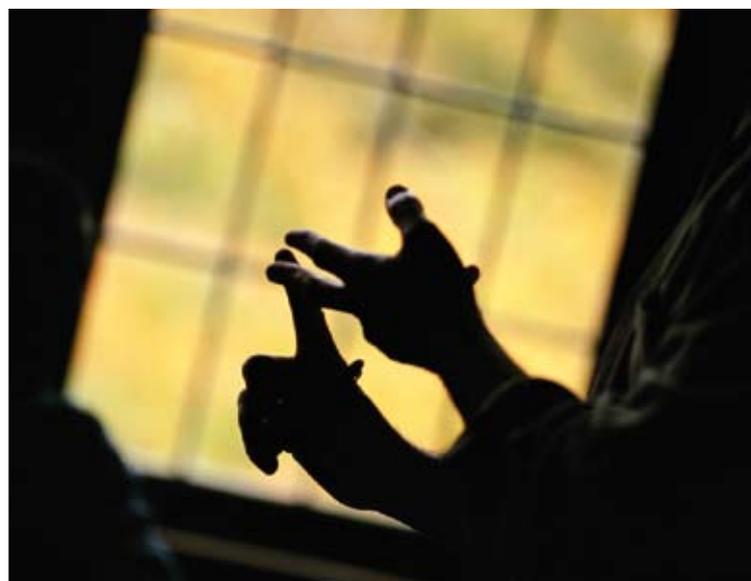


# Educational Communication



Prepared by George L. EKOL



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## TABLE OF CONTENTS

I.	Educational Communication _____	3
II.	Prerequisite Course or Knowledge _____	3
III.	Time _____	3
IV.	Materials _____	3
V.	Module Rationale _____	4
VI.	Content _____	4
	6.1 Overview _____	4
	6.2 Outline _____	4
	6.3 Graphic Organizer _____	5
VII.	General Objective(s) _____	6
VIII.	Specific Learning Objectives _____	6
IX.	Teaching and Learning Activities _____	8
X.	Glossary of Key Concepts _____	12
XI.	Multimedia resources _____	13
XII.	Learning Activities _____	13
XIII.	Compiled List of all Key Concepts _____	35
XIV.	Compiled List of Compulsory Readings _____	37
XV.	Compiled List of Useful Links _____	39
XVI.	Synthesis of the Module _____	51
XVII.	Summative Evaluation _____	52
XVIII.	References _____	57
XIX.	Main Author of the Module _____	58



## I. Educational Communication

By George L. Ekol, BSc, MSc.

## II. Prerequisite Courses or Knowledge

### Module: Teaching Methodology

#### *Basic ICT Modules*

##### **Module 1: Introduction to ICT**

Introduction to key boarding skills and computing environment; using computer input and output devices; getting to know the learning management systems; knowledge of computer networks and communication tools; and basic internet skills.

##### **Module 2: Text-based productivity tools**

Windows operating system skills; word processing skills; and desktop publishing skills.

##### **Module 3: Working with presentation software**

##### **Module 4: Multimedia design and application**

Graphics and picture design; internet resources and applications

## III. Time

To cover this module you will need 120 hours divided as follows:

Unit 1 15 hours

Unit 2 15 hours

Unit 3 45 hours

Unit 4 45 hours

## IV. Material

Multimedia use on DVD

'Noise' simulation on CD

'Visit to sound and video studios

Access to recommended texts and web material



## V. Module Rationale

Contrary to what many believe or think, effective teaching involves a systematically structured dialogue between the teachers and the learners. Teachers do not just deliver content to learners. Their preparedness, mannerisms and classroom organisation is key to their success. A clear understanding of communication structures and processes, therefore, becomes critical to this success.

## VI. Content

### 6.1 Overview

This module derives educational communication from the broad context of human communication. It begins by looking at interpersonal communication as presented by scholars such as Berlo <http://www.cultsock.ndirect.co.uk/MUHome/cshhtml/index.html> and Schramm. Their models are used to illustrate linear and cyclical communication. This is then followed by the theories of mass communication using different media. Again models are used to discuss linear and cyclical communication bringing in the concept of the 'feedback loop'. The module puts together the views presented above to help discuss the selection and use various communication artefacts and approaches for effective teaching and learning.

### 6.2 Outline

#### Unit 1 Theories of communication

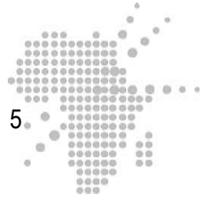
- Linear and cyclical models of interpersonal communication.
- Verbal and non-verbal communication
- Communication as a continuous process

#### Unit 2 Linear and cyclical models of electronic communication

- 'Noise' in communication
- Other barriers to effective communication
- The feedback loop

