand by extension teaching methods?

#### Answer:

Extension Teaching Methods (ETMs) may be defined as the devices that are utilized to create situations and conditions in which meaningful communication can take place between the instructor and the learners. Also, extension teaching methods are devices used to create situations in which new information can pass freely between the extension worker and the farming communities.

### 2. An Overview of the Use of Extension Methods

Extension workers are often concerned about what constitutes the most appropriate methods among all the array of approaches available. It should be noted that there is no single rule-of-thumb that is applicable in all conditions. The nature of the subject matter and the circumstances of the farmers such as their level of education will help to determine the type of method to be utilized. A number of studies have shown the relative importance which extension staff attach to the use of extension methods. In one of the studies, Pandy (1998) asked a group of 92 staff members of the Western Nigeria Ministry of Agriculture how they distribute their time among the various methods.

## UNIT 6 CLASSIFICATION OF EXTENSION TEACHING METHODS

### Unit Structure

- 6.1 Introduction
- 6.2 Learning Outcomes
- 6.3 Main Content
  - 6.3.1 The individual Methods
  - 6.3.2 The Group Methods
  - 6.3.3 The Mass Methods
- 6.4 Conclusion
- 6.5 Summary
- 6.6 References/Further Readings/Web Resources
- 6.7 Possible Solutions to Self-Assessment Exercises



### 6.1 Introduction

In this unit you are going to learn about the various agricultural extension methods. Teaching involves imparting of information and extension instructional guides to the learning process so that the farmers can learn better and more effectively. The objectives below specify what you are expected to have learnt after studying this unit.



### 6.2 Learning Outcomes

By the end of this unit, you should be able to:

- Classify extension teaching methods according to use
- Explain individual contact methods
- Discuss the group methods
- Identify the various mass methods in extension.



### 6.3 Classification of Extension Methods

The extension worker is always a teacher; he must anticipate the varied learning situations with which he will be facing. He must play the teaching activities he will use and the teaching tools most appropriate. Success in bringing about desired changes in behaviour with his learners frequently depends on the teacher's skill in arranging the best learning situation and in utilizing the most effective methods of teaching in that situation.

In many teaching situations an extension worker will find that the use of two or more methods will be much more effective than the employment of any single method. Methods used in extension may be classified into  
 (a) Individual contact methods (b) group methods (c) Mass methods.

<b>Individual Contacts</b>	<b>Group Contacts</b>	<b>Mass Contact Methods</b>
Farm and home Visit	General meetings	Newspaper
Office calls	Group discussion	Radio
Telephone calls	Exhibits	Television
Personal letters	Conducted tours	Publications
Result demonstration	Method demonstration	

### 6.3.1 Individual Methods

Individual methods are used in extension teaching in recognition of the fact that learning is an individual process and that the personal influence of the extension worker is an important factor in securing people's participation in extension activities. Individual contacts are many times concerned with a request for information on some special problem of the farmers (Obibuaku, 1983). **Farm and Home Visit** – are essential elements of extension education. They provide a means of personal communication between the farm family and the extension worker in an environment where they can discuss matters of common interest in privacy and without the distractions and interruptions commonly experienced in group extension activities.

Farm and home visits serve the following significant purposes:

1. In answer to a request for help by a farmer
2. To secure a cooperator in setting up a result demonstration
3. To get assistance in arranging a local meeting
4. To influence the individual on some specific improved, practice such as trying a new variety
5. To gain firsthand knowledge of problems faced by the farmers or villagers
6. To explain a recommended practice
7. To follow up and observe the results of recommended practices.
8. To recruit, train or encourage a local volunteer leader.

Advantages

1. A farm visit gives the extension worker firsthand knowledge of farm and home conditions
2. It builds confidence on the part of the farmers in the extension worker.
3. It contributes to the selection of better local leaders and demonstration

4. It develops good public relation

**Limitations**

1. A farm visit requires a relatively large amount of agent's time
2. The number of such contacts that can be made is definitely limited
3. The time of visit is not always convenient for the farmer.
4. There is danger that the extension worker may visit progressive farmer only and neglect those families where personal contact is most needed.

**Office calls**

Office calls are made by the farmer for the purpose of satisfying a felt need. The extension worker's office must be conveniently located. The office should show sincere interest in visitor's problem. The extension worker should keep record of all calls. Some calls may need a follow up.

**Advantages**

1. The caller is likely to be highly receptive to learning
2. An office call is economical – user of agents time
3. An office call shows interest and confidence by the farmer in extension programme

**Limitations**

Office contacts are removed from the farm and may not reflect the real problem for accurately reveal pertinent conditions.

**Personal Letters**

Personal letters are useful in answering requests for information, as follow-up after farm visits and office calls and in contacting local volunteer leaders. The use of letters as instructional method is quite limited in countries lacking an efficient postal service or where many rural residents are illiterate. A good letter to farmers should be:

- i. Complete – give all necessary information;
- ii. Concise
- iii. Clear
- iv. Correct
- v. Courteous, and
- vi. Be written in simple language

**Result Demonstration**

A demonstration is a very effective method of teaching a skill, and a most convincing method in showing the value of improved practices especially in the early stages of extension training. It is probable that no other method carries greater conviction with farmers.

Result demonstration is a method by teaching designed to show by example the practical application of an established fact or group of facts (Harb 1998). It establishes through local proof, the desirability of adopting a new practice or discarding an old one. It is an object lesson that speaks for itself and influence people to change.

Result demonstration can also be called comparative demonstration. Result or comparative demonstrations are those in which two practices or techniques are compared for results. One of the two practices or techniques is the new improved method, while the second is the local existing method (Ibitoye and Mundi 2004). Comparative demonstration is necessary to convince the farmers about the relative advantage of the new method over the old one. Example of comparative demonstrations are: Yields, early maturity, palatability, etc, the use of fertilizers for cropping can be compared with the practice of no manure and new farm tools.

For easy comparison, the two practices or techniques should be subjected to the same conditions and located at the same place. All other conditions except for the particular one to be compared should be similar. By doing this, the farmers will be easily convinced about the practicability of the new improved method under the local condition. The purpose of result demonstration is to develop the confidence of the farmers in the extension worker and in the recommended practice which the worker is promoting.

### 6.3.2 Group Methods

Group methods take into account the affection of individual to respond to the pressures and opinions of groups in which he participates and to listen to the views of others before arriving at a decision about making changes in his farming operations. Group methods have been found to help in moving people from awareness stage through interest and even trial stages of the adoption process. When an extension worker presents an idea to a group, the participants may ask questions, exchange ideas with one another and may stimulate one another to action. Some of the group methods are discussed below:

**General Meetings** – These include all kinds of meetings held by the extension workers except demonstration meetings. The method of conducting the meetings may be by lectures, discussions, showing of slides and motion pictures of any combination of these. It may be that the meeting of all farmers in the village to hear about a new crop or practice or to listen to a subject matter specialist. The method of the meeting must be well thought out and the agenda carefully prepared in order to achieve objectives envisaged. During the meeting provision should be made for use of materials, charts, specimens, pictures, etc., to

illustrate points. Towards the end of the meeting allowance should be made for questions and answers which would assist to clarify specific ideas. To make the meeting successful, the extension worker should enlist the help of local leaders to: (a) agree on the purpose of the meeting and to draw tentative programme, (b) decide and secure speakers (c) arrange for social and recreational aspects of the meeting; (d) agree on the place and time of the meeting; (e) select the chairman and advertise the meeting.

Extension meetings are of various kinds and include meetings of youth clubs, home-makers club, Board of Directors of Cooperative Societies, among others (Kelsey and Hearne, 1985). The purpose of the meetings is to get business done and to take action. Other types of meetings include community meetings, special interest meeting, planning meetings, and training meetings. Meetings of all kinds have merits and demerits. Meetings are useful in reaching a large number of people. They serve as a participating stage for the use of other methods. By means of meetings, use can be made of group psychology to promote programmes. One of the disadvantages of meeting is that they offer limited scope for discussion. Where the audience is large, handling a topic may become very difficult especially where there are disparities in age and educational attainment.

**Group discussion** – This follows from farm and home visits. After locating several individuals from such visits, the extension worker may invite them for informal discussions. The group can meet in school, a church or some other convenient place. The extension worker should lead the discussion at the beginning, but should allow the local leaders to take over later. Such discussions should centre on agricultural matters and not to introduce political issues.

**Exhibits** – These are systematic display of specimens, models, charts, posters, etc. Their main purpose is to develop the interest of those who see them, influence their attitude, increase their knowledge and stimulate them to action. Exhibits are considered as some of the best methods of teaching illiterates. A well planned educational exhibit can present information quickly and convincingly. Exhibits have imaginative appeal, and can stimulate competitive spirit among participants. This will be particularly so when prizes are awarded to those who produce the best. Shows exhibits should be so convincing that observers will be persuaded to adopt exhibited practices on their farms, in their homes and communities. Exhibits can be of any size. However, for extension purposes, they should be made simple, and should convey only one idea at a time.

**Conducted Tours** – Represent a teaching method whereby a group of people are taken on a study tour or trip to observe the result of improved practices in actual situations. This means that the group will travel

together for a day or more. Tours are among the best methods of teaching farm people to gain practical knowledge because people learn through seeing things in actual operation. Tours are most suited for teaching groups such as members of Young Farmers' Clubs. A tour can be made to a research station, demonstration farms and similar places of educational interest.

**Method Demonstration** – This is a method of teaching used to present an improved practice in an interesting, convincing way so that people will understand the need for it and its practical application to their situation. It is used to show how to carry out a new practice. Method demonstration is also called non-comparative demonstration. Method or non-comparative demonstration is necessary to teach the farmers how a particular practice or technique is to be carried out. Unlike comparative demonstration, no two techniques are compared in this case. This method involves teaching the farmers how to do it by themselves. Examples of method demonstration include: How and when to apply fertilizer on crops, control of pests and diseases, repair and maintenance of new farm tools, the production of new improved variety of crops, etc.

It should however be stressed that a particular demonstration can be both a result as well as method demonstration. For example, the use of fertilizer can be a result demonstration if it is demonstrated against the use of local manure. It could be, the same time be a method demonstration if farmers are taught on how and when to apply the fertilizer.

### **Stages in Demonstration**

In carrying our demonstration methods, the following steps should be followed:

- i. Selecting the technique for demonstration
- ii. Gathering of resources for the demonstration
- iii. Selecting and training of the demonstrators
- iv. Getting the farmers aware of the details
- v. Location of the sites for the demonstrations
- vi. Fixing of suitable time for the demonstration
- vii. Carrying out of the demonstration
- viii. Keeping records of all the demonstration activities
- ix. Assessing the success of the demonstration
- x. Announcing the results of the demonstration through the mass media
- xi. Encouraging participating farmers to adopt the method
- xii. Evaluation of the overall programmes

It is important that extension workers should actively involve the farmers especially the local leaders in all stages of the programme.

### Merits of Methods demonstration

- It teaches needed skills to many people at one time
- Seeing, hearing, discussing and participating stimulate action
- It builds confidence in extension worker if demonstration is performed skillfully
- Local leaders easily learn simple demonstration and can repeat them with other groups
- It promotes personal acquaintance between the demonstrators and the farmers

### Demerits/Disadvantage

- Requires a certain amount of showmanship not possessed by all extension workers
- With certain demonstrations, considerable equipment must be transported to the meeting places
- It is frequently difficult to ensure that all members of the group can see clearly.

### Self-Assessment Exercise

- 1: Mention any four examples of demonstration method.  
 2. Mention the advantages of newspaper

### 6.3.3 Mass Media Methods

Mass media methods are useful in reaching a wide audience at a very fast rate. They are generally useful as sources of initial information to farmers and constitute methods of notifying farmers of new developments and emergencies. They are useful in stimulating farmers' interest in a new ideas and practices. The various methods which come under mass media classification include the followings:

**Newspapers-** These are valuable means of spreading agricultural and general community development information to people who can read. An extension worker should acquire the ability to prepare informative press material for the education of farmers in his area. Such material should be functional, intelligently planned and well written. An attempt should be made to personalize a news story in a way that appeals to people's desire for improvement of their homes, income and communities.

Advantages of newspapers are:

1. Means of giving information to a large number of people and of reaching people who might otherwise be left out.
1. They are inexpensive and useful in giving timely information to people.

### Limitations

1. Newspaper editing may mutilate or destroy the substance of a news story
2. Some extension workers may lack writing ability and therefore cannot use the method effectively
3. Newspaper stories are no value where people are illiterates.

**Radio** – Is a powerful instrument and one of the fastest methods of communicating with generality of farmers. It reaches people of all cultural levels who understand the language of transmission.

