COURSE CODE: ARD 301

COURSE TITLE: Extension Teaching, Learning Process and Methods

NUMBER OF UNITS: 2 Units

COURSE DURATION: Two hours per week

COURSE DETAILS:

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COURSE CONTENT:

General principles of learning, The simple learning process, Learning theories and theorists, Thorndike's laws and principles of learning, Teaching elements, components of teaching, Nature and elements of communication process, Principles of analysing communication problems in extension, The meaning of the concepts of teaching, learning and motivation, Steps and principles of teaching and learning, Extension teaching methods, Preparation and use of teaching materials and aids

COURSE REQUIREMENTS:

ARD 301 is a compulsory course for all agriculture students at the 300 level of study in the University. It is compulsory that students must participate in all the class activities slated for the course and must have a minimum of 75 % class attendance to be qualified to write the final exam. The students must have been subjected to some continuous assessment (C.A) exercises such as intermittent tests which will constitute 30 % of the final score in the course. The remaining 70 % is the final examination which will be an e-exam.

READING LIST:

1. Williams, S. K. T., Fenley, J. M. and Williams, C. E. (1984). A manual for Agricultural Extension Workers in Nigeria, Les Shyraden, Ibadan, P.169

2. Swanson, B. E. (1984). *Agricultural Extension: A reference manual*, 2nd Edition, Food and Agriculture Organization, Rome. P259

3. Van de Barn and Hawkins H. S. (1996). *Agricultural Extension* 2nd Edition Blackwell publishers

4. Leadership-Central.com Copyright © 2010 - 2011. http://www.leadership-

central.com/types-of- motivation

LECTURE NOTES

Introduction

Agricultural extension deals with the dissemination / exchange of new ideas in agriculture between the farmers and the extension agents or specialists and the persuasion of the former to adopt the innovations or new ideas. To do this, a lot of teaching and learning activities are involved and this is basically between the extension agent and the peasant farmer / farmer who is the clientele. Both of them are expected to be active participants. They must interact effectively. The ability of these two to interact effectively depends on many factors which will be discussed in details during the lecture period.

What is the meaning of Learning?

Learning is the process of acquiring the ability to repeatedly perform behaviour through experience and practice. It is a process that results in a permanent change in behaviour. Learning presupposes that there is a new idea trying to displace or modify a previous idea thus resulting in a change in behaviour. One constant and acceptable fact by all educationists is that when new ideas emerge, learning takes place if and when the existing behaviour gets modified by these new ideas in such a way that the future performance(s) or attitudes are also affected. It is this change in behaviour that depicts learning or shows that the stimulus has resulted in the expected influence. This in effect is implying that when there is no behavioural change no learning has taken place.   Learning is therefore a relatively permanent change in behaviour potentiality that occurs as a result of reinforced practices.

Relatedness of Agricultural extension to Learning:

Extension activities among farmers involve different groups of people ranging from rural/urban farmers, old/young farmers, male/ female farmers, subsistence/ commercial farmers, people with varied interest and farming background, peasant farmers with varied skills and knowledge etc These (farmers) are peculiar groups of people and their real situation is slightly different from the classroom teaching learning situation in the sense that: what constitute a permanent change in the behaviour of the farmer is dependent on the practice(s) the farmer had been used to (prior behaviour).

Types of Learning:

Various types of learning include:

(a) Conditioning.

(b) Cognitive learning.

(c) Motor/ Psychomotor learning.

(d) Attitude / Affective learning.

(e) Trial and error.

(f) Verbal learning.

(g) Perceptual learning etc.

Factors affecting Learning:

Various factors which tend to influence learning are;

(a) **Individual differences**: Learning is influenced by the individual differences of the learner.

(b) **Personal disposition or self – disposition:** Personal disposition such as readiness or willingness to learn enhances learning. For example learning takes place when the learner is mentally ready to learn and he/she is allowed to begin from what he/she already knows how to do (i e from known to unknown).

(c) **Active participation:** learning is more effective when the learner participates actively.

(d) **Appropriateness of learning activities:** For example does the learning activity fit into the farmers' felt needs?

(e) **Progressiveness of the learning exposure:** Learning will take place when it is done progressively or gradually.

(f) **Efficient conditions of practice:**

(g) **Influence of motivation:** learning takes place if rewards are attached to it so as to motivate the clientele / learner.

(h) **Characteristics of materials to be learnt:** Difficult or costly innovations may not be readily accepted for learning by the peasant farmer.

General Principles of Learning:

(1) Learning is participatory**:** that is it involves doing, experiencing, taking part and reacting to.

(2) Learning involves initial response to a stimulus and its subsequent modification.