#### Unit 3 Theories of media and education

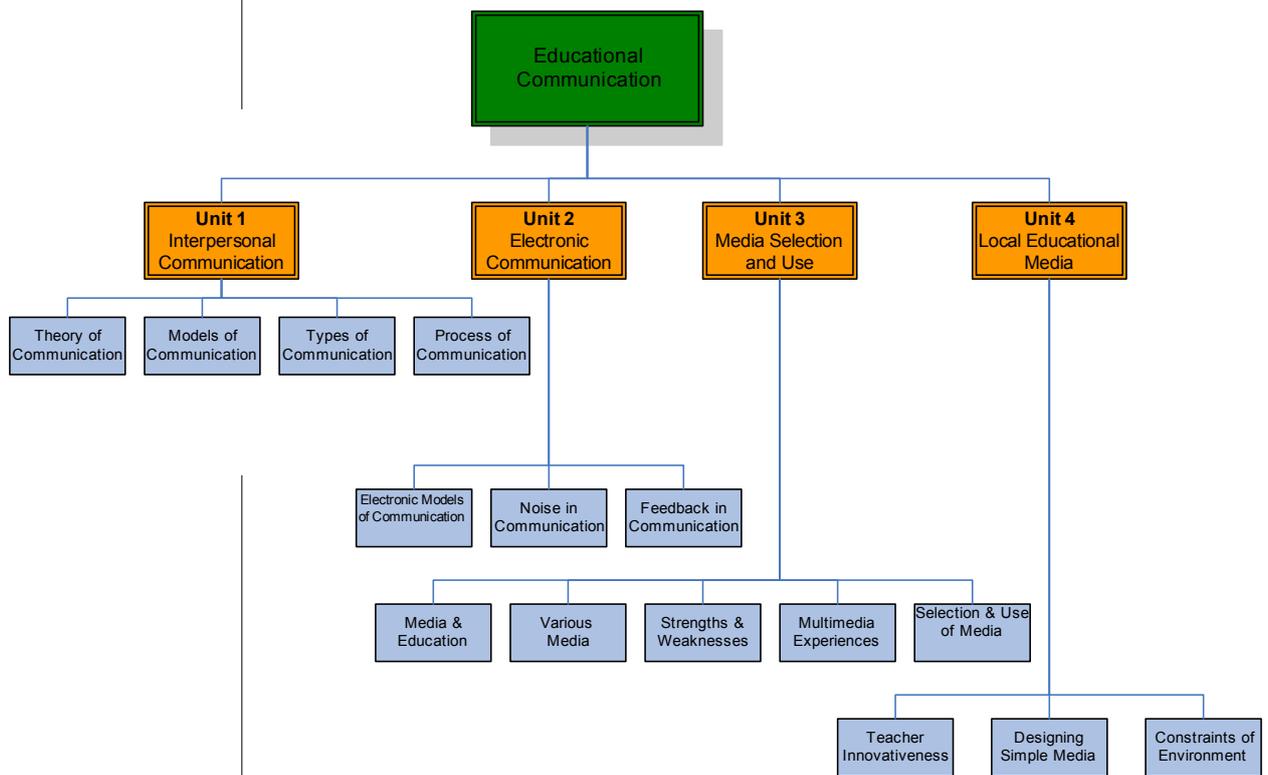
- Introduction to the various media
- Strengths and weaknesses of various media for education
- Presentations of multimedia experiences
- Guidelines to media selection and use



**Unit 4 Teacher role and environment in educational communication**

Selection and use of local resources for the enhancement of learning  
 Designing and making simple aids to teaching and learning

**6.3 Graphic organizer**





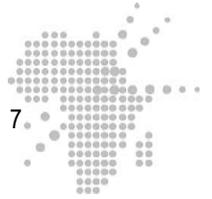
## VII. General Objective(s)

The general objectives of this module are:

- To develop proficiency in the medium of instruction
- To develop various techniques in the use of body language for effective classroom communication
- To gain insight and experience in the use of various media to enhance or support classroom teaching and learning
- To learn how to use local resources in making learning relevant
- To develop skills for the appropriate use of technology
- To improve learner creativity and thinking skills

## VIII. Specific Learning Objectives (Instructional Objectives)

<b>Unit 1</b>	<b>Learning objective(s)</b>
1. Theories of communication	Describe the various aspects of communication and their importance in teaching and learning.
2 Linear and cyclical models of interpersonal communications.	Identify the various assumptions presented by each model of interpersonal communication
3. Verbal and non-verbal communication	Differentiate verbal and non-verbal communication  Identify confusion in communication created to learners by conflict between what is verbal and what is non-verbal in teacher behaviour during a lesson
4. Communication as a continuous process	Describe the ideal balance for effective interpersonal communication
<b>Unit 2</b>	<b>Learning objectives(s)</b>
1.Linear and cyclical models of electronic communication	Draw and label a model which represents each type of communication List the assumptions of each model
2. 'Noise' in communication	Describe the term 'noise' in communication  Identify possible sources of 'noise' in educational settings.
3.The 'feedback loop'	Describe what is meant by the 'feedback loop'  Give uses of feedback for effective classroom learning



<b>Unit 3</b>	<b>Learning objective(s)</b>
1.Theories of media and education	Give points for and against the use of electronic media in educational settings
2.Introduction to various media	List various media that can be used in educational settings
3. Strengths and weaknesses of various media for educational communication	Identify strengths and weaknesses of selected media.
4. Presentations of multimedia experiences	Give the advantages of multimedia approaches to educational communication.
5. Guidelines to the selection and use of various electronic media items.	Use the provided chart to select the most appropriate media for each learning experience
<b>Unit 4</b>	<b>Learning objective(s)</b>
1. Teacher role and environment in educational communication	Identify possible teacher situations in the African environmental settings
2. Selection and use of local resources for the enhancement of Learning	Identify naturally occurring local resources which can be used to enrich the learning experience on learners
3. Designing and making simple teaching aids	Make and use simple teaching aids
4. The Internet as a source of teaching media	Access and download resources from open courseware platforms



## IX. Teaching and Learning Activities

### 9.1 Pre-assessment

**Title of Pre-assessment:** Effective communication in education

#### **Rationale :**

This test is meant to stimulate your interest in the area of effective teacher communication in education. It also helps you to find out what you already know in the field of educational communication thus pointing out the direction of your efforts in this course.