### Advantages of newspapers

1. It can reach people at relatively low cost
2. Suited for timely presentation of programmes and is used to alert farmers at times of emergencies.
3. It keeps people aware of recommended practices. A radio broadcast must be followed by other methods to bring people to adoption stage
4. It can reach large number of people more quickly than any other method and it does not require reading ability on the part of the farmers to obtain necessary information.

### Limitations

1. Radio broadcasting time may not always be available to extension workers and that some farm homes may lack radio sets.
2. Radio programme are not designed to give much details about extension activities and events.

**Television** - adds second dimension to radio broadcasting therefore increasing the scope of methods available to extension worker. He can demonstrate as well as talk. They offer opportunities to people to employ the two major senses, seeing and hearing in the learning process thereby strengthening the likelihoods of grasping and retaining the subject matter presented.

### Advantages of newspapers are:

1. The main advantages include the fact that this method comes very close to face-to-face method of presentation and that it can reach many people at once.
2. It is possible to give a clear view of key operations in low moving pictures through a television.

### Limitations

1. Due to high cost, many farm homes do not own television sets.
2. The viewer is not in a position to ask question to clarify the points made in a television presentation.

3. Competition between educational programmes and entertainment often crowds out otherwise desired extension programmes.

**Publications** – These include bulletins, pamphlets, leaflets, folders, posters, etc. Publications fit in and reinforce other methods of influencing farmers. These can be prepared and given to participants at meetings, tours or by mail. They can be used to supplement news stories when new information is available.

The main advantages of publications are that they can be read at leisure times and kept for future reference and that the information they contain is usually definite and readily understood. They are cheaper to produce and use than most other teaching materials. One of the demerits of publications is that they are not suitable for teaching people with limited education. Furthermore, information prepared for general circulation may not be useful to all individuals or to all localities.

Bulletins, pamphlets, folders and leaflets can be used in many ways in extension programmes. They may be singly for example to explain the advantage of soil testing. They may be used as reminders of when to plant crops or what chemicals to use to control different insects. Poster is a sheet of paper or cardboard with an illustration and usually a few simple words. It is designed to catch the attention of the passerby, impress on him a fact or an idea and stimulate him to support an idea, get more information or take some kind of action.

It can be seen from the foregoing discussion that extension methods are procedures and devices adopted to assist increase in the chances of success of extension programmes. Many agencies in Africa, employing the different methods, have tried to influence the course of agricultural development with different results.

**Use of Mobile Phones:** This innovation is the fastest means of individual and mass communication. Both extension workers and farmers own personal phone numbers through which communication can be hastened. Its advantages and disadvantages are similar to that of radio broadcasting.

#### 6.4 Conclusion

In this unit, you have been introduced to the various classifications according to utilization. In many teaching situations an extension worker would find that the utilization of two or more methods would be more effective than the use of single method.



## 6.5 Summary

The main points in this unit could be summarized as:

- a) Extension teaching methods may be defined as devices used to create situations in which new information can pass freely between the extension workers and the farming communities.
- b) Extension methods may be classified into three groups on the basis of the number of people they are designed to reach. These are:
  - i. Individual methods
  - ii. Group methods and
  - iii. Mass media methods
- c) Individual methods are used in extension teaching in recognition of the fact that learning is an individual process.
- d) Group methods take into account the attachment of individual to respond to the pressures and opinions of groups in which he participates and to listen to the views of others before arriving at a decision about making changes in his farming operations.
- e) Mass media methods are employed to reach large number of people faster. Individual and group methods cannot reach everyone who wants and needs information.



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## 6.7 Possible Answer to Self-Assessment Exercise(S)

### Self-Assessment Exercise

1: Mention any four examples of demonstration method.

#### Answer

1. How and when to apply fertilizer on crops,
  2. control of pests and diseases,
  3. repair and maintenance of new farm tools,
  4. the production of new improved variety of crops, etc.
- 
2. Advantages of newspapers
    1. It can reach people at relatively low cost
    2. Suited for timely presentation of programmes and is used to alert farmers at times of emergencies.
    3. It keeps people aware of recommended practices. A radio broadcast must be followed by other methods to bring people to adoption stage
    4. It can reach large number of people more quickly than any other method and it does not require reading ability on the part of the farmers to obtain necessary information.

## **MODULE 2      COMMUNICATION IN AGRICULTURAL EXTENSION**

Unit 1	Meaning and Method of Communication in Agricultural Extension
Unit 2	Elements of Communication Process
Unit 3	Steps and Levels of Communication in Extension
Unit 4	Strategies to Create Effective Communication in Extension
Unit 5	Problems in Communication Process

### **UNIT 1 MEANING AND METHOD OF COMMUNICATION IN AGRICULTURAL EXTENSION**

#### **Unit Structure**

- 1.1 Introduction
- 1.2 Learning Outcomes
- 1.3 Main Content
  - 1.3.1 The meaning of communication in agricultural extension
  - 1.3.2 Methods of communication in agricultural extension
- 1.4 Conclusion
- 1.5 Summary
- 1.6 References/Further Readings/Web Resources
- 1.7 Possible Answer To Self-Assessment Exercise(S)



#### **1.1 Introduction**

All explanations of human behaviour directly stems from an examination of how individuals obtain and modify ideas through communication with others. Communication is an activity much taken for granted. Agricultural extension education is essentially a process of communication. Ability to communicate determines to a very large extent the success or failure of an extension worker. In this unit, we are going to learn the concept and method of communication in extension.



#### **1.2 Learning Outcomes**

By the end of this unit, you should be able to:

- Explain the meaning of communication in agricultural extension.
- Describe the methods of communication in extension.



## 1.3 Main Content

### 1.3.1 The meaning of communication in agricultural extension

Communication in agricultural extension is the process by which information on agriculture is transferred from the source to the receivers who are mainly the farmers for the purpose of changing their behaviours towards effecting a desired result. Communication in agricultural extension work is essential to create awareness in the rural people. Without proper communication, it may be difficult for the farmers to find solution to their agricultural problems.

The word communication is abstract and possesses numerous meanings. According to Clevenger (1991), it is inconceivable that any person cannot communicate. The process of communication is fundamental to extension, training and passing on information. Therefore, learning process, the dissemination of social change or innovations cannot be explained without reference to communication.

According to Akereololu and Ajayi (1995), extension services are communicative. The ultimate aim of an extension system is to effectively deliver information to end users in a comprehensive and usable manner. Extension services bear great potentials for improving the productivity of natural resources and promoting the right attitude among natural resource managers (Adebayo & Adedoyin, 2005). The service is recognized as essential mechanism for delivering information and advice as input into modern natural resource management.

Communication always occurs in context, that is, in a setting or situation. As such, the context of communication can be divided theoretically in a variety of useful ways. One such approach is; divide the field vocationally into categories like health communication, business and professional communication and instructional communication (Little John, 1999). Communication can be divided along the lines of the level of involvement of technologies as unaided or aided communication. Often, intercultural communication is distinguished from intra-cultural communication.

The most common division of communication is along the lines of the number of actors involved in the communication scenario (Adebayo, 1997); Bittner 1989; Little John, 1999). In this case, communication can be intra personal (involving only one person), group (relating to interaction of people in small groups, sometimes in decision making settings), Organizational (Occurring in large cooperative networks) and mass (dealing with publication, usually mediated).

Communication process is very important in agricultural extension work. In the absence of proper communication between extension workers and the farmers, the information, attitudes, knowledge, understanding and skills developed by extension unit will serve no useful purpose for the farmers. Little(1980) defines communication as the process by which information is passed between individuals or organizations by means of previously agreed symbols. Effective communication between extension workers and the farmers is necessary in the adoption of agricultural innovations. Communication process is also important to change the values and attitude of the farmers towards the modern techniques of farming. It is through effective communication that agricultural extension workers are able to bring changes in farmers' knowledge, attitudes and skills which help to put farmers in a frame of mind that is conducive for adopting proven agricultural innovations (Agbamu, 2005).

Through communication process, extension workers are able to pass information to farmers and farmers on the other hand are able to channel their problems to the extension workers. In this way, communication provides a two-way process of passing information. All the teaching and learning processes in agricultural extension is made possible through effective communication between the extension workers and the farmers. Thus, effectively communication process seems to be the most important factor in the agricultural extension teaching process.

### **Self-Assessment Exercise**

- |  |
|--|
| <ol style="list-style-type: none"> <li>1: Define communication in agricultural extension.</li> <li>2. Write short notes on organisational factors in extension communication.</li> </ol> |
|--|

#### **1.3.1 Method of Communication in Agricultural Extension**

The method of communication involves a communicator sending a message through a channel to the receiver. In agricultural extension for exchange scientists (Source) may discover a new variety of cowpea (message) and the information on this new innovation will be sent through the extension workers (channel) to the farmers who are the receivers. Similarly, information on production problems may originate from the farmers which will be channeled through the extension workers to the researchers for solution. In this way, communication provides a two-way channel of passing information.

For proper communication to exist four essential elements must be present and these are source, message, channel and the receiver. Communication gap exists when the receiver does not receive the message from the communicator. Ineffective communication results in wastage of resources and local efforts. It may also render further work difficult.

Effective communication therefore requires that the communicator must have adequate skill for the job and the message must be the one that will benefit the receiver. The message must also be sent using appropriate channel and must reach the right hand at the right time.

### **Barriers to Effective Communication in Agricultural Extension**

In an agriculture extension organization, effective communication is very important. Several factors render communication in an extension organization ineffective. In classifying barriers to communication, they are group in four categories which are intrapersonal, interpersonal, organizational as well as technological.

#### **Intrapersonal factors**

Intrapersonal factor in communication involve two barriers which are perception and individual differences in the communication skill. Every individual has his or her personal view on different issues. This has much to do with selective perception which occurs, when people are block out or distorted with new information, especially if it conflicts their believes. In this case, the receiver gives his own interpretation to the message that is transmitted far different from what the sender meant. Apart from selective perception, people also have different abilities to develop and adopt from each other.

#### **Interpersonal factors**

Interpersonal factors include the relationship between super ordinate and sub-ordinate, trust credibility, and sender-receiver similarity. The relationship the super ordinate and sub-ordinate emanating from attitude and treatments, each receiver from the other is very important in an extension organization. It is the relationship between the chief extension officer, sender and the extension agent. Receiver is not cordial; this may lead to destruction of messages.

Likewise, distrust, suspicion and incredibility can also create ineffective communication when these are the definition of the relationship between the chief extension officer, and the deputy chief extension officer. Similarity, between the sender and the receiver in respect of age, sex, intelligence, social economic status, common attitude and mind frame affects communication. Different mind frame in the communication process causes distinctive perceptions.

#### **Organizational factors**

The barriers to effective organizational communication include hieratical differentiation, extension organization size, time pressure, and network breakdown as well as status differences. The taller the organizational chart. The more rung the message descent through, the longer it takes for the message to reach its recipient and the more distorted it becomes. The

distortion may be as a result of condensation, closure or expectation. Condensations occur when the message one receive becomes shorter when repeat. At this time, it becomes less detailed than the original message. Closure refers to the tendency of relaters to be ambiguous, such as rumors to fill in, which are gaps in the information they are relying upon.

### Technical factor

The major factor here as regard technical factor is communication overload. The agricultural extension worker may face some difficulty in taking decision on communication because of the too much information. Many times, the agricultural extension workers are overloaded with information and data to the extent that they find it difficult to absorb or respond adequately to all the pieces of information directed at them. The outcome is that they screen out majority of the messages and consequently do not respond to all. Attention is given only very important messages.

## 1.4 Conclusion

In this unit, you have learnt the meaning of communication, method, essential elements that comprise the communication process in extension and barriers to effective communication in agricultural extension. From the foregoing discussion, you have now known that communication is something that must exist between extension workers and the farmers and is what we encounter every day in our lives.



## 1.5 Summary

The key points in this unit are:

Communication in agricultural extension is a process by which agricultural information is transferred from the source to the receivers who are mainly the farmers. The process of communication is fundamental to extension, training and information diffusion. Four essential elements must be present for proper communication toexist namely source, message, channel and the receiver. The major barriers in agricultural extension are intrapersonal factors, interpersonal factors, organizational factors and technical factor.



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## 1.7 Possible Answer to Self-Assessment Exercise(S)

### Self-Assessment Exercise

1: Define communication in agricultural extension.

#### Answer:

Communication in agricultural extension is the process by which information on agriculture is transferred from the source to the receivers who are mainly the farmers for the purpose of changing their behaviours towards effecting a desired result. Communication in agricultural extension work is essential to create awareness in the rural people. Without proper communication, it may be difficult for the farmers to find solution to their agricultural problems.