(3) Learning is influenced /affected by individual difference.

(4) Need – initiated learning will be vigorously pursued by the learner.

(5) A good result of previous work or learning enhances future learning.

(6) Motivation encourages learners to learn faster and better, while unmotivated learners do otherwise.

(7) Learning is enhanced / accelerated with both positive and negative reinforcers/ reinforcement.

Learning theories and theorist

S – R Theory of Contiguity:

This is a learning theory otherwise referred to as connectionism. It was a theory propounded by behaviourists/connectionists / contiguity theorists whose core believes are that;

(1) In learning, stimulus is the initiator of behaviour(s).

(2) Absence of stimulus (no stimulus) means no response will take place.

(3) The contiguity theory explains 3 concept, namely:

(a) Classical Conditioning by Pavlov.

(b) Operant conditioning by Skinner.

(c) the 3 laws of learning by Thorndike.

Each of these behaviourists conducted and used different experiments and animals to illustrate and explain their findings and theories as will be discussed later. Other connectionists whose piece of work is closely related to that of the aforementioned are Watson, Hull.

(i) **Pavlov's Theory:**

Full name: PAVLOV, Ivan P. Life span: 1849 – 1936 = 87 years.

His theory: Theory of Classical Conditioning.

His experimental materials: An hungry dog, Meat Powder (Mp), A bell, A sound proof cage.

The theory deals with gastric movement/ salivation as responses to the stimulus, association of the bell sound with Mp , the Mp as stimulus.

This response to or reaction to the stimulus is referred to as '' Classical conditioning''

(ii) Skinner's Theory:

Full name: Skinner, B.F. Life span: 1904 – 1990 = 86 years.

His theory: Operant / Instrumental Conditioning.

His experimental materials: Hungry rats, Meat Powder (Mp), Skinner's Box, Rat food pellets.

Definition of Operant conditioning will be given.

(iii) Thorndike's Theory of Learning:

Full name: Thorndike, E.L.. Life span: 1874 – 1949 = 75 years.

His theory: The three Laws of Learning.

His experimental materials: Hungry cats, dogs, chickens, Puzzle Box / cage with door for exiting the cage after pressing a lever, Food items kept outside the box.

Thorndike's Laws of Learning:

Learning ability of an individual has been established to have direct linkage with knowledge acquisition. Thorndike proposed 3 laws that influence learning in organisms, non-humans, and humans. They are: (a) Law of Effect, (ii) Law of Exercise (iii) Law of Readiness. Each will be discussed but defined as:

Law of Effect: A behaviour increases in strength when it is reinforced or vice versa.

Law of Exercise: when there is frequent practice then the expected behaviour is increased or enhanced. Whereas, on the contrary, failure to practice lead to extinction or gradual disappearance of the behaviour. This can be related to the law of disuse.

Law of Readiness: This says that the maturity and experience of the learner makes for his/ her readiness to learn and it enhances ability to associate current learning with previous experience or learning.

Cognitive Learning Theory (C.L.T.)

Another synonym for cognitive learning theory (CLT) is Field Cognition Theory (FCT). It was a theory propounded by some non – behaviourists who reacted against the S – R theorists. The protagonists are of the opinion that the learning process is mainly a function of the brain and not a trial and error thing. Therefore to them learner is a very active participant in the learning process. Cognitive Learning Theory thus emphasised the fact that perception, insight, etc are involved in the organisation of learning experience into the cognitive structure. This the point at which the hierarchy of learning comes in as proposed by the Bloom's taxonomy of learning. This theory is against the Operant Learning Theory (O.L.T) and Association Learning Theory's (A.L.T's) view of learners (especially humans) as passive recorders and processors of external events or environmental stimuli.

(1) Application of the Learning theories to agriculture in particular.

All the theories will be applied to agricultural extension practice by the extension agents and the farmer as clientele.

Nature and elements of communication process

Extension education is essentially a process of communication (i.e. the passing of ideas, knowledge and skills between and among people). It includes the transfer of technical information from its source to the farmer or client. Technical knowledge to farmers or other

clients is of no use unless and until it is accepted as authentic, is adapted to the needs of the farmers or clients and eventually put into use by them in their various activities. Communication can therefore be said to be a conscious attempt to share information and ideas with others. Invariably the success of an extension agent is determined to a large extent by his or her ability to communicate good and tangible ideas to others.

Characteristics of communication in extension

1. Communication in extension is a two-way process.
2. It must communicate ideas.
3. Communication must be organized.
4. Receivers must cooperate in the communication process.
5. It is important to use the correct words and conform to the local customs of the people.
6. The communicator must necessarily assume some responsibilities by highlighting unintended consequences of the message.