The following questions are either multiple choice, requiring the choice of the correct letter, or True/False, requiring you to tick the correct response.

#### **Questions**

1. What is communication?
  - a) Infrastructure for human transport
  - b) Being able to travel from place to place
  - c) Outcome of a dialogue
  - d) A teacher teaching a class
2. What do you understand by 'human communication'?
  - a) People talking at one another
  - b) People talking to one another
  - c) The process of knowing
  - d) People negotiating a common meaning
3. The 'cyclical model' of communication means
  - a) Communication is a process that moves in circles
  - b) Communication has no beginning or end
  - c) Each person in a communication has a role to play
  - d) Communication is dialogic



4. Non-verbal communication means
  - a) Getting material from books through reading
  - b) Sign language used by deaf-mute
  - c) Sending and receiving communication signals through body parts
  - d) Lip reading
5. The best teachers are able to
  - a) Give a straight lecture to their learners
  - b) Carry and use a lot of audio-visual illustrations
  - c) Use simple question and answer to develop a lesson
  - d) Deliberately create a good balance of all the above
6. 'Noise' in communication means
  - a) Learners talking while the teacher is teaching
  - b) Anything that causes a distraction
  - c) A distortion during the playback of a recording
  - d) People quarrelling outside the class while the teacher is teaching
7. The best use of media in teaching requires
  - a) A professional teacher to guide the class
  - b) Grid electricity
  - c) Ingenuity of the planners
  - d) Openness of the educational system
8. Multimedia means
  - a) Using multiple media equipment for teaching
  - b) Using many channels for teaching
  - c) Bringing together the capacities of various media to make a point
  - d) Combination of various media input into output.
9. Media can teach as well as the best teacher. True/False
10. Students studying by the distance study mode cannot perform as well as students studying in campuses. True/False
11. Libraries are core to all learning. True/False
12. Graduates are only as good as their teachers. True/False



13. Free, non-copyright material from the Internet are called
  - a) Open Source
  - b) Open Learning
  - c) Open Sesame
  - d) None of the above
14. The greatest impediment to the use of computers for teaching and learning in Africa is
  - a) Lack of electricity
  - b) Cost of hardware and software
  - c) Lack of qualified operators
  - d) Bandwidth
15. Teachers do not use teaching aids in their teaching because
  - a) Schools do not provide them
  - b) Teachers do not have the capacity to make them
  - c) Learners can learn as well without them
  - d) None of the above
16. Use of local resources to teach
  - a) Reduces the importance of the subject
  - b) Reduces the learnedness of the teacher
  - c) Makes learning boring
  - d) Makes the learning more meaningful
17. Feedback in communication is important because
  - a) It helps the sender of the message to improve on it
  - b) It confirms that the message has reached the 'destination'
  - c) The message produced by the sender and the message received at the destination are not always the same
  - d) It levels the playing ground
18. The widespread use of ICTs in education will help
  - a) Expand access to education worldwide
  - b) Create very bright people
  - c) Widen the creative gap between the developed and the developing countries
  - d) Narrow the gap between the developed and the developing countries



19. The expansive use and range of computers spell doom for
- Little media like filmstrips and slides
  - Teacher innovativeness and involvement
  - Local industries
  - None of the above
20. A teacher determines how life will be lived in the classroom. True/False

**Title of Pre-assessment:** Effective communication in education

**Answer Key**

- |           |           |
|-----------|-----------|
| 1. c      | 11. False |
| 2. d      | 12. False |
| 3. d      | 13. a     |
| 4. c      | 14. d     |
| 5. d      | 15. d     |
| 6. b      | 16. d     |
| 7. d      | 17. c     |
| 8. d      | 18. a     |
| 9. True   | 19. d     |
| 10. False | 20. False |

**Pedagogical Comment For Learners**

- If you scored 15 and above, it means that you have a strong background for this course. Follow the module to strengthen that advantage.
- If you scored 8-14 you are good. Deepen your understanding by following the module carefully.
- A score of 7 and below means following the entire course diligently. You will find the subject matter interesting and the knowledge insightful.
- To all students; this is a course that challenges traditional beliefs and myths about teaching and classroom interactions. The pedagogical values to be earned in this course will make you a teacher with a difference. Therefore concentrate and learn.



## X. Key concepts (glossary)

- Audio-visual:** A medium that either appeals predominantly to the ear (radio) or to the eye (television).
- Channel:** A term from communication theory for the physical means of carrying the signal. Light waves carry visual signals, airwaves carry sound signals.
- Communication:** Negotiation and exchange of meaning so that what the initiator (sender) means becomes what the recipient (destination) understands.
- Cyclical:** Communication that is conducted in cycles with each end playing the role of Encoder-Decoder- Interpreter through the process of Feedback, until a clear meaning is arrived at. (See the Schramm and Osgood model in this module)
- Decode:** The capacity to change a transmitted message back to its original form. A radio transmitter can only send electric signals. A radio-set is able to decode from electric signal to sound signal. A literate person puts words into script. A literate person on the other end is able to read and verbalise. Note that the ability to read does not mean understanding the meaning.
- Encode:** Put the message in a form which can be accommodated by the medium for transmission and which can be translated by the receiver (radio-set) back to the initial verbal message. An example is the encoding a radio message into an electric signal which is then translated back to a voice signal by the receiver for the destination (recipient)
- Feedback:** Informing the sender of information about the status of his/her communication so that the message can, if necessary, be modified for a common meaning to emerge.
- Linear:** A communication process that begins with a source and ends with the recipient (destination). An example is a military command. It is presumed that both sides have enough capacity to understand what each means and expects.
- Medium/media:** intermediate agency/agencies that enable a communication to travel from the source to the destination. Non-technical media include speech, writing, dress, acting; while the technical media include radio, TV, computers, books, newspapers etc.
- Multimedia:** Processed products of different media combined to make or facilitate one communication e.g. a CD that contains text, video clips and sound tracks.
- Noise:** Any interference added to the message between the sender and the receiver that will make accurate interpretation of the message more difficult.
- Non-verbal communication:** Sending and receiving message signals by use of body parts, e.g. eye contact, smile or pout, posture, gesture, body distance, smell, signals, hair, clothes and earrings.
- Recipient:** The person for whom communication is intended. In non-linear communication between two people, the recipient is also the next source (Sender).