### 2. Organizational factors

The barriers to effective organizational communication include hierarchical differentiation, extension organization size, time pressure, and network breakdown as well as status differences. The taller the organizational chart. The more rung the message descent through, the longer it takes for the message to reach its recipient and the more distorted it becomes. The distortion may be as a result of condensation, closure or expectation. Condensations occur when the message one receive becomes shorter when repeat. At this time, it becomes less detailed than the original message. Closure refers to the tendency of relaters to be ambiguous, such as rumors to fill in, which are gaps in the information they are relying upon.

## UNIT 2 ELEMENTS OF COMMUNICATION IN EXTENSION

### **Unit Structure**

- 2.1 Introduction
- 2.2 Learning Outcomes
- 1.3 Main Content
  - 1.3.1 Elements of Communication Process
  - 1.3.2 Factors Affecting Communication Process
- 2.4 Conclusion
- 2.5 Summary
- 2.6 References/Further Readings/Web Resources
- 2.7 Possible Answer to Self-Assessment Exercise(S)



### **2.1 Introduction**

In unit 1 of module 2, we looked at the meaning and method of communication in agricultural extension. In this unit, we are going to look at elements of communication that must be present for effective communication to occur. This unit will assist you to understand the subsequent unit. The objectives below specify what you are expected to learn after going through the unit.



### **2.2 Learning Outcomes**

By the end of this unit, you should be able to:

- Identify and understand the elements of communication process
- Explain the factors affecting communication process

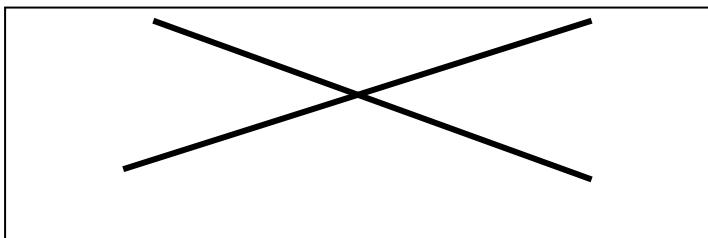


### **2.3 Main Content**

#### **2.3.1 Elements Of Communication Process**

Lasswell (1988) emphasized on essential components of elements of communication. According to him, “the act of communication involves who says what, through what channels of communication, to whom, with what ...results”. The elements in the S-M-C-R-E-F model are the source, message, channel, receiver and feedback. The communication process consists of six essential elements (figure). These elements provide the building blocks from which all models of communication are drawn (Adedoyin, 1997; Littlejohn, 1999; Adebayo, 1997). They are: 1. Source/ Sender, 2. Message, 3. Channel/medium,

4. Receiver, 5. Effect 6. Feedback.



*Figure 1: A basic Model of the Communication Process*

**The Source/Sender** – This is the origin of the communication process. It is an individual or a group working together or an institution responsible for initiating communication and ensuring that the objectives of the exercise are clearly defined and achieved. In addition, the source must strive to update his knowledge through training, subject matter wise, as well as in the methodologies of communication itself. For the message from the source to be of value to the receiver, the communicator (Source/sender) must possess the following characteristics:

- a) He must have a thorough knowledge of the message; his message must also be reliable;
- b) His message must be geared towards solving the problems of the farmers who are the receivers;
- c) He must be able to present his message in simple and clear terms that can be easily understood by the farmers and extension workers;
- d) He should be able to make use of the various teaching methods in agricultural extension; and
- e) The communicator must also be friendly with the farmers who are the audience.

**Message** – This is the second element of communication process. Message is the stimuli or idea or information sent or transmitted from the communicator to the farmers who are the receivers. In agricultural extension work, any message sent to the farmers must possess the following characteristics:

- i) The message must be valid and accurate. There should be no significant difference between the expected and the observed results;
- ii) It must also be according to the need of the people to whom the message is sent;
- iii) It must also be applicable to the local conditions;
- iv) The message must not be in conflicts with the culture and belief of the people;
- v) The message must be organized and presented to the farmers in a simple and clear terms; and
- vi) The message must also be presented at the time it will be useful to the farmers (Ibitoye & Mundi 2004).

According to (Adedoyin, 1989, Adebayo, *et al.*, 2002) messages in extension communication bear particular characteristics which may enhance or hinder their acceptability by the target audience or the receivers. The characteristics are:

- a) The relative advantage. The degree to which a technological innovation or an idea is perceived to be better than the one it seeks to replace;
- b) Compatibility. The extent to which message or idea is in line with prevailing or beliefs and past socio-cultural values;
- c) Complexity. The degree to which an idea or message is perceived as relatively difficult to use and understand;
- d) Trial ability/divisibility. The extent to which an innovation can be experimented with on limited scale;
- e) Observability. The degree to which the results of an innovation or message content are visible to others;
- f) Risk Level. The extent to which an idea or message is perceived to expose the receiver to vulnerability because of failure.

**Channel/Medium:** A channel or medium of communication is the means by which the message is transmitted to the receiver. Some methods of communication channels include: farm and home visits, meetings, demonstrations, lectures, exhibitions, local leaders, field days, radio, publications, office calls, television, etc. It has been stressed that there is no single best channel of communication. The effectiveness and applicability of these channels differ from people to people and from area to area.

The effectiveness of any channel used will depend on the following factors:

- i) Structural composition of the society or the community at large;
- ii) The religious sentiments of the people;
- iii) The purpose of the meeting;
- iv) Availability of facilities;
- v) Traditions and customs of the people;
- vi) The extents of corporation among the individuals making up the society in one hand and that of the extension workers on the other hand;
- vii) The level of development of the people in the area;
- viii) The educational background of the people;
- ix) Experience of the extension workers

**Receiver** - The receiver is the target or audience of communication. The audiences are those whom the source / sender wish to receive, understand and use the idea. In extension communication, it is significant that the receiver of each message be clearly defined and separated into homogenous groups for effective communication. If the audience is to

make progress, the extension teacher should assist them to change their knowledge, attitude or behaviour. If no change takes place, it means there is no communication – no communication. Good extension teaching requires a thorough study of audience. This implies their backgrounds, attitudes, interest and previous accomplishments. The more we know about the audience, the better we can do teaching job.

**Effect** - The effect of communication is felt when the receiver decodes the message (attaches meaning to the symbols) and develop an idea in his mind which he/she may or may not apply.

**Feedback** - This is the response from the receiver to the source of the message. It could also be referred to as receiver's reaction to the message as it affects him. Feedback is a control device and an important parameter or indicator of the success of communication as well as areas requiring modification and additional enquiry.

#### SELF ASSESSMENT EXERCISE

- |    |   |
|----|---|
| 1: | Distinguish between effect and feedback in extension communication.             |
| 2. | Effectiveness of any channel of communication depends on many factors. Explain. |

#### 2.7.1 Factors Affecting Communication Process

The smooth flow of communication can be hindered by certain factors which can result into ineffective communication. Some of these factors are discussed briefly below:

1. **External disturbance** – During communication process, people should be able to hear and see clearly. There should be no disturbance from outside sources.
2. **Lighting and ventilation** – The provision of light and ventilation is essential for effective communication. Without lights, some communication channels will not function or work.
3. **Location of the meeting point** – The place where the message will be delivered should not be too far from the village and must be acceptable to all the community members.
4. **Suitable Audio-Visual Aids** – The utilization of suitable audio-visual aids is essential to supplement the spoken words of extension workers. This will also make the understanding of the message easier.
5. **Provision of seats** – If the receivers are not provided with seats when receiving the message, they may easily get tired. It may also affect their level of concentration.
6. **Religion, Tradition and Customs** – These three factors have great influence on communication process. Failure to observe

- these factors may lead to total rejection of the message.
7. **Age Distribution of the Society** – The method of communication to be used will depend on the age composition of the community. The ways to communicate with young people will be different from those of adults.
8. **Education Level of the people** – The degree and standard of literacy in the community can affect communication process. Normally most of the farmers are illiterates and therefore require more to be convinced.
9. **Experience of the Extension Worker** – Extension worker's experience can influence communication process. Experience is the best teacher, thus young and inexperienced extension workers may find it more difficult to deliver his message to the farmers than the adult and experienced one.
10. **The Level of Development** – Communication process is normally more efficient and easier in developed countries than in developing or underdeveloped countries. The availability of communication facilities depend on the level of development.

## 2.4 Conclusion

In this unit, we have been able to examine the elements of communication process in agricultural extension. The unit finally highlights the factors affecting communication process in extension. I hope by now, you would be able to understand elements and factors affecting communication process in extension.



## 2.5 Summary

The main points in this unit are:

1. The Communication process comprises six significant elements namely:
  - a) Source/sender, (b) message, (c) channel/medium, (d) Receiver, (e) Effect and (f) Feedback.
2. Factors affecting communication process are: (a) External disturbance, (b) Lighting and ventilation, (c) Meeting point location, (d) provision of seats, (e) Suitable audio-visual aids, (f) Religion, tradition and custom, (g) Society age distribution, (h) Education level of the people, (i) Extension worker's experience and (j) Development level of communication.



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## 2.7 Possible Answer to Self-Assessment Exercise(S)

### Self-Assessment Exercise

1: Distinguish between effect and feedback in extension communication.

#### Answer:

**Effect** - The effect of communication is felt when the receiver decodes the message (attaches meaning to the symbols) and develop an idea in his mind which he/she may or may not apply.

**Feedback** - This is the response from the receiver to the source of the message. It could also be referred to as receiver's reaction to the message as it affects him. Feedback is a control device and an important parameter or indicator of the success of communication as well as areas requiring modification and additional enquiry.

**2. The effectiveness of any channel used will depend on the following factors:**

- i) Structural composition of the society or the community at large;
- ii) The religious sentiments of the people;
- iii) The purpose of the meeting;
- iv) Availability of facilities;
- v) Traditions and customs of the people;
- vi) The extents of corporation among the individuals making up the society in one hand and that of the extension workers on the other hand;
- vii) The level of development of the people in the area;
- viii) The educational background of the people;
- ix) Experience of the extension workers

## **UNIT 3 STEPS AND LEVELS OF COMMUNICATION IN EXTENSION**

### **Unit Structure**

- 3.1 Introduction
- 3.2 Learning Outcomes
- 3.3 Main Content
  - 3.3.1 Steps in the Communication Process in Extension
  - 3.3.2 Levels of Communication in Extension
  - 3.3.3 Functions of Mass Communication in Agricultural Extension
- 3.4 Conclusion
- 3.5 Summary
- 3.6 References/Further Readings/Web Resources
- 3.7 Possible Answer to Self-Assessment Exercise(S)



### **3.1 Introduction**

In unit 2, we learnt about the elements of communication process and factors affecting communication process in extension. In this unit, we are going to learn steps in the communication process and levels of communication in extension. The various functions of mass communication in extension will also be looked at. The objectives below specify what you are expected to learn after going through the unit.



### **3.2 Learning Outcomes**

By the end of this unit, you should be able to:

- Outline the steps in the communication process
- Identify the levels of communication in extension
- State the various functions of communication in extension.



### **3.3 Main Content**

#### **3.3.1 Steps in the communication process**

The following steps in the communication process is provided by Kelsey and Hearne (1998):

- a. **Communicator** – This is the person with a message to convey and a purpose to accomplish.
- i. **Objective** – A clear cut specific purpose.

- ii. Audience – The person(s) to whom the communicator directs his message.
- iii. Message – The substance or information that the communicator wishes the audience to receive from his efforts.
- iv. Channel – The means of transmitting the idea to the audience or farmers/receivers.
- v. Treatment – The way in which the component parts are put together so that the whole communication effort achieves the desired result.

It has been stated that among small scale farmers, the adoption of new technology varies geographically from farmer to farmer, religion to religion and among crops, and a number of factors, cultural and environmental conditions must be considered (Rochin 1989). Rochin identified five general types of factors affecting the adoption of new technology as:

- i. Attributes of the adopter;
- ii. Aspects of the technology;
- iii. Characteristics of the economy;
- iv. Features of the environment at the farm level (e.g. socio-cultural factors, farm resource constraints)
- v. Risk and uncertainty.

Thus, the main activities in the communication process involve:

- i. The source generating an idea;
- ii. The source encoding clear, suitable symbols (message);
- iii. Transmitting the selected message through an appropriate medium;
- iv. The receiver obtaining the message through a transmitter; and
- v. The receiver reacting to the message as it affects him (feedback).

We communicate when we think, speak, observe, listen, act, read, write, frown, laugh, smile, nod and nod off, stamp our feet on the ground, run, keep aloof, mix freely with others, etc.