Major elements in communication

The SMCRE model is such that an idea is changed into a message made up of several physical elements with a symbolic meaning. The source or sender passes the message through a channel to a receiver. The receiver decodes the message and develops an idea in his mind which he may or may not use. The source observes this effect and uses it to evaluate the impact of his message.

Source → Message → Channel → Receiver ⋯→ Effect
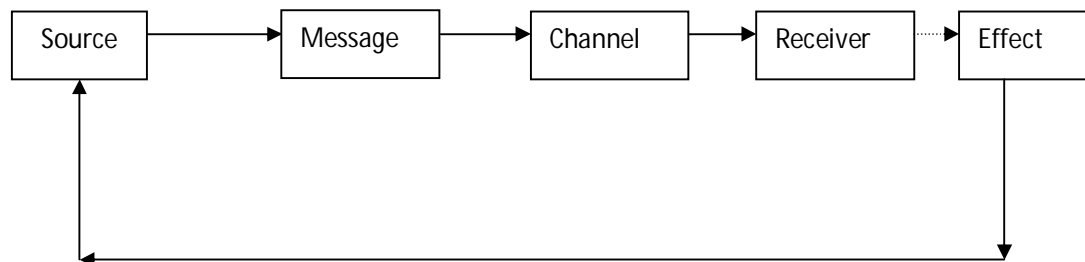
1. **Source or sender:** This is the communicator and he/she initiates the communication process by sending messages. The credibility of the communicator will determine the attitude of people towards him or her. The credibility depends on the extent to which he/she is perceived as a source of valid assertion and the trust people have in him.
2. **Encoding:** Communication begins when a sender encodes an idea or thought and it involves translating mental thoughts into code or language that can be understood

by others. As an example an extension agent can encode using words, written materials or pictures.

3. **Message:** This is the information a communicator wants his/her audience to receive, understand, accept and eventually act upon. It is the output of encoding.

4. **Channels or extension methods:** These are the various methods available to any communicator or extension agent to reach an audience with a message. It is important to select and use the proper channels of communication in order to be effective in the communication process. Furthermore, extension education is more effective when a combination of two or more forms are used because it provides an opportunity to impart knowledge, make it more appealing and increase motivation of the audience

   Extension methods are usually classified into three:
   a. Individual contact methods such as farm and home visits, office calls, telephone calls, correspondence
   b. Group contact methods such as method demonstration, general meeting, lectures, group discussion, seminars, workshops, excursions, farmers field schools
   c. Mass media methods such as leaflets, bulletins, circulars, radio, television, cinema.

5. **Receiver or audience or listener:** This is the individual that the message is intended for. The receiver should always know exactly what the objectives of the messages are; understand the messages and what he/she is to do about them

6. **Decoding:** This is the receiver's version of encoding. It entails translating verbal, oral or visual aspects of a message into a form that can be interpreted.

7. **Effect:** This is the expected outcome of the communication process. The message is intended to result in a decision by the farmers to at least try out the idea or recommended practice.

8. **Feedback:** This is the receiver's response to a message. At this stage the sender becomes the receiver and the receiver becomes the sender

9. **Noise:** This is anything that interferes with the transmission and understanding of a message. It affects all linkages of the communication process.

Principles of analysing communication problems in extension

The aim of any communication or learning process in extension is the passing of information to bring positive changes in the activities of the client. An important way of determining or

detecting a problem in the communication process is from the reaction of the receivers in the communication process. When receiver do not pay attention to the message, do not grasp the intended message and when there are no noticeable changes in the way they carry out their activities, then the communication process cannot be said to be effective.

Some important ways of overcoming these problems include especially when using individual and group contact methods include:

1. The sender should try as much as possible to avoid passing unintended non-verbal messages.
2. Messages must be relevant to the needs and aspirations of the client.
3. Appropriate channels of information should be used.
4. The extension agent should take into consideration individual differences.
5. Discussions should be supplemented with illustrations and personal experience of the clients

LEARNING & TEACHING IN EXTENSION

Extension: Extension is an educational process for bringing about the maximum number of desirable changes among the people and this involves both learning & teaching. The learning & teaching require some tools or methods commonly known as extension-teaching methods. It is therefore, necessary to understand what is meant by learning, teaching& extension methods.

Learning: Learning' is the process by which an individual, through his own activity, attains a change in his behaviour, this is an active process on the part of the learner. The main aim of an extension worker is to bring about a change in the behaviour of the clientele with the help of a judicious combination & use of different elements. Therefore the extension agent should manipulate the elements of the learning situation to suit his audience or target that is all the teaching should be carried out according to the needs and resources of the local community (farm-families). He should as well provide satisfactory learning experiences for the people since the farmers, the farmer women and the youth are the focal points in the learning situation.