## XI. Multimedia Resources (optional)

The following multimedia resources or a combination of them may be used:

Radio, television, loudspeakers, mobile telephony, tape recorders, radio cassette player, video player, computers etc.

## XII. Learning Activities

### Learning Activity # 1: Introduction to Human communication

#### Specific Objectives

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

- |   |
|---|
| a) Describe what is meant by human communication  |
| b) Identify the various assumptions presented by each model of interpersonal communication                          |
| c) Differentiate between verbal and non-verbal communication  |
| d) Identify confusion in communication between what is verbal and non-verbal in teacher behaviour in the classroom. |
| e) Describe the ideal balance for effective interpersonal communication   |

#### Summary

In this unit you will describe what is human communication and identify the various assumptions associated with each model of interpersonal communication. You will also define and differentiate between verbal and non-verbal communication. You will identify possible communication confusion created in the classroom by conflict between what is verbal and non-verbal through teacher behaviour. Finally you will describe the ideal balance for effective interpersonal communication.

#### Compulsory Reading

[http://en.wikibooks.org/wiki/Contemporary\\_Educational\\_Psychology/Chapter\\_12/The\\_Nature\\_of\\_Classroom\\_Communication](http://en.wikibooks.org/wiki/Contemporary_Educational_Psychology/Chapter_12/The_Nature_of_Classroom_Communication)



### **Additional General Reading**

*Instructional Technology/Bases of the field*

[http://en.wikipedia.org/wiki/Instructional\\_technology](http://en.wikipedia.org/wiki/Instructional_technology)

### **Key Words**

**Communication:** ( *See glossary on Key Concepts page 9*).

**Non-verbal communication:** ( *See glossary on Key Concepts page 9*).

**Interpersonal Communication:** The transfer of information( including, ideas,emotions, knowledge,skills etc) from person to person.

**Verbal communication:** Communication between people using words.

**Teacher behaviour:**Behaviour of the teacher in the classroom through verbal or non-verbal communication and how this is interpreted or misinterpreted by the learners.

### **Introduction to Communication**

Basically communication is a process of exchanging information between two sources.In a classroom example,one source is the learner and the other source is the teacher.Without effective communication the efforts of the teacher to facilitate learning will be frustrated and lost.It is therefore important that the message the teacher is passing across is clear,simple,appreciated and responded to appropriately by the learner. Communication is therefore a very important component in teaching and learning process.Formal theories of communication are discussed in the learning activities that follow:



## Learning Activities

### Introduction

Communication can be defined as the “a means of exchanging messages or an act of giving information and receiving a response”. For a message to be part of a communication, there has to be a sender (Source) and also a person who receives the message (Receiver) –who actually hears it and responds to it. If it is just a noise which is ignored, then it has not been received. When we communicate, we have to consider how much our audience will understand or perceive. First if the ideas are too difficult, then there will be little comprehension.

Secondly, if the words are too complex, the audience will not understand. Sometimes our audience will have a different meaning for a particular word than our own. Thirdly, research has shown that a person will only perceive what she subconsciously wants to perceive. This is called selective perception (McDonald and Hearle, 1984).

Selective perception can be based on interest or cultural or emotional factors. Therefore we need to know what our audience is interested in so that we can make our communications more acceptable and effective.

### Learning Activity 1.1: Reading

Use the introductory notes in this unit and the core text Chapter 12: The Nature of Classroom Communication, [http://en.wikibooks.org/wiki/Contemporary\\_Educational\\_Psychology/Chapter\\_12/The\\_Nature\\_of\\_Classroom\\_Communication](http://en.wikibooks.org/wiki/Contemporary_Educational_Psychology/Chapter_12/The_Nature_of_Classroom_Communication) to answer the following questions:

- (i) describe what is human communication
- (ii) identify the various assumptions associated interpersonal communication
- (iii) define and differentiate between verbal and non-verbal communication
- (iv) Give two examples of communication confusion created in the classroom through verbal and non-verbal behaviour of the teacher.
- (v) How would the teacher attempt to correct the confusion (iv) in the classroom

FORMATIVE ASSESSMENT: *Correct answers obtained from the reading provided.*



### **Learning activity 1.2: Individual Reading, Role Play, and Group Discussion**

**Core text:** Chapter 12: The Nature of Classroom Communication.

[http://en.wikibooks.org/wiki/Contemporary\\_Educational\\_Psychology/Chapter\\_12/The\\_Nature\\_of\\_Classroom\\_Communication](http://en.wikibooks.org/wiki/Contemporary_Educational_Psychology/Chapter_12/The_Nature_of_Classroom_Communication)

In a group of six, members choose randomly one of the following six subtopics from the core text:

1. Communication in Classrooms vs Communication Elsewhere
2. Effective Verbal Communication
3. Effective Nonverbal Communication
4. Structures of Participation: Effects of Communication
5. Communication Styles in the Classroom
6. Using Classroom Talk to Stimulate Students' Thinking.