### b. Levels of Communication

#### **The following are levels of communication:**

Intra-personal Communication – This is the communication within one's self. It is a transaction that takes place within individual. The concept of intra-personal communication takes into cognizance the human senses, nervous system and the brain. These all make communication possible. Feedback is spontaneous, but observation is innate and interpretation personalized.

Interpersonal Communication – This is a face-to-face interaction between two or more people. Interpersonal communication makes communication

much easier and feedback is often rapid, especially in a face-to-face situation. The farmer (listener) can ask questions, make remarks and even display non-verbal communication moves by shaking or nodding the head which the sender can pick up and deal with immediately.

### Mass Communication

This is the principle and practice of communication with mass appeal. It involves strategies that reach out to a diverse audience spontaneously in extension. Mass Communication messages are directed at a group of people through a mass medium. Books were the first mass media, followed by newspapers, magazines, firms, radio, television and the advent of the World Wide Web (www) is the latest addition. The Mass media channels have distinct operational features such as hardware, professional managers and gate keepers.

The term gate keeper applies to an entire institution wherein both people and technology interact to control the events that determine the transfer of information from sender to receiver (farmer). Information passed by gate keeper may be considered reliable because such message must have been compiled and scrutinized by a team of experts, i.e. reporters, editors, cameramen, reporting technicians, writers, etc. In this regard, gatekeepers are shapers of opinion in communication and media industry (Yahaya, 2003).

Mass media institutions are newspapers, magazine, books, motion pictures, radio, TVs, internet, sound recordings, etc. In any media institution, there is the production unit distribution or marketing units among others.

- c. Functions of Mass Communication
  - i. Surveillance Functions - this is what makes the media society the “watch dog”. It facilitates the spread of information on extension tragedies and it shapes information about events happening around the world.
  - ii. Interpretation Functions – the mass media tend to make sense of information and thereby enable the target audience benefit.
  - iii. Cultural Transmission Functions – This gives further information and clues about the society. It is also used to teach culture and as a means of transmitting social education.
  - iv. Entertainment Functions – it is a means of creating joy and serves as an outlet for excitement for the audience.
  - v. Propaganda Functions – it is used for brainwashing and popularization of a specific issue of interest in extension. Radio, TV, cinema van can be used to propagate or diffuse information on agricultural shows.
  - vi. Commercial Functions – it is used for advertisement and income

generation in agricultural and non-agricultural activities for the different media outfits.

### **Self-Assessment Exercise**

- |   |
|---|
| 1: Enumerate the 5 main activities involved in the communication process. |
| 2.Examine the levels of communication.                                    |

## **3.4 Conclusion**

This unit has introduced you to the steps in communication process and levels of communication in extension. Various functions of mass communication were also highlighted. It is expected that after going through this unit, you will understand the topics treated.



## **3.5 Summary**

The key points in this unit include the following:

- 1) Steps in communication process are: (a) communicator, (b) objective, (c) Audience, (d) Message, (e) Channel, (f) Treatment,
- 2) The following are levels of communication:
  - a) Intra-personal communication
  - b) Interpersonal communication
  - c) Mass communication
- 3) Mass Communication has the following functions:
  - a) Surveillance
  - b) Interpretation
  - c) Cultural transmission
  - d) Entertainment
  - e) Propaganda and
  - f) Commercial functions.



## **3.6 References/Further Readings/Web Resources**

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### 3.7 Possible Answer to Self-Assessment Exercise(S)

#### Self-Assessment Exercise

1: Enumerate the 5 main activities involved in the communication process.

#### Answer:

The 5 main activities in the communication process involve:

- i. The source generating an idea;
- ii. The source encoding clear, suitable symbols (message);
- iii. Transmitting the selected message through an appropriate medium;
- iv. The receiver obtaining the message through a transmitter; and
- v. The receiver reacting to the message as it affects him (feedback).

#### 2. The following are levels of communication:

Intra-personal Communication – This is the communication within one's self. It is a transaction that takes place within individual. The concept of intra-personal communication takes into cognizance the human senses, nervous system and the brain. These all make communication possible. Feedback is spontaneous, but observation is innate and interpretation personalized.

Interpersonal Communication – This is a face-to-face interaction between two or more people. Interpersonal communication makes communication much easier and feedback is often rapid, especially in a face-to-face situation. The farmer (listener) can ask questions, make remarks and even display non-verbal communication moves by shaking or nodding the head which the sender can pick up and deal with immediately.

## UNIT 4 STRATEGIES TO CREATE EFFECTIVE COMMUNICATION IN EXTENSION

### Unit Structure

- 4.1 Introduction
- 4.2 Learning Outcomes
- 4.3 Main Content
  - 4.3.1 How to create effective communication
  - 4.3.2 Strategies to creating effective communication
- 4.4 Conclusion
- 4.5 Summary
- 4.6 References/Further Readings/Web Resources
- 4.7 Possible Answer to Self-Assessment Exercise(S)

**4.1**

### Introduction

In this unit, we are going to learn about how to create effective communication in extension. Also, the various strategies to create effective communication will be dealt with. This knowledge will throw more light into the scope and dynamics of communication in extension.

**4.2**

### Learning Outcomes

By the end of this unit, the students should be able to:

- State how to create effective communication in extension
- Identify and explain the various strategies use to create effective communication.

**4.3**

### MAIN CONTENT

#### 4.2.1 How to create effective Communication

Achieving effective communication is based on an understanding of the following principles.

- a. **Message Production Skills:** These skills include all the processes of catching the attention and interest of the receiver of thing, code and symbols which are meaningful to him and of designing the message in the form, it will help to process and understand the information.

**Some generation of homophilly:** Homophilly refers to the degree to which individual interactions are similar in certain attributes. Homophilly of course become better where communication has taken place and when the source and receiver are homophilous.

1. Communication patterns are generally homophilous
  2. More effective communication occurs when source and receiver are homophilous.
  3. Effective communication leads to greater homophilly in knowledge, attitude and overt behaviour.
  4. The most effective change agents are those who are most likely their average client on all variables except for technical competence about the innovation promoted.
  5. The more credible the source and receiver, the more effective the communication.
  6. Generalization. Hetrophilous communication is relatively more effective when the source has a higher degree of empathy with the receiver.
  7. Hetrophilous communication is relatively effective when the source attends to feedback from the receivers. Complete homophily does not exist between the source and the receiver in all aspects. Therefore, some amount of homophily is required for effective communication.
- b. **Credibility:** This is the degree to which a source is perceived as trustworthy and competent by receiver. There are two dimensions of credibility (Barlo, 1998).
1. “Competence” credibility and
  2. “Safety” credibility.

Change agent must be knowledgeable about the innovation he has introduced more than the clientele or they will not see him as an expert. In this case, he possesses “Competence” credibility.

A source is perceived as possessing “Safety” credibility when he sees his clients as their peer. At the knowledge stage in communication process, the innovation, competent credibility (hetrophilous) sources are consulted, for example, the research or extension expert.

But at the persuasive communication stage when the individual is forming a positive attitude toward the innovation, safety credibility (homophilous) sources and receivers are consulted.

- c. **Empathy.** This is the ability of an individual to project himself into the role of another person. If you can perceive how your receiver feels and share these feelings, it is possible for you to design your message which would meet his needs and situations.

- d. **Feedback.** By attending to feedback from his receivers, source is able to emphasize more fully with them, understand their needs, meanings and may ultimately become more homophilous with them, leading to more effectiveness in communication.

### **Self-Assessment Exercise**

- |  |
|--|
| 1: State and describe the two dimensions of credibility. |
| 2. What is Message Production Skills?                    |

- e. Strategies to create Effective Communication

The following are strategies for creating effective communication

- i. The Concept of Homophily and Heterophily

The transfer of ideas most frequently occurs between a source and a receiver who are alike, similar, homophilous. The more nearly equal in social status persons are, the more frequently they will interact among themselves.

In effect, most individuals would prefer interacting with persons who are very similar in outlook. Interaction with persons who are very different from us often involves greater effort to make communication effective.

In other words, heterophilic interaction is likely to result in cognitive dissonance, because the receiving unit is exposed to messages that are likely inconsistent with his existing beliefs, an uncomfortable psychological condition (Rogers & Shoemaker, 1981).

Managers in organizations are, therefore expected to relate as much as possible with their subordinates in order to ensure the attainment of organizational goals through effective act of communication.

Heterophilous individuals who have high empathy are in a social psychological sense, really homophilous. Empathy is explained as the ability of a person to project himself into the role of another.

- ii. Understanding the Audience.

Closely associated with the issues discussed, there is the need for the source to understand the nature of the audience and the situation or socio-cultural environment. The source should adapt his message to the receiver's interest and capacity for understanding to make him willing to pay attention.

To be effective, communication should be audience – centered (Myers& Myers, 1995). A knowledge of frames of reference and reference groups is necessary (the people's values and attitudes constitute a frame of reference). A relationship should be developed between the message and the reference group.

An understanding of the personal characteristics of the audience is equally important. An analysis of the receivers' personality traits will be helpful when communicating with people whose group affiliations are known and with whom the source can interact regularly, Myers and Myers concluded. In addition to understanding the human setting, the physical condition of the meeting place – the communication environment should be analyzed and modified or improved upon.

The implication of this argument is that for a source to effect desired changes, he must emphasize to see himself in the differing shoes of his receiving unit.

### iii. Improved Human Relations

The goal of an extension organization can readily be achieved by ensuring high moral of the receivers through:

1. Encouraging cohesive social relationship within receiving unit;
2. Providing farmers with "supportive Leadership" and
3. Creating effective channels of communication between source and receivers.

### iv. Ensuring Regular Information Flow.

Regular flow of information to and from receivers will eliminate the state of uncertainty in human communication as well as hopelessness and rumour mongering. Rumours have been known to cause message distortion and to create confusion among subjects.

## 4.4 Conclusion

You have learnt how to create effective communication and their strategies in this unit. It is hoped that after going through the unit you are expected to have good understanding of the topics treated.



## 4.5 Summary

The unit can be summarized as follows:

Effective communication can be achieved based on:

- i) Message production skills
- ii) Homophilous generation
- iii) Credibility
- iv) Empathy and
- v) feedback

Strategies used to create effective communication are:

1. Homophilous and Heterophilous concept
2. Audience Standing
3. Improved Human Relations and
4. Ensuring regular information flow



## 4.6 References/Further Readings/Web Resources

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## 4.7 Possible Answer to Self-Assessment Exercise(S)

### Self-Assessment Exercise

1: State and describe the two dimensions of credibility.

#### Answer:

The two dimensions of creditability: “Competence” credibility and “Safety” credibility.

Change agent must be knowledgeable about the innovation he has introduced more than the clientele or they will not see him as an expert. In this case, he possesses “Competence” credibility.

A source is perceived as possessing “Safety” credibility when he sees his clients as their peer. At the knowledge stage in communication process, the innovation, competent credibility (heterophilous) sources are consulted, for example, the research or extension expert.

**2. Message Production Skills:** These skills include all the processes of catching the attention and interest of the receiver of thing, code and symbols which are meaningful to him and of designing the message in the form, it will help to process and understand the information.

## UNIT 5 PROBLEMS IN COMMUNICATION PROCESS

### Unit Structure

- 5.1 Introduction
- 5.2 Learning Outcomes
- 5.3 Main Content
  - 5.3.1 Problems in communication process
  - 5.3.2 Ways of improving the effectiveness of communication
- 5.4 Conclusion
- 5.5 Summary
- 5.6 References/Further Readings/Web Resources
- 5.7 Possible Answer to Self-Assessment Exercise(s)



### 5.1 Introduction

In unit four, we treated strategies to create effective communication in extension process. In this unit, we are going to look at problems or barriers in communication process and ways of improving communication.



### 5.2 Learning Outcomes

By the end of this unit, you should be able to:

- Identify and understand the problems in communication process
- Explain ways of improving the effectiveness of communication.



### 5.3 Main Content

#### 5.3.1 Problems in communication process

The complexity of human behaviour often leads to many problems or barriers in the communication process. Their simplicity therefore demands that this unit identifies these problems as well as examine ways of improving effectiveness of communication despite then in an agrarian or extension background. These problems include: feed-forward problems, the homophily/heterophily constraints, noise, warning attentions, shortage of physical and material input, cognitive dissonance, information selectivity, incorrect message content, information overload or information fatigue and problems of feedback.

1. Feed forward problems- Feed forward means the information about the receiver which the source has prior to initiating

communication. Such information must be used to predict the effectiveness of the message to be communicated. If the source has false information about the receiver, his communication is likely to fail ever before hecommences.