Teaching: Teaching is the process of arranging situations in which the things to be learnt are brought to the notice of the learners whereby their interest is developed and desire aroused, that is they are stimulated to action. For example, if an extension agent wants to teach his farmers on the use and advantages of chemical fertilisers, all he need do is to carry out demonstrations on their fields, showing them how to apply fertilisers & make a comparison between the yield of the

fertilised crop with that of the crop to which no fertilisers has been applied. The crop output will be able to convince and motivate the farmers to action and starts using fertilisers regularly

Since, the primary role of an extension worker is to create conducive and effective 'learning situations' or learning environment, therefore, an effective learning situation requires:

1. An instructor (an extension worker, e.g. an extension officer or a village-level worker).
2. Learners (the farmers, farm families, the farm women & the youth).
3. Subject matter

4. Teaching materials (flannel-board, black-board, charts, models, slides, film strips)
5. Physical facilities which include sitting accommodation and good visibility.

Extension- teaching methods: The extension-teaching methods are the tools & techniques used to create situations in which communication can take place between the farmers and the extension workers. They are the methods of extending new knowledge and skills to rural people by drawing their attention towards them, arousing their interest as well as assisting them to have a successful experience of the new practice. Extension-teaching methods are classified into categories based on their usefulness.

Classification of extension-teaching methods: Extension- teaching methods are classified into 2 categories; these are (a) according to use and (b) according to form.

(a) **According to use:** Extension method can be classified according to their use and nature of contact. In other words, whether such methods are used for contacting people individually, in groups or *in masses*. Based upon the nature of contact, they are divided into three, these are individual, group and mass contact.

(i)   **Individual-contact method***:* Extension methods under this category provide opportunities for face-to-face or person-to-person contact between the farmers & the extension workers. This method is very effective in teaching new skills.

(ii)   **Group-contact method**: Clientele/ farmers in this category are contacted in a group which usually consists of 20 to 25 persons. These groups are usually formed around a common interest. This method involves a face-to-face contact with clientele, thereby providing an opportunity for the exchange of idea, discussions on problems and technical recommendations.

(iii)   **Mass or community-contact method:** Dissemination of new information to a large number of clientele/farmers is possible using this approach. These methods are more

useful for making people aware of the new agricultural technology quickly. Important extension-teaching methods under these 3 categories are listed in the table below.

(b) **According to form**: Extension-teaching methods are also classified according to their forms, such include written, spoken & audio-visual.

STEPS AND PRINCIPLES OF TEACHING AND LEARNING

There are a number of key principles and characteristics that are fundamental to effective Extension Learning process. No one principle is more important than another, and they all need to be taken into account collectively. The basic requirement for the teaching-learning process is communication. Assess your communication skills as well as those of the learner. Assess the learner's reading skills before using printed material as a teaching aid.

DEFINITION & MEANING OF MOTIVATION

Motivation is defined as the internal and external factors that stimulate desire and energy in people. It involves the biological, emotional, social and cognitive forces that activate behavior. Motivation results from the interactions among conscious and unconscious factors. These factors are (a) intensity of desire or need, (b) incentive or reward and (c) expectations of an individual.

Factors of motivation and its features: These include achievement, advancement, personal growth, recognition, responsibility and the work itself. The eight (8) features of motivation are highlighted below;

1. Motivation is an art
2. Motivation is goal oriented
3. Motivation is an act of managers
4. Motivation is a continuous process
5. Motivation can be positive or negative
6. Motivation is complex in nature
7. Motivation is system-oriented
8. Motivation is different from job satisfaction

TYPES OF MOTIVATION

The two types of motivation are intrinsic and extrinsic. An individual is said to exhibit intrinsic motivation when such motivational stimuli are coming from within. The individual has the desire to perform a specific task, because its results are in accordance with his belief system. An extrinsic motivation means that the individual's motivational stimuli are coming from outside, that is, an outside source is a determinant factor to performing certain tasks. Note that even though the stimuli are coming from outside, the result of performing the task will still be rewarding for the individual performing the task. There are several factors that motivate a person to work. The motivational factors can be broadly divided into two groups: Monetary and non-monetary factors

MOTIVATION THEORIES

Motivational theories are divided into three broad categories, these are highlighted below;

1. Hedonic or Pleasure Motivational Theories
2. Cognitive or Need-to-Know Motivational Theories

Growth or Actualization Motivational Theories