Each member is to take an average of two hours of individual study of the chosen topic. All members have access to all the topics but are encouraged to concentrate on their subtopic. After reading, each member makes a presentation, highlighting key points relevant to classroom communication. Relevant examples of the classroom situation should be emphasized during the presentation. During the presentations members ask questions and may offer supplementary examples where necessary. A chairperson is nominated by members to moderate the discussions. When time comes for the chairperson to make her/his presentation, another member takes over the role as the moderator.

**Learning Expectation:** It is expected that from this learning activity, the group will be able to fulfill the specific objectives of this unit. In addition, the group will appreciate that classroom communication can be very complex (Lasswell, 1964). It is therefore important for the teacher and the students to appreciate the key features of classroom communication, the role played by nonverbal communication, and the unwritten expectations held by students and teachers about how to participate in particular kinds of class activities.

**FORMATIVE ASSESSMENT:** *Active participation and presentation by all members.*



## Learning Activity #2: Introduction to Electronic Communication

### Specific Objectives

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

- (a) Differentiate between Linear and cyclical models of communication
- (b) Draw and label a model which represents each type of communication in (a)
- (c) Describe the term 'noise' in communication
- (d) Identify possible sources of 'noise' in educational settings
- (e) Describe what is meant by the 'feedback loop'
- (f) Give uses of feedback for effective classroom learning

### Summary

In this unit the learning activities will be based on linear and cyclical models of electronic communication; "noise" in communication, and "feedback" loop respectively. On linear and cyclical communication, you will design and label models which represent each type of communication. On noise in communication, you will describe the term "noise" and identify possible sources of noise in educational settings. Last but by no means least, you will describe the term "feedback", and give uses of feedback for effective classroom learning.

### Compulsory Reading

<http://en.wikipedia.org/wiki/Communication>

### Additional General Reading

[http://en.wikipedia.org/wiki/Electronic\\_Media](http://en.wikipedia.org/wiki/Electronic_Media)

### Key Words

**Communication:** ( See glossary on Key Concepts page 12).

**Cyclical:** ( See glossary on Key Concepts page 12).

**Linear:** ( See glossary on Key Concepts page 12).

**Noise:** ( See glossary on Key Concepts page 12).

**Feedback:** ( See glossary on Key Concepts page 12).

**Signal:** What a given message is converted into so that it can be transmitted.

**Transmitter:** An electronic device used for converting a message into an electronic signal and sending it to a **receiver** which then converts the message back to its original form.



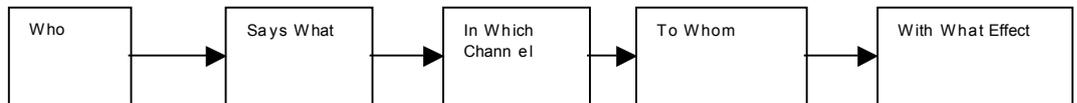
**Electronic Communication:** Communication facilitated by use of a transmitter and a receiver e.g. radio,TV.

### Learning Activities

#### Overview

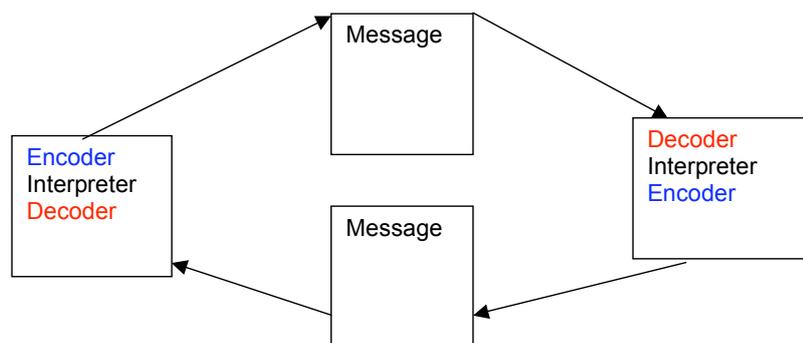
As discussed in the previous unit, communication is a procedural aspect of transmitting information from source (sender) to its reception and interpretation by the person receiving the message. Such type of communication is known as the interpersonal communication process. In the recent years the interpersonal mode of communication has been supplemented by the media systems of teaching and learning. Examples of such educational media comprise among others: radio, television, computers, and their derivatives.

The following represents the linear and cyclical models of communication due to Lasswell (1964).



The Lasswell formula with corresponding elements of the communication process after Lasswell (1964).

The following represents the cyclical model of communication due to Schramm (1954).





**Noise:** Noise is any interference added to the signal between the encoder and decoder that makes accurate decoding and hence ‘interpretation more difficult. There are two main types of noise:

- (i) Mechanical noise- this is noise on the channel of communication e.g. feedback signal on the radio set or on the TV set.
- (ii) Semantic noise - This is interference with the message brought about by dissonance in meaning, usually caused by cultural or social differences between encoder and decoder e.g. jargon, slang and body language

In the two models shown above Schramm (1954) cyclical model is an attempt to improve the Lasswell (1964) linear model by introducing the concept of “feedback” is introduced.

### **Learning activity 2.1: Brainstorming**

Using the background description of noise given above give three examples each of mechanical and semantic “noise” in the classroom. Assume in each case that (a) the teacher is present in the classroom (b) the teacher is not present in the classroom.