2. Homophily Versus heterophily – Homophily is the degree to which a source – receiver pair are similar in certain attributes such as education, belief, socialization etc. Communication between homophilous individuals are generally effective. Note that effective communication often leads to greater homophily in knowledge and attitude. The most effective extension or change agent are those who are most like their average clients on all variables except for technical competence about the technology/innovation promoted.

Heterophily is the degree to which a source and receiver pair is different in their human attributes. Generally, heterophilous communication is only effective when the source has a high degree of empathy with the receiver. Empathy is the ability of an individual to project himself into the role of another person. If for example a source can perceive how the receiver feels and show these same feelings, it is then possible for the message to be designed which will meet the needs and situation of the receiver.

3. Noise – This is any disturbance or distortion which interferes with the effectiveness of the communication process. Noise could be actual extraneous sound (or wrong spelling in written message or passage). One way to reduce noise in the message is to increase redundancy. That is, say or write the same message in different forms, but with similar meanings. For example, “wash the carrot very well”. “Ensure that all the dirts are removed from the carrot”. Both statements mean a thorough cleaning of the carrot.
4. Waning Attention – A person’s attention may waver in a communication scenario simply because some basic needs are unsatisfied. For example, hunger, cold, thirst, worry, or finance may reduce attentiveness of participants in the communication process. Such distracted minds may find it difficult to understand the message content or even decode the message appropriately.
5. Shortage of Physical and Material Inputs – A farmer may not have enough capital or labour to practice an ideas being communicated. Others problems such as lack of irrigation water, high rates of bank interest may create barrier to effective communication. In most developing countries, experience has shown that resource – rich farmers tend to adopt new farming innovations much more quickly than the resource – poor farmers. It has been shown however, that most farmers will adopt new ideas, if they have the resources, and are not hampered by physical, social or organizational constraints (Adebayo, 1995).

6. Cognitive Dissonance – This is knowledge attitude. It refers to knowledge which is in consistent or incompatible with a person's interests, attitudes, and beliefs. Farmers may not want to put into effect a particular activity, even if profitable, e.g. a proposed innovation about keeping dairy cows may be rejected, if the farmers do not like animal husbandry. Some innovations may also be socially, religiously or culturally unacceptable in some parts of the country or amongst a certain group of people. E.g. rearing pigs by Muslim communities. Because cognitive dissonance is uncomfortable, it is necessary to reduce it or avoid situations in which it occurs in the communication process.
  7. Selectivity of Information – This is the tendency to seek familiarity and reinforcement for communication messages that tend to agree with ones existing attitudes and belief, while avoiding situations which do not agree with one's previous attitude. Therefore, when a package of production recommendation (say, improved seeds, adequate spacing, and fertilizer application) are passed to the farmers, they may choose to ignore any part of the package, depending on what they want to know.
- Information Overload and Information Fatigue – It is often assumed that communication challenges are due to insufficiency of information. Consequently, increased information input is often suggested. This sometimes leads to information overload. Information overload means an excess of information input above what the receiver is able to process, that is, decode and use. This leads to confusion and information fatigue, poor understanding, poor performance or rejection of the entire information.
8. Incorrect message content – If the information from the source or communicator is found to be false by the receiver, he/she will lose credibility. The word with which communication is made is significant, not just for clarity or precision, but because they give clear picture and light to what is communicated. Style and meaning are also important in communication. Thus, when a subject matter of communication is correct, the words and style with which it is presented may make its meaning thwarted and hence, distort communication.
  9. Feedback Constraints – Feedback is the response that an audience gives, that is, a farmer or group of farmers or receiver give to the sender. In an interpersonal communication process, the response, both verbal and non-verbal enable each person to constantly control and modify the message content. If there is no feedback, misunderstanding may develop and communication will be distorted.

### **Self-Assessment Exercise**

- 1: Explain how incorrect message content can create barrier in communication.
2. The establishment of honest and meaningful communication can be achieved through two precepts. Explain.

#### **5.3.2 Ways of Improving the Effectiveness of Communication Process**

The primary aim of every communicator is to achieve effective communication. That is to ensure an information flow that engenders the desired response (effect) from the communicatee. However, the difficulty of human nature and the restrictions imposed by the problems identified in the previous section make the attainment of effective communication complex. The lack of trust and the existence of threat in any interaction can have a distorting effect on communication. The establishment of honest and meaningful communication can be achieved through two precepts. They are:

- i) Developing a sense of mutual trust and openness
- ii) Correcting distortions in communication through constructive feedback (Adebayo, 1997).

To achieve a better understanding of these precepts, let us examine them more critically.

**Mutual Trust and Openness** – We shall apply a device known as the Johari Window to analyze the problem of mutual trust and openness. The window (Figure 5.1) is utilized for increasing personal and interpersonal awareness. It comprises four quadrants:

Quadrant 1 – The free and open area, refers to behaviour known to self and to others

Quadrant 2 – The blind area, refers to things about us that others can see but of which we are unaware.

Quadrant 3 – The avoided or hidden area shows things we prefer to keep to ourselves (Hidden agenda or personal feeling).

Quadrant 4 – The area of unknown activity represents the sort of things that are accessible neither to us nor to others, but which will eventually be revealed. Such behaviours and motives could have affected our relationships, without our knowing it all along.

	Known to itself	Not known to itself
Known to others	The Open Area 1	The Blind Area 2
Not known to others	The Hidden Area 3	Unknown Area 4

*Figure 5.3.2: The Johari Window. Source: Jacques (1984).*

A change in any one quadrant will affect all the other quadrants. By disclosing some of our own feelings or private experiences, we expand quadrant 1 into quadrant 3. This makes it possible for other people to let us know something about ourselves that we were unaware of. E.g. "You always smile when you are angry". This in turn expands quadrant 1 into quadrant 2, therefore leading to the more open form of communication.

**Feedback** – Feedback must always be handled with sensitivity and judgment. It is more effective if:

1. It is descriptive rather than evaluative. Describing one's own reaction leaves the other individual free to use it as he sees fit. Avoiding evaluative language reduces the need for the other individual to react defensively.
2. It is specific rather than general. To be told that one is "confusing" will probably not be as useful as to be told "when you ask us a question you seem to rephrase it so many times that we get confused".
3. It takes into account the needs of both the receiver and the giver of feedback. Feedback can be destructive when it satisfies only our needs and fails to consider the needs of the person on the receiving end.
4. It is directed toward behaviour that the receiver can control. Frustration is increased when a person is reminded of some shortcomings over which he/she has no control.
5. It is timely. In general, feedback is most useful at the earliest opportunity after the given behaviour. This depends on the person's readiness to hear it, support available from others.
6. It is solicited rather than imposed. Feedback is most useful when the receiver has requested for it.
7. It is checked to ensure clear communication. One way of doing this is to have the receiver try to rephrase the feedback he has received to see if it corresponds with what the sender has in mind.
8. When feedback is given in a group. Both the receiver and giver should take the opportunity to check with others in the group on the accuracy of the feedback. Is this one person's impression or an impression shared by others?

(Adapted from Kolb, Rubin and McIntyre, 1979. In Jacques, 1984) Feedback is probably the best way of getting evidence on the effectiveness of communication. It enables us to learn about how others see us and how we affect them. It is thus a vital ingredient in the process of evaluation and improving the effectiveness of communication.

## 5.4 Conclusion

In this unit, you have learnt about various constraints in communication process namely feed-forward, homophily/heterophily problems, noise, warning attention, cognitive dissonance, information selectivity among others.

The difficulty of human behaviour often results to many challenges or barriers in communication process.



## 5.5 Summary

In summary, communication between an heterophilous source-receiver pair is less effective than between an homophilous pair. However, complete homophily does not exist in any communication scenario, given that the source and the receiver are usually dissimilar, at least in some aspects.

The establishment of honest and meaningful communication can be achieved through two precepts: i. Developing a sense of mutual trust and openness

- ii. Correcting distortion in communication through constructive feedback.



## 5.6 References/Further Readings/Web Resources

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## 5.7 Possible Answer to Self-Assessment Exercise(S)

### Self-Assessment Exercise

1: Explain how incorrect message content can create barrier in communication.

#### Answer:

If the information from the source or communicator is found to be false by the receiver, he/she will lose credibility. The words with which communication is made is significant, not just for clarity or precision, but because they give clear picture and light to what is communicated. Style and meaning are also important in communication. Thus, when a subject matter of communication is correct, the words and style with which it is presented may make its meaning thwarted and hence, distort communication.

#### 2. The establishment of honest and meaningful communication can be achieved through two precepts. They are:

- i. Developing a sense of mutual trust and openness
- ii. Correcting distortions in communication through constructive feedback

## **MODULE 3 INSTRUCTIONAL / TEACHING MATERIALS IN AGRICULTURAL EXTENSION**

- Unit 1      Concept and significance of Instructional Materials in Agricultural Extension
- Unit 2      Classification of Instructional Materials
- Unit 3      Description of some Teaching Aids/ Instructionals and Guidelines for their Effective utilization in Extension
- Unit 4      The Utilization of Instructional Materials in Agricultural Extension
- Unit 5      How to Improvise Instructional Materials in Extension.

### **UNIT 1 CONCEPT AND SIGNIFICANCE OF INSTRUCTIONAL MATERIALS IN AGRICULTURAL EXTENSION**

#### **Unit Structure**

- 1.1      Introduction
- 1.2      Learning Outcomes
- 1.3      Main Content
  - 1.3.1      Concept of instructional Materials in Agricultural extension
  - 1.3.2      Significance of Instructional materials in Agricultural Extension
  - 1.3.3      Characteristics of good Instructional Materials
- 1.4      Conclusion
- 1.5      Summary
- 1.6      References/Further Readings/Web Resources
- 1.7      Possible Answers to Self-Assessment Exercise (s)



#### **1.1 Introduction**

Instructional materials that will be used to facilitate teaching and learning in Agricultural Extension should be suitable for the subject matter and physical situation. They should also be considerate and ensure that all necessary materials are available and in good working conditions and skillfully handled at all times. In this unit we are going to learn the concept and importance of instructional materials or teaching aids in agricultural extension.



## 1.2 Learning Outcomes

By the end of this unit, you should be able to:

- Explain the concept / meaning of instructional materials in extension.
- Outline the significance of instructional materials in extension teaching.
- Identify and understand the characteristics of good instructional materials.



## 1.3 Main Content

### 1.3.1 The Concept of Instructional Materials

Instructional material refers to those materials or devices, which a teacher or an extension agent employs in teaching so as to help pupils or farmers understanding of the lesson. Educators often use “instructional materials,” “teaching aids”, “Learning resources”, “educational resources materials” and “Instructional aids” interchangeably. Olaitan and Onazi (1987) defined teaching aids as materials or spoken words in the transmission of knowledge, attitude and ideas and to emphasize, clarify or visualize instruction”. Instructional materials can also be defined as materials or tools locally made or imported that could make tremendous improvement of a lesson if judiciously utilized (Wambui, 2013).

Instructional materials help science teachers and extension agents to convey their message to students or farmers in a simple, most convincing and practical way. They enhance the teaching – learning process and bring effectiveness into the teaching and extension of agriculture. Some common instructional materials include: charts, diagrams, maps, motion pictures, specimens and objects, chalkboard, radio and television.

In the use of teaching aids, effectiveness is not a function of the level of sophistication of the materials but carefulness in selection and skillful handling by teachers. It is equally important that teachers introduce instructional materials at the right time within the period of instruction. Classroom – control related problems might ensure when materials are introduced earlier than necessary or kept for too long a time as to divert students’ attention from the other parts of the lesson.

According to Kinder (2003), instruction or teaching aid refers to “any device which can be used to make the learning experience more concrete and more dynamic”. Also, Barth (2005) said, “it is the systematic application of hardware and software, equipment and materials to the

teaching and learning. Ogumilade (2005) defined teaching aids as devices which incorporates the hardware (equipment) and the software (consumables) through which the learning process may be encouraged and carried out. Romiszowski (1988) said that if instruction or teaching aids are properly selected and used, learning would be interesting and meaningful. Also, knowledge acquired would be retained for a long time, farmers will be actively involved during lessons and they will acquire different skills.

### **1.3.3 Significance of Instructional Materials in Extension**

The importance of instructional materials as a medium of effective transmission of agricultural science or extension concepts cannot be over emphasized. Among others, instructional materials do the following:

1. They help to bring the lesson home / nearer to the learners / farmers.  
It makes teaching and learning more practical, realistic and easy.
2. They help to supplement the personality of the instructor (extension teacher), though instructional aid cannot be a substitute for an effective instructor, they nevertheless make him more effective and increase his communicative skills.
3. They add zest, interest and vitality to any training and learning process.
4. They bring about better understanding of the subject matter and thaton the parts of the participants.
5. They provide worthwhile experiences for learners that teachers cannot furnish, therefore making education more productive.
6. They provide greater acquisition and longer retention of factual knowledge. That is, they assist in memory retention.
7. They provide the learners' thought process and are capable of leading him to other materials through discovery. Intellectual curiosity is promoted.
8. The use of aids reduces classroom boredom by adding variety to the teaching method / technique of the teacher.
9. Learning is sustained more easily when more than one senses are employed. Aids afford students the opportunity of using the sense of sight, touch, smell and taste in learning. They reduce excessive stretch of students' imagination. They concretize abstract learning.
10. Instructional materials stimulate and sustain students' interest. They generate questions from students or farmers and this helps teachers to evaluate the success of the lesson.

#### **Self-Assessment Exercise**

- 1: Define instructional materials in at least three different ways.
2. Certain characteristics are common to all good instructional materials / aids. Explain.

### 1.3.3 Characteristics of Good Instructional Materials

The importance of any instructional material lies in its ability to:

- i) Appeal to the sense – sound and sight;
- ii) Attract and hold attention;
- iii) Focus attention on essential elements to be learnt at the propertime.

Certain characteristics are common to all good instructional materials / aids.

1. Simplicity – The instructional materials must be simple and present only a few ideas at a time. Pupils or farmers cannot comprehend complex ideas presented to them for a short time. The extension teacher needs to select simple illustrative teaching aids for instructing his pupils especially at the primary stage, e.g. if pictures are used, theyshould illustrate only a very few words or actions. If more detailed pictures are used, pupils or even farmers will not know what they are supposed to notice,
2. Colour – Since pupils are attracted by bright colours, these should be used in the preparation of teaching aids. However, too much brightness should be avoided since it may distract pupils' attention from the objective of the lesson and the instructional materials.
3. Portability – Instructional materials should be portable and not too cumbersome to carry by the teacher. They should not be too much insize but be portable.
4. Flexibility – The teacher has been taught different ways of teaching while in college or university. In the classroom a good teacher will attempt to teach his lessons using a variety of methods and materials.He should therefore select or construct teaching aids that can be instantly modified to suit changes in the approaches to instruction.
5. Visibility – Any instructional aid to be used by the teacher should be such a size that the smallest detail the teacher wishes to emphasize islarge enough to be seen by conspicuously in front of the class to present a clear view to every pupil.

### 1.4 Conclusion

In this unit, you have learnt the concepts, significance or necessities of instructional materials and characteristics of good teaching aids. From the above discussions, you have now known the concepts and needs for instructional materials in teaching – learning process.



## 1.5 Summary

The main points in this unit are:

Instructional materials are devices which an extension agent or teacher utilizes in teaching so as to assist pupils or farmers to understand the lesson. The importance of instructional materials include:

1. Helps to supplement the personality of the extension instructor;
2. Add zest, interest and vitality to training and learning process;
3. Bring about better understanding of the subject matter;
4. Provide worthwhile experiences for learners
5. Provide greater acquisition and longer retention of knowledge;
6. Use of aids reduces classroom boredom;
7. They stimulate and sustain students/learners interest.

Characteristics of good instructional materials include: Simplicity, Colourfulness, Portability, Flexibility and Visibility



## 1.6 References/Further Readings/web Resources

Barth, J. L. (2005). Media and Methods. Institute of Education, ABU, Zaria, pp. 28 – 29.

Kinder, S. J. (2003). A video – Visual Materials and Techniques. Americanbook company. New York.

Ogumilade, M. (2005). Non-book materials: Agenda for teachers and libraries. 4<sup>th</sup> (ed) Melbourne Press.

Olaitan, S. O. and Onazi, O. C. (1987). Agricultural Education in the Tropic: Methodology for Teaching Agriculture. London: Macmillan Publishers.

Romiszowski, A.J., (1988). The selection and use of instructional media. London: Kogan.

Wambui, S. E. (2013). Effects of use of instructional materials on learner participation in science classroom in preschool in Kiine zone Kirinyaga country Kenya. Nairobi: University press, Nairobi.



## 1.7 Possible Answers to Self-Assessment Exercise (s)

### Self-Assessment Exercise

1: Define instructional materials in at least three different ways.

#### Answer:

1. Instructional material refers to those materials or devices, which a teacher or an extension agent employs in teaching so as to help pupils or farmers understanding of the lesson.
2. Educators often use “instructional materials,” “teaching aids”, “Learning resources”, “educational resources materials” and “Instructional aids” interchangeably.
3. Instructional materials are defined as materials or spoken words which aid in the transmission of knowledge, attitude and ideas and to emphasize, clarify or visualize instruction”.
4. Instructional materials can also be defined as materials or tools locally made or imported that could make tremendous improvement of a lesson if judiciously utilized.

**2. Certain characteristics are common to all good instructional materials / aids. These include:**

1. Simplicity – The instructional materials must be simple and present only a few ideas at a time. Pupils or farmers cannot comprehend complex ideas presented to them for a short time. The extension teacher needs to select simple illustrative teaching aids for instructing his pupils especially at the primary stage, e.g. if pictures are used, they should illustrate only a very few words or actions. If more detailed pictures are used, pupils or even farmers will not know what they are supposed to notice,
2. Colour – Since pupils are attracted by bright colours, these should be used in the preparation of teaching aids. However, too much brightness should be avoided since it may distract pupils’ attention from the objective of the lesson and the instructional materials.
3. Portability – Instructional materials should be portable and not too cumbersome to carry by the teacher. They should not be too much in size but be portable.
4. Flexibility – The teacher has been taught different ways of teaching while in college or university. In the classroom a good teacher will attempt to teach his lessons using a variety of methods and materials. He should therefore select or construct teaching aids that can be instantly modified to suit changes in the approaches to instruction.
5. Visibility – Any instructional aid to be used by the teacher should be such a size that the smallest detail the teacher wishes to emphasize is large enough to be seen by conspicuously in front of the class to present a clear view to every pupil.

## **UNIT 2 CLASSIFICATION OF INSTRUCTIONAL MATERIALS**

### **Unis Structure**

- 2.1 Introduction
- 2.2 Learning Outcomes
- 2.3 Main Content
  - 2.3.1 Major classification of Instructional Materials
  - 2.3.2 Classification of Instructional Materials based on the sense organ
- 2.4 Conclusion
- 2.5 Summary
- 2.6 References/Further Readings/Web Resources
- 2.7 Possible Answers to Self-Assessment Exercise(s)



### **2.1 Introduction**

In unit one of module three, we treated the concept and importance of instructional materials in agricultural extension. In this unit, we are going to learn the classification and categories of instructional materials in extension. The objectives below specify what you are expected to learn after going through the unit.



### **2.2 Learning Outcomes**

By the end of this unit, you should be able to:

- Understand the major classification of instructional materials.
- Explain the classification of instructional materials based on the sense organ they appeal to.



### **2.3 Main Content**

#### **2.3.1 Classification of instructional Materials**

The teaching aids come under two major categories namely: Projected and non-projected instructional materials.

- i. Projected instructional Materials – These are materials that require the assistance of power supply like electricity to operate them. Examples include: overhead projectors, films, strip projectors, television and radio. They are usually effective if care is taken to

- ii. select appropriate equipment and when they are skillfully handed.
- Non-projected instructional materials – These refer to instructional materials that can be used without the aid of power supply. That is, they include all aids which are seen or utilized without the help of projectors. These include flip charts, graphs, flannel board, chalk boards, pictures, models or real objects.

They are generally easy to produce improvised and used by teacher or instructional technologists. Photographs and small objects may be projected with an opaque projector, but this method is currently less commonly used.

### **2.3.2 Classification of Instructional Materials based on the Sense organ**

Instructional materials may also be classified based on the sense organ they appeal to. This classification model places all instructional materials under three categories names: (i) Visual aids (ii) Audio aids (iii) Audio-visual aids.

- i) Visual Aids – They are instructional materials which facilitate learning by appealing to students' sense of sight. They bring about effectiveness in the teaching of agricultural extension or science more especially as they enhance retention of facts by learners or farmers. They exemplify the truth of one Chinese proverb that says:  
What I hear, I forget, What I see, I remember, What I do, I understand.  
Visual aids are of two categories namely: (a) Real Objects and (b) Representational visual Aids (Olatunji, 2005).
- a) Real Objects – These include specimen and real objects like cutlass, hoe, animal feed, fertilizer, farm machinery, plant, animal and so on.
- b) Representational Visual aids – These are instructional materials which are of the symbolic of the real objects or specimens. They include diagrams, photographs, bulletin, boards, chalkboards, pictures, charts, graphs and flannels boards.
- ii) Audio Aids – These are instructional materials, which facilitate learning to appealing to learners' sense of hearing. Examples of these are radio and record players. Agric. extension teachers may play cassette tapes in which educational programmes have been recorded or ask pupils to listen to radio broadcast on a variety of topic in agricultural extension or agricultural science.
- iii) Audio-Visual Aids – These are instructional materials which appeal to students' sense of learning and seeing at the same time.

Examples include video tapes, television and motion pictures. They are better than audio and visual aids because they appeal to more sense organs than either. They are especially useful and recommended in agricultural extension work.

### **Self-Assessment Exercise**

- 1: Differentiate between audio and visual aids in agricultural extension.
- 2.What is non- projected instructional material?

## **2.4 Conclusion**

This unit has examined the classification and categories of instructional materials in agricultural extension. I hope by now, you would be able to understand some basic concepts of teaching aids classification and categories.



## **2.5 Summary**

The summary of the major points in this unit include:

There are two major categories of instructional materials namely (i) Projected and (ii) non-projected aids while the classification mode puts all instructional materials under three categories viz: (i) Visual aids (ii) Audio aids and (iii) Audio-Visual aids.



## **2.6 References/Further Readings/Web Resources**

Olatunji, S. O. (2005). Effective Teaching and Extension of Agriculture in the tropics. Zero point International Publishers, Kaduna, pp. 125 – 126.



## 2.7 Possible Answers to Self-Assessment Exercise(s)

### Self-Assessment Exercise

1: Differentiate between audio and visual aids in agricultural extension.

#### Answer:

**Audio Aids** – These are instructional materials, which facilitate learning by appealing to learners' sense of hearing. Examples of these are radio and record players. Agric. extension teachers may play cassette tapes in which educational programmes have been recorded or ask pupils to listen to radio broadcast on a variety of topics in agricultural extension or agricultural science.

**Audio-Visual Aids** – These are instructional materials which appeal to students' sense of learning and seeing at the same time. Examples include video tapes, television and motion pictures. They are better than audio and visual aids because they appeal to more sense organs than either. They are especially useful and recommended in agricultural extension work.

**2. Non-projected instructional materials** – These refer to instructional materials that can be used without the aid of power supply. That is, they include all aids which are seen or utilized without the help of projectors. These include flip charts, graphs, flannel board, chalk boards, pictures, models or real objects.

## UNIT 3 DESCRIPTION OF INSTRUCTIONAL MATERIALS AND GUIDELINES FOR THEIR EFFECTIVE UTILIZATION IN AGRICULTURAL EXTENSION

### Unit Structure

- 3.1 Introduction
- 3.2 Learning Outcomes
- 3.3 Main Content
  - 3.3.1 Description of most commonly used instructional materials in the teaching of agricultural extension / science and their guidelines for effective utilization namely: The chalkboard, Specimens and object, Radio, Television or video
  - 3.3.2 General guidelines for effective utilization of instructional materials
- 3.4 Conclusion
- 3.5 Summary
- 3.6 References/Further Readings/Web Resources
- 3.7 Possible Answers to Self-Assessment Exercise (s)



### 3.1 Introduction

The most commonly utilized instructional materials in the teaching of agricultural extension / science include: chalkboard, specimen or real object of plants and animals, graphs, pictures, photographs, radio, tape recorders and so on. In this unit, four of these are going to be discussed with a view to highlighting guidelines for their effective utilization.



### 3.2 Learning Outcomes

By the end of this unit, you should be able to:

- Give the description of the most commonly used instructional materials in the teaching of agricultural extension and their guidelines for effective use.
- Explain the general guidelines for effective utilization of instructional materials.

**3.3****Main Content**

**3.3.1 Description of most commonly used instructional materials in the teaching of agricultural extension / science and their guidelines for effective utilization**

**1. The Chalkboard**

It is the most common instructional material readily available to every teacher. Teachers used the chalk board to draw, write or emphasize important points in a class. Chalkboard comes in different colours like black, green and blue. Very often, teachers used white chalks or those whose colours are different from that of the board. Coloured chalks are sometimes used to distinguish different parts of a diagram or to show emphasis being laid on a point.