*FORMATIVE ASSESSMENT: Student is able to give three correct examples of mechanical and semantic noise.*

### **Learning activity 2.2: Group Discussion**

In a group of five, discuss the importance of “feedback” in the classroom. Imagine a situation where students give feedback, say, in five days after a topic has been covered by the teacher. What are the possible implications of this?

*FORMATIVE ASSESSMENT: Active participation in the discussion by all members. No particular correct answers.*

### **Learning activity 2.3: Reading (Optional)**

Read <http://en.wikipedia.org/wiki/Communication>

- (a) Outline six major dimensions that that describes communication
- (b) Communication as a process of information transmission has three levels of semiotic rules:

Which are these?

*FORMATIVE ASSESSMENT: Active participation and presentation by all members.*



## Learning Activity #3: Theories of Media and Education

### Specific Objectives

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

- (a) Give points for and against the use of electronic media in educational settings
- (b) List various media that can be used in educational settings
- (c) Identify strengths and weaknesses of selected media
- (d) Give the advantages of multimedia approaches to educational communication.
- (e) Use the provided chart to select the most appropriate media for each learning experience

### Summary

In this unit, various media used in educational setting are identified. The strengths and weaknesses of the media selected are also highlighted. Some advantages of multimedia approaches to educational communication are discussed. Finally, the criteria for selection of appropriate media for each teaching and learning experience are proposed.

### Compulsory Reading

[http://en.wikibooks.org/wiki/ICT\\_in\\_Education/The\\_Uses\\_of\\_ICTs\\_in\\_Education](http://en.wikibooks.org/wiki/ICT_in_Education/The_Uses_of_ICTs_in_Education)

### Additional General Readings

[http://en.wikipedia.org/wiki/Instructional\\_design](http://en.wikipedia.org/wiki/Instructional_design)

*Managing technology: Tips from the Experts*

[http://www.educationworld.com/a\\_tech/tech/tech116.shtml](http://www.educationworld.com/a_tech/tech/tech116.shtml)



### Key Words

**Medium/media:** intermediate agency/agencies that enable communication to travel from the source to the destination. Non-technical media include speech, writing, dress, acting while the technical media include radio, TV, Computers, Books, Newspapers, and so on.

**Cognitive loading:** How much a domain of the brain can carry and avail for use. Division of content into various media helps distribute load to different domains of the brain and in that way increasing the carrying capacity that can be stored and availed for use.

**Communication technology:** Technical media employed to transfer knowledge from teachers (source) to learners (destination) and vice-versa. The purpose is to increase efficiency and effectiveness.

**Instructional Design:** The practice of arranging media (communication technology) and content to help learners and teachers transfer knowledge most effectively.

**Pedagogy:** Methods employed in teaching

**Technophobia:** Unfounded fear of technology.

### Detailed Description of the Learning Activities

#### Media Selection and use:

This unit deals with the subject of various media that can be used to accomplish communication in education. Following is the discussion on the media of radio, television, computers and their derivatives. The discussion is linked to activities and concepts discussed in the first two units.

#### Radio

As a teacher you will most likely think of using radio either as a teaching medium or a teaching companion. Or you will find a radio in the school which the head of department will tell you it provides useful information for your learners. Many countries have a number of broadcasts to schools programmes. There are a number of reasons why national broadcast stations would opt to have these programmes. Can you think of some? One reason is that historically many people usually think of a radio as a good teaching medium. Another is that if the radio station is funded by government it may accommodate broadcast to schools to show its social responsibility to justify expenditure of public funds. Yet another reason may be that this is thought to be a useful way of filling the airtime when most of the population is at work. But whatever the reason the broadcasts are there and they are structured to fit your syllabus content.



Some theorists have described instructional media as mere vehicles that purvey learning content without in any way influencing student achievement (Forsyth, 1996, p.137). There may be some merit in this view. But media have been known to influence student achievement (Maier et al, 1998, p.96). Also a broadcast organization can put together a programme that a number of schools put together could not have afforded the cost.

*What form does educational broadcasting take?*

Rarely does a radio broadcast give a lecture. You will find dramatization of historical events, geographical excursions, nature trails for biology, language drill etc.

*Strengths of radio:*

- Programme origination and transmission is done for you free. This allows you to spend the saved preparation time to do other things for your class e.g. preparing visuals and assessments.
- Very little power required to power radio sets which allows for affordable direct current (DC) batteries to bring radio to your class.
- The receiving medium is relatively affordable by most families and most of the learners have regular experience listening to the radio. This reduces the possibility of distraction caused by the novelty of the medium.
- The infusion of media professionalism and the best teachers in production presents a very rich experience for both learners and teachers.

*What purpose does the radio serve in the teaching/learning process?*

As a teacher you can teach your class any subject. But you may not create the true vision of the concept. For instance, you cannot reproduce bird or animal sounds for your biology class. Yet the recorded sounds might help in fixing the concept in the minds of your learners. Also the image might help in 'cognitive loading'.

*What are some of the problems you might face while trying to use radio broadcasts for your teaching?*

- At the logistical level radio broadcasting goes by very tight scheduling. That is, a particular programme comes on -air at specific day and time. This means that your class must be there to listen or else they miss out. Radio station schedules do not follow school time-tables. It therefore becomes difficult to schedule a school lesson with the radio broadcast schedule.
- At the pedagogical level there are problems too. Radio is transitory, that is, what has passed cannot be recalled for feedback purposes. This poses two problems. First, the teacher must prepare to reinforce the radio lesson. Second is the problem of attention span. The human mind cannot retain much of listened to content.