**Guidelines for effective use of the chalkboard**

- i) Keep the chalkboard clean before and after use
- ii) There should be a well-planned layout of the chalkboard. Keep the board organized all the times.
- iii) Provide the right type and adequate quantity of chalks for use at every lesson. Use chalks that are clearly different from the colour of the chalkboard.
- iv) Make sure that duster or eraser is available and erase immediately the information on the board that is no longer necessary. Do not use hand to clean the chalkboard
- v) Do not talk while writing on the board and do not write continuously on the board for long period of time, as this may engender classroom disorder.
- vi) Do not use fingers for pointer lines but a board ruler.
- vii) Whatever is written on the board should be bold, clear and legible so that all students will be able to read them without any difficulty.

**2. Specimens and Objects**

Learning is made rather easy, real concrete and meaningful with the use of specimens and objects. The teacher may use specimens or objects of weeds, propagation materials, farm tools and machinery, surveying equipment, and agricultural products as instructional materials. Specimens and the real objects will produce better results than diagrams, pictures, or charts since the later are not devoid of ambiguity in terms of size, colour and other important features.

**Guidelines for effective use of specimens and objects**

- a) Decide the specimens or objects to be utilized long before the lesson. Gather the specimens by yourself or ask students to look for them.
- b) Ensure correct labeling of specimens and objects
- c) Make sure they are big enough for learners to see or else provide

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- d) microscope through which they can observe tiny specimens.
- e) Ensure that specimens and objects that constitute change to the lives of students are not used as instructional materials. It is unadvisable to bring life snake into the class in the name of “teaching aids”. Endeavour to consider the safety of the materials.
- f) Students’ population should be given consideration. Objects that require being handled or manipulated by every student should be provided in sufficient quantity.

### **3. Radio**

The extension teacher may take the advantage of radio broadcast of agriculturalscience related programmes as an effective aid in teaching. It has the capability of enhancing the teaching – learning process when it is well planned and skillfully handled.

#### **Guidelines for effective use of Radio**

- i) Ensure that the radio broadcast is particularly relevant to the lesson objectives and that the broadcast is made in the language students will understand;
- ii) Unnecessarily long radio broadcast should not be selected;
- iii) Introduce the topic, content and objectives of the broadcast to students prior to their listening to it.
- iv) Ensure that the students listen attentively to the broadcast and take down notes.
- v) Ask the farmers (learners) to present, in a discussion, the summary of the broadcast. Utilizing questioning as a technique, lead them to understanding the main points in the broadcast.

### **4. Television or Video**

Television and video are aids that are now becoming very prominent among instructional materials that are being utilized in the teaching of extension or science.

#### **Guidelines for effective use of TV and Video Tapes**

- i) Relevant television programme or video tapes that will enhance the realization of the lesson’s objectives should be selected.
- ii) View the programme in advance so that notes will be taken of significant points and parts of the programme.
- iii) Inform the students about the topic, content and objectives of the programme. Extension teacher should let them know what they are to look for in the programme.
- iv) Ensure that the students concentrate on the programme during the period of viewing discussion during the period of viewing.
- v) Organize a post television viewing discussion during which period you ask and answer students’ questions and outline the major lessons.

#### **Self-Assessment Exercise**

- |  |
|--|
| <ol style="list-style-type: none"> <li>1: State at least four guidelines for effective use of TV.</li> <li>2. Write short notes on general guidelines for effective utilization of instructional materials.</li> </ol> |
|--|

### **3.3.2 General Guidelines for Effective Utilization of Instructional Materials**

A teacher who carefully selects appropriate instructional materials and skillfully handles them will motivate his students to learn. Consideration should be made of the following factors in the process of selection and use of instructional aids in teaching of agricultural extension.

1. Relevance: Instructional aids to be selected must be relevant to the subject matter and objectives of the lesson. A model of an engine cannot be relevant to a lesson on “Rock formation”.
2. Population and other characteristics of students: Class size should be considered. Is the aid large enough for all students to see? Is there enough quantity of the specimen/aid that can go round to all students? Extension teachers should consider the level of understanding of students. Will the aid be above or below their comprehension ability?
3. Operational mastery: Ensure you have mastery of operations of any instructional aids before use. For example, if you want to use computer, previous knowledge and mastery of the operation of computer is important.
4. Safety of the material: Consider the safety of the materials to be used.  
Do not use materials such as live scorpion or snake that will frighten or endanger students' lives.
5. Up-to-date materials: Do not use instructional materials that are obsolete or outdated. A 1978 map of Nigeria, which shows cash andarable crops grown in each state, is obsolete today.
6. Anachronistic Materials: Avoid the use of adulterated materials in teaching. For example a picture of maize plant with underground cobs, cassava plant having tubers on the stem, and pictures of crops with black leaves are anachronistic materials that should not be used to avoid students from being confused.
7. Portability: Select aids that are portable. A teacher should use a portable model of cow, ploughs, drillers, harvesters, planters among others rather than attempting to carry them to the classroom as aids.
8. Reliability: Use dependable materials, which will not spoil and disappoint the teacher. Preview the material to ascertain the level of its reliability.
9. Acceptability: Ensure that the material is acceptable to the farmers or students. Do not use instructional aids that students view as taboos.
10. Choice of colour: Use bright colours on instructional materials. Do not use wrong colours. Drawing of plants with red colour and rivers with black are wrong colour choices. Do not allow the pictures to have too much brightness as this tends to distract the attention of the farmers/students from the lesson.
11. Time: use aids at the appropriate or right time in the lesson, and after that, remove them.

12. Variety: Endeavour to vary your choice of instructional aids. Do not use only one type always. A combination of aids is preferred to the use of one type all the time.
13. When original instructional aids are not available or if they are too expensive, improvise, borrow or use community resources (Olatunji 2005).

### **3.4 Conclusion**

In this unit, we examined the description of most commonly used teaching materials utilized in agricultural extension instructional approaches and their guidelines for effective utilization. The unit finally highlights the general guidelines for effective use of instructional materials. I hope by now, you would be able to understand description of mostly commonly employed instructional aid and their effective guidelines for utilization.



### **3.5 Summary**

The main points in this unit are: Four commonly employed instructional materials among others in the teaching of agricultural extension / science are: Chalkboard, Specimens and objects, Radio and Television or video. Consideration should be given to the following factors in the process of selection and use of instructional aids in teaching of agricultural extension namely: Relevance, Population and other characteristics of the students, Operational mastery, Material safety, Up-to-date materials, Anachronistic materials, Portability, Reliability, Acceptability, Colour choice, Time, Variety, Improvise instructional materials.

### **3.6 Tutor Marked Assignment**

1. Identify three guidelines each for effective utilization of radio and specimens/ objects
2. Identify five factors to be considered in the selection process and utilization of instructional materials in the teaching of agricultural extension. Discuss briefly those five factors



### **3.7 References/Further Readings/Web Resources**

Olatunji, S. O. (2005). Effective Teaching and Extension of Agriculture in the tropics. Zero point International Publishers, Kaduna, pp. 127 – 130.



### 3.8 Possible Answers to Self-Assessment Exercise (s)

**Answer: 1.**

- i) Relevant television programme or video tapes that will enhance the realization of the lesson's objectives should be selected.
- ii) View the programme in advance so that notes will be taken of significant points and parts of the programme.
- iii) Inform the students about the topic, content and objectives of the programme. Extension teacher should let them know what they are to look for in the programme.
- iv) Ensure that the students concentrate on the programme during the period of viewing discussion during the period of viewing.
- v) Organize a post television viewing discussion during which period you ask and answer students' questions and outline the major lessons.

**2. Consideration should be made of the following factors in the process of selection and use of instructional aids in teaching of agricultural extension.**

1. Relevance: Instructional aids to be selected must be relevant to the subject matter and objectives of the lesson. A model of an engine cannot be relevant to a lesson on "Rock formation".
2. Population and other characteristics of students: Class size should be considered. Is the aid large enough for all students to see? Is there enough quantity of the specimen/aid that can go round to all students? Extension teachers should consider the level of understanding of students. Will the aid be above or below their comprehension ability?
3. Operational mastery: Ensure you have mastery of operations of any instructional aids before use. For example, if you want to use computer, previous knowledge and mastery of the operation of computer is important.
4. Safety of the material: Consider the safety of the materials to be used.

Do not use materials such as live scorpion or snake that will frighten or endanger students' lives.

5. Up-to-date materials: Do not use instructional materials that are obsolete or outdated. A 1978 map of Nigeria, which shows cash andarable crops grown in each state, is obsolete today.
6. Anachronistic Materials: Avoid the use of adulterated materials in teaching. For example a picture of maize plant with underground cobs, cassava plant having tubers on the stem, and pictures of crops with black leaves are anachronistic materials that should not be

- used to avoid students from being confused.
- 7. Portability: Select aids that are portable. A teacher should use a portable model of cow, ploughs, drillers, harvesters, planters among others rather than attempting to carry them to the classroom as aids.
  - 8. Reliability: Use dependable materials, which will not spoil and disappoint the teacher. Preview the material to ascertain the level of its reliability.
  - 9. Acceptability: Ensure that the material is acceptable to the farmers or students. Do not use instructional aids that students view as taboos.
  - 10. Choice of colour: Use bright colours on instructional materials. Do not use wrong colours. Drawing of plants with red colour and rivers with black are wrong colour choices. Do not allow the pictures to have too much brightness as this tends to distract the attention of the farmers/students from the lesson.
  - 11. Time: use aids at the appropriate or right time in the lesson, and after that, remove them.
  - 12. Variety: Endeavour to vary your choice of instructional aids. Do not use only one type always. A combination of aids is preferred to the use of one type all the time.

## **UNIT 4 THE UTILIZATION OF INSTRUCTIONAL MATERIALS IN AGRICULTURAL EXTENSION**

### **Unit Structure**

- 4.1 Introduction
- 4.2 Learning Outcomes
- 4.3 Main Content
  - 4.3.1 When to utilize Instructional material in Agricultural Extension
  - 4.3.2 How to select the right Instructional Material in Extension
  - 4.3.3 How to prepare for the utilization of Instructional Material in Extension
- 4.4 Conclusion
- 4.5 Summary
- 4.6 References/Further Readings/Web Resources
- 4.7 Possible Answers to Self-Assessment Exercise (s)



### **4.1 Introduction**

In order to utilize any instructional material at all, you should be able to identify the appropriate one as well as the systematic planning to utilize it. In doing this, the following three questions have to come to mind (Wittich & Schuller, 2007).

1. When do I use instructional materials?
2. How do I select the right instructional material?
3. How do I prepare for the utilization of these instructional aids?

This units help you to understand and provide answers to the below specifying what you are expected to learn after going through it.



### **4.2 Learning Outcomes**

By the end of this unit, you should be able to:

- Explain how to utilize instructional materials in Extension
- Describe how to select the right instructional materials in Extension
- State how to prepare for the utilization of instructional materials in Extension.



## 4.3 Main Content

### 4.3.1 When to utilize the instructional materials in Agricultural Extension

Very simple, you utilize instructional materials in extension when it is appropriate to the objective of your lesson. Therefore, you don't use them just because you want the audience to see you utilize them. For example, it is clear that you have to utilize the globe when teaching the shape of the earth or use herbicides sample when teaching weed control of crops on the farm to the students. The globe or herbicides (weedicide) is very appropriate in this case.

In agricultural extension lesson, instructional materials can be utilized in three areas. Firstly, is when you want to introduce or initiate the lesson. This helps to motivate the learners thereby generating their interest in the lesson.

Secondly, is when you develop the body of the lesson. Here, instructional aids will help to make the explanation and description clearer and will even make communication easier.

Thirdly, is when your summaries or complete the lesson. This helps students or farmers to recall what has been said and also it allows them ask questions on areas they do not understand.

### 4.3.2 How to select the right instructional materials in Agricultural Extension

There are two major steps in selecting the right instructional materials. First you must determine your instructional goal(s) and second you must decide which instructional material will do the best job of meeting those goals.

In dealing with the first aspect, the extensor or extension instructor has to determine the information, attitudes, skills or behaviour which the learners have to acquire as a result of the lesson.

In deciding the instructional materials that will do the best job of meeting your objectives, you have to consider the following questions:

**(i) Will the instructional material be used for group or individual study?**

The number of learners in the classroom is very important when selecting instructional materials for utilization. This is because the materials / aids

we use for small class cannot be used for a large class. This is particularly true of visual aids. For example, it will be better not to utilize anything at all than showing pictures that are not large enough to be seen from the back of the small class.

However, for a large class, it needs to be projected on an opaque projector or if it is transparent.

**(ii) What instructional material is available?**

It is also important for us to be conversant with the instructional aids that are available in the school.

**(iii) Can the instructional material be substituted or improvised?**

If we do not have a particular instructional material that can best do the job of meeting our goals then we have to look for substitutes or at least try to improvise. For example, we may not be able to lay our hands on a map of Nigeria showing the major crops but we can draw it on the cardboard and display it in the class.

**(iv) Which one/combination is most economical and yet effective?**

This is an important question considering our financial positions in our schools or institutions. Sometimes we make endless and futile journeys to places to collect instructional aids when we can actually make use of other ones. E.g. there is no need borrowing or purchasing film trips on running water when we can safely take our learners to nearby streams. A lot of money and time would be saved in doing this.

**(v) Is time available to utilize the instructional materials?**

Extension instructors should not allow the instructional aids to dominate our lesson. This is why we must make sure we choose the appropriate one. It is probably impossible to show a film in a forty minute lesson, considering the length of some films. Some “time-saving” aids like overhead and opaque projectors are important in this regard.

### **Self-Assessment Exercise**

1. When do we utilize the instructional materials in Agricultural Extension?
2. There are two major steps in selecting the right instructional materials. Explain.

### **4.3.3 How to prepare for the utilization of Instructional Materials in Extension**

Once you have selected the appropriate instructional material, careful preparation is needed to ensure optimum effectiveness. In preparing to utilize, there are four major steps to follow.

Firstly, is the preparation of the extensionist or extension instructor/teacher. It is particularly important that there should be no separation of ideas between the presentation by the extensionist and the instructional aid. One must complement and assist the other. Together they should provide a clean and concise presentation of the material. Coordination of the two depends entirely upon the extension teacher. The most important point to be made is that the instructor must be fully aware of the nature and purpose of the material or aid. Only then can he integrate it into his presentation so that a smooth exposition of information is achieved.

Secondly, is the preparation of the audience (receivers or students/farmers). This is the area of preparation for the utilization of instructional media that is most frequently overlooked. Too often students view films without knowing why they are doing so. Sometimes we bring samples of rocks or soils into the class without telling them what to expect. Students' understanding of the material is necessary if their attention is directed towards significant areas. Careful preparation of the audience will result in increased effectiveness of instructional materials. Thirdly, in the preparation of the instructional materials. Make sure the instructional aids are in order. If you are going to show a film, be sure the physical setting of the classroom or film room receives careful attention. If you are going to hang a map on the wall, be sure that there is a nail already in position. Distractions of all kinds should be avoided so that full attention can be directed to the material at hand.

Fourthly, is the preparation for follow-up activities. The extension instructor must now determine how well the objectives of the lesson have been learnt. In doing this, you prepare in advance, questions which relate directly to the presentation.

## **4.4 Conclusion**

In this unit, you have learnt the utilization of instructional aids agricultural extension. Other areas discussed here include when to use, how to select and how to prepare for the utilization of instructional materials. From these discussions, you now know that the utilization of instructional materials in agricultural extension or science is inevitable.



## 4.5 Summary

The main points in this unit are:

1. In utilizing instructional materials at all, identification of appropriate and systematic planning is necessary.
2. When utilizing instructional aids in the teaching of agricultural extension or science, three important factors should be considered for effective use. These include:
  - a) When to utilize instructional materials;
  - b) How to select the right instructional materials and
  - c) How to prepare for the utilization of instructional materials are very significant.



## 4.6 References/Further Readings/Web Resources

Wittich, E. T. and Schuller, Z. (2007). Fundamental of Teaching with AudioVisual Technology. Macmillan, New York.



## 4.7 Possible Answers to Self-Assessment Exercise (s)

### Self-Assessment Exercise

1: When do we utilize the instructional materials in Agricultural Extension?

#### Answer:

We utilize instructional materials in extension when it is appropriate to the objective of your lesson. Therefore, you don't use them just because you want the audience to see you utilize them. For example, it is clear that you have to utilize the globe when teaching the shape of the earth or use herbicides sample when teaching weed control of crops on the farm to the students. The globe or herbicides (weedicide) is very appropriate in this case.

**2. There are two major steps in selecting the right instructional materials.** First you must determine your instructional goal(s) and second you must decide which instructional material will do the best job of meeting those goals.

## UNIT 5 IMPROVISATION AND SUBSTITUTION OF INSTRUCTIONAL MATERIALS IN AGRICULTURAL EXTENSION

### Unit Structure

- 5.1 Introduction
- 5.2. Learning Outcomes
- 5.3 Main Content
  - 5.3.1 Improvisation and Substitution of instructional Materials in Extension
  - 5.3.2 How to improvise Instructional Materials in Extension
  - 5.3.3 Some suggestions Concerning sources of Local Agric Extension
- 5.4 Conclusion
- 5.5 Summary
- 5.6 References/Further Readings/Web Resources
- 5.7 Possible Answers to Self-Assessment Exercise (s)



### 5.1 Introduction

In unit four of module three, we treated the utilization of instructional materials in Agricultural extension. In this unit, we are going to learn improvisation and substitution of instructional materials in agricultural extension. The below objectives will aide to specify what you are expected to learn after going through this unit.



### 5.2 Learning Outcomes

By the end of this unit, you should be able to:

- Understand improvisation and substitution of instructional materials in agricultural extension.
- Explain how to improvise instructional materials in extension
- Comprehend some suggestions concerning sources of local instructional materials in agricultural extension.



## 5.3 Main Content

### 5.3.1 Improvisation and Substitution of Instructional Materials in Agricultural Extension

Improvisation refers to the act of using local or alternative aids in place of the scientific resources so as to make learning a bit more pleasurable and effective. Moduabum, (1992) explained that improvisation is the use of local resources to minimize cost of scientific equipment and materials, promote creativity and self-reliance and the same time contribute meaningfully to extension agents to improvise instructional resources emanate from high cost of science materials, school's dwindling resources and the wisdom of getting the most use of money even where funds are not limited. Improvisation could be regarded as the act of using alternative materials or equipment accessible from the local environment or created by the teacher or with the help of local personnel to simplify instruction (Shodeinde, 2015).

Improvisation of resources gives one way of reducing costs without sacrificing the learning experiences of the students or farmers. It promotes creativity and self-reliance among extension instructors. Literature on where to improvise and substitute with local material is indeed excessive. Agricultural extension teacher may improvise flask from burnt electric bulbs, utilize strides in measurement of land, palm fronts to construct battery cage, carton to construct television, radio and models of plants and animal parts, etc. Effective improvisation and substitution of instructional resources would depend largely on the teachers' integrity, initiative, skill, resourcefulness, available local materials and time at his disposal.

### 5.3.2 How to Improve Instructional Materials in Extension

The reason often given by teachers for not using instructional materials in the class is non-availability. Although instructional materials are lacking in our institutions, the situation should not be accepted by us. In fact, this should not be a source of discouragement, but rather an opportunity to utilize our imagination to find relevant resources. We therefore have to improvise by designing our own instructional aids using local resources in our environment. This point was highlighted by Ajayi (2005) that teachers in Nigeria in particular and in all developing countries in general, should become more innovative and more creative. Nigerian should begin to take closer look at their environment to identify local resources from which instructional materials can be obtained.

Many teachers are also in the habit of waiting for the school authority to provide every instructional aid in the schools. This should not be considering our present economic predicament. Instructional aids created by us are good substitutes for as Barth (2005) puts it, “what we make ourselves, what we can collect locally, what we can get some people to make for us, are probably more important and relevant than what is commercially produced and especially what is imported”.

For you to be able to use the various local resources in your environment, you need to do the following as suggested by Ajayi in 2005.

- 1) Acquaint yourself with your environment. Take note of items in your vicinity that can be used in teaching extension
- 2) Study your syllabus or scheme of work well. This will help you to know the situations in which you can utilize instructional aids.
- 3) Get to know the interests of your students. This will help determine the scope to which you can use instructional aids.
- 4) Be willing to discuss aspects of your lessons ready to assist you identify some useful resources. You should try to locate resource persons.
- 5) Discuss your plans with your students. They may come up with some bright ideas or may even be ready to provide the class with some local items.
- 6) Give yourself some time to prepare local instructional materials.
- 7) Keep your eyes and ears open for programmes in the media that can be adopted to the learning processes in your institutions.

To emphasize on the last point, you can listen to different programmes on radio and television put out by the National Educational Technology Centre (NETC). These programmes are geared to the school syllabus and if you cannot use them direct with your students at the time of broadcasting, you can make a recording to use in your class when you have time to do so. Many instructional materials could be improvised in extension when ready-made ones are not available or when there is a financial problem in purchasing them. These could be created from our immediate environment which undoubtedly is rich in material resources.

#### **Self-Assessment Exercise**

- |   |
|---|
| <ol style="list-style-type: none"> <li>1. Briefly explain the major reason for improvisation of instructional materials in extension.</li> <li>2. Explain how to improvise instructional materials in extension.</li> </ol> |
|---|

#### **5.3.3 Some suggestions concerning sources of local instructional Materials in Extension**

The following suggestions are given which can be modified to fit into your various needs.

1. There are occasions when you have made previous collections when on a trip. Such collections could be preserved like rocks, samples of sand, etc. Be sure to save these collections. They could

- be real source of instructional materials.
2. When you know people who will be travelling, ask them to help you collect useful materials for you on their trip.
  3. Exchange materials such as photos, letters, essays, scrap books with other schools, either in the same area or in other parts of the country.
  4. Valuable resources are often discarded by families of your students.

These resources are in form of newspapers, weekly and monthly magazines tend to have interesting pictures and informative short articles. Keep a place in your classroom for these materials.

5. Invite foreign students or families who have travelled abroad or in other parts of the country to be guests of your class, hopefully to bring materials or make presentations.
6. Community craftsmen will donate objects, models of all kinds of products to your institutions if you approach them correctly.
7. You can have access to free materials from multinational industries like oil companies, car manufacturers, etc. Useful pamphlets and other information could be collected free of charge upon request.
8. Consulates, embassies and high commissions in Nigeria give free materials or loan films, etc. to institutions.

## 5.4 Conclusion

This unit teaches how to improvise instructional materials in agricultural extension. It also highlights some suggestions concerning sources of local instructional materials in extension. I hope by now, you would be able to explain the general concepts of improvisation of instructional materials.



## 5.5 Summary

The key points in this unit could be summarized as follows:

- a) Improvisation can be defined as an act of utilizing local or alternative aids in place of the scientific resources in order to make learning a bit more pleasurable and effective.
- b) Effective improvisation and substitution of instructional resources will depend immensely on the integrity, initiatives, skills, and resourcefulness, availability of local materials and time factor disposal of the teachers.
- c) Teachers would improvise by designing our own instructional materials using local resources in our environment.
- d) Some suggestions concerning sources of local instructional materials could be modified to suite your various needs as mentioned in the unit.



## 5.6 References/Further Readings/Web Resources

- Ajayi, R (2005). Selection and Utilization of Audio-Visual Aids from local resources. A paper presented to participants of the Annual Workshop of A. A., Kaduna, pp. 7-8
- Barth, E. S. (2005). Introduction to Instructional Technology. Institute of Education, ABU, Zaria, pp. 8-11
- Moduabum, F. E. (1992). “Programming by People: An Ecuadorian Radio Experiment”. *Education Broadcasting International* Vol. 10 (ii)
- Shodeind, B. I. (2015). Effect of improvised instructional materials on the academic performance of junior secondary school students in Social Studies in Kaduna State, Nigeria. Kaduna, Nigeria: Ahmadu Bello University Press.



## 5.7 Possible Answers to Self-Assessment Exercise (s)

### Self-Assessment Exercise

1. **Briefly explain the major reason for improvisation of instructional materials in extension**

**Answer:**

The major reason for not using instructional materials in the class is non-availability. Although instructional materials are lacking in our institutions, the situation should not be accepted by us. In fact, this should not be a source of discouragement, but rather an opportunity to utilize our imagination to find relevant resources. We therefore have to improvise by designing our own instructional aids using local resources in our environment.

2. **For you to be able to use the various local resources in your environment, you need to do the following:**

1. Acquaint yourself with your environment. Take note of items in your vicinity that can be used in teaching extension
2. Study your syllabus or scheme of work well. This will help you to know the situations in which you can utilize instructional aids.
3. Get to know the interests of your students. This will help determine the scope to which you can use instructional aids.
4. Be willing to discuss aspects of your lessons ready to assist you identify some useful resources. You should try to locate resource persons.
5. Discuss your plans with your students. They may come up with some bright ideas or may even be ready to provide the class with some local items.
6. Give yourself some time to prepare local instructional materials.
7. Keep your eyes and ears open for programmes in the media that can be adopted to the learning processes in your institutions.