- Lack of interactivity. You cannot interrupt a programme to receive comments, questions, make clarifications or give guidance which can become a source of frustration.
- If the signal is weak due to poor infrastructure, there is frustration.

#### *How can you use broadcasts for your teaching?*

One recommendation is to record the programmes and use them at an appropriate time. This is if the copyright laws of your country permit. In some countries the broadcast organizations will encourage this for free. In others they will record for a small fee if the programme is for school use.

The second recommendation is for you to record, edit and then use in your class. This allows you to add learner responses so that they can compare their responses with the programme.

The third recommendation is to plan teaching using the broadcast programme as a resource. In this use you can drill your learners and then play the recording to show the right response or pronunciation.

#### **Learning Activity 3.1: Listening to Live Broadcast**

Using school radio, choose one of the programmes and invite the class to listen to the programme and record the message in their own words. The announcement could read as follows:

“THE CHAIRPERSON OF THE NATIONAL SCIENCE TEACHERS ASSOCIATION WILL MAKE A PRESENTATION ON NATIONAL RADIO AT 2:30 PM TOMORROW TUESDAY 10 MAY. THE BROADCAST WILL BE ON THE LOUDSPEAKERS IN THE ASSEMBLY HALL. YOU ARE ALL INVITED AND PLEASE TAKE NOTES OF THE RADIO BROADCAST”.

After the radio broadcast the class is to meet and share what they have learnt from the broadcast. Did you experience some of the problems associated with radio broadcast listed above? .What did you do to overcome some of these problems?

**FORMATIVE ASSESSMENT:** *Students attend the radio broadcast and participate in group discussion after the broadcast.*

#### **Audio Cassettes:**

We have mentioned recording of programmes off-air in order to use them at our time of choice for teaching. Most likely you will do your recording on magnetic tape. These days they do not come in *reel-to-reel spools* but in small pocket-size, compact audio cassette tapes. To record, all you need is to insert the cassette into



the cassette player compartment of your radio-cassette player and press the record button. If you want to reuse the cassette you just record over. The machine automatically erases the existing content as it records the current content.

A cassette player has a stop/start facility that helps to stop the cassette, go over an exercise or experiment, and restart to go on or get feedback. This means that an audio cassette can engage learners in exercise thus making the learning interactive. Thus it can be employed for *DIRECT TEACHING*. Alternatively you as a teacher can teach your lesson and intersperse it with short recordings to enhance your teaching. These can, for example, contain animal sounds for biology, excursions for geography, steam engines for physics or rhythm either for music or mathematics. This function is called *ENRICHMENT*. By listening to these recordings your learner gain on recall of taught content or concepts.

**Television:**

Useful link: <http://www.uidaho.edu/eo/dist1.html>

**Television as a teaching/learning medium:**

You or your school might choose not to use the TV broadcasts for reason of costs and logistical reasons. There might be only one television set and video player in the school. This would definitely not work out as no class should feel left out of a delivery system available to others. The choice remains that of the teacher using the programmes as part of his/her lesson planning key resources just as the radio was used.

*Strengths of Television:*

- Cost of programme production and transmission can be very expensive depending on the origination, transmission and royalties. When provided by the national broadcast system all these costs are paid for you.
- Television combines both audio and visuals to describe and illustrate complex concepts.
- It is an effective way to take learners to new environments that would not have been accessible any other way e.g. showing the magnitude and magnificence of the, the River Nile, Zambezi River in Southern Africa, Mount Kilimanjaro in East Africa, or the pyramids in North Africa.
- It is good at demonstration e.g. technical drawings or dissections.
- The infusion of media professionalism and educational pedagogy brings the best experiences to both learners and teachers.
- It spurs teachers to prepare better, seek more information and improve their teaching as they try to emulate TV teachers.



#### *Weaknesses:*

- The receiving equipment is expensive and sometimes requires heavy investment in operating power and infrastructure such as receiving antennae or dishes.
- The medium is not that familiar to most homes in Africa and therefore novelty might distract learners from the content of the broadcast.
- The attempt to cater for the learning of the average learner might affect the needs of learners with special needs e.g. slow learners, physical impairments and so on.
- The infusion of media professionalism and educational pedagogy might make learners to start looking down at their teachers. Also unqualified or shabbily dressed teachers might start exhibiting inferiority complex with unpleasant outcomes for both the school community and media.

#### *Closed Circuit Television (CCTV):*

This is a television system that is installed by an institution for its internal use. You may not have come across this in schools but you have definitely seen video cameras placed at strategic points in a bank or supermarket. The images they store can be played back in case of robbery or shoplifting. In some universities, even in Africa, *CCTV* is used for micro-teaching. The technology here is simple in that this can be accomplished with one camera but there should be a good technician to make sure that what is recorded is the students actions, and not a result of shaky hands or other body movements and attention ( or the lack of it) by the camera-man.

In some universities in the Developed World, *CCTV* is used for students who may not get a place in the lecture hall and have to follow the lecture in a spill-over hall. The same content may be saved in video for those who were unable to attend the lecture for one reason or another.

#### **Learning Activity 3.2: Self Reflection**

*Educational television broadcasting faces similar problems faced by radio broadcasting. Do you agree or not agree with this statement. If you agree write down 5 problems that educational television is faced with. If you do not agree, argue your case accordingly.*

**FORMATIVE ASSESSMENT:** *Group discussion using background notes given above on the strengths and weaknesses of radio and TV.*

#### **Video for Teaching**

[Useful link: http://www.uidaho.edu/eo/dist1.html](http://www.uidaho.edu/eo/dist1.html)



The discussion on television brought in video for recording off-air and choosing the appropriate time for playback. An element of interaction with the material was also possible. There are a number of ways in which you can use video to teach or accompany you teach your class. A few examples will suffice.

*a) Using a video programme designed for teaching:*

This involves taking an existing programme and introducing pauses for discussions or explanations. You can achieve this by re-recording on another tape and introducing pause gaps as cues for stops. You can also use the *timer* in-case you want to jump certain parts of the programme. Care must be taken to ensure accurate stops to avoid distractions that might be caused by unsure *fast-forward* and *reverse* manoeuvres.

*b) Using multi- videotapes*

Sometimes there may be no suitable teaching video available. But you have a number of videotapes that have some sections that might communicate your content in a more powerful way. One way is to pick those clips and copy them into one tape with adequate gaps for stops as you teach or discuss with your learners.

If you do not have a copier, the best way is to mark those parts using the playback timer and then stack them in the order you want to use them. Once again care must be taken to avoid distractions that might be caused by incompetent operations.

*c) Producing your own material:*

This comes in if you train yourself to be a good amateur video producer. Video cameras have become quite cheap (provided you do not go for the newest, state of the art) and developments in communication technology allow for cameras to carry programmes which tell you what to do or automatically anticipate your needs at any particular situation like auto-focus and lighting. This allows you to shoot clips of locally occurring phenomena like forests, waterfalls, mills, types of rock, birds, flora and fauna, aeroplanes, the list is endless. Remember as a teacher you are likely to have more excursions and opportunities for travel than your learners. The clips can be put together for your lessons.

*d) Collaboration in producing video teaching materials:*

This is achieved by requesting other teachers who might have similar interests as you in shooting amateur video. The materials produced can transverse your collective disciplines leading to a good repository. You can go further and request your learners to contribute in shooting and editing in a media club. This can lead to the career interest in the media for some of your learners. But you must be committed and focussed.



e) *Other sources of video for teaching:*

There are a number of foreign broadcasting bodies that have very good programmes.

Just to cite a few examples among many, the German Deutchwelle have very good short teaching programmes in physics, chemistry, biology, mathematics, economics culture and many more. The British Broadcasting Corporation (BBC) has very good wildlife documentaries although these can run for three hours each. These may be made available through their cultural centres at no cost.

Video is an excellent medium for demonstration. In a biology lesson a teacher wanted to demonstrate to her class how to reveal a bud using a surgical knife. The operation was delicate and the part to be exposed was not visible to the naked eye. By use of a video camera, a microphone for the *voice-over*, and a microscope the teacher was not only able to carry out this operation, but the students were able to follow every step the action through the monitor, a feat that would not have been accomplished without the use of communication technology.

### **Learning Activity 3.3: Writing Assignment**

*Write a letter to the director National Broadcasting Authority (NBA) in your country through your Course Tutor at AVU. List your areas of interest and ask them what teaching and learning materials are available. Indicate that you as a group plan to pay a study visit to the technical department of the broadcasting authority to get acquainted with the facilities and the equipment and how they operate.*

FORMATIVE ASSESSMENT: *Learners design and write individual letter to the Director NBA requesting for permission to visit NBA technical facilities.*

### **Computers**

Useful link: <http://www.uidaho.edu/eo/dist1.html>

Many people believe that the biggest achievement of the 20th Century is the invention and development of the computer technology. From the invention of the first multi-storey calculator ENIAC (Electronic Number Indicator And Calculator) of 1947, to the giant mainframes of the 1960s, the desktops of the 1970s and 1980s that could hardly carry half the capacity of the smallest flash disks, the laptops of the 1990s and the Personal Digital Assistants (PDAs) of this millennium indicate perhaps the greatest technological leap of humanity.

In Africa, the technology is permeating fast albeit in a less coordinated fashion. Many schools today boast of computer labs. Commercial cybercafés can be seen in many market places and most local citizens have email account.



### *Strengths of Computers:*

- Today the computer can be used to assist the teacher to teach more effectively. You can use the graphic capacity to simulate situations and circumstances that would have been impossible in a traditional lecture or exposition. Computers today have microphones for recording voice for voice-over effects.
- The Internet makes it possible for you to view and download teaching material from the numerous sites around the world. The Open Education Resource (OER) facility allows you to download and even customize without infringing copyright laws. That is how AVU is able to obtain the rich resources contained in your learning modules. You can access the same materials from your village café and even if you do not have equipment, you can use the knowledge to enrich your lesson resourcing.
- The computer allows flexibility of learning. Once the content has been placed on the platform the learners chose the time when to visit the site. They work on the set tasks and receive feedback at the click of a button.
- Computers are interactive. This is because unlike the radio or television the computer is not a mass medium. It is a highly individualised technology and its content is prepared for consumption by individuals. Hence the flexibility and interactivity.
- The technology is developing very rapidly allowing for greater speeds, capacities and operations. You need to remember that in the 1980s most personal computers had a total capacity of less than a third of a gigabyte. Up to the 1990s a 486 megabyte computer was a marvel. 15 years later a 40 gigabyte is a museum piece.
- Computers can be useful for local, national, regional or international access.

### *Limitations of Computers:*

- Computer networks are costly to develop. It can cost more than a million dollars to create a school backbone to allow internal connectivity. The infrastructure to move out of the school is prohibitive.
- The rapid change in technology might render your newly installed system obsolete before you even utilize it.
- Widespread computer illiteracy, especially at the decision-making levels, makes it difficult for schools to have computer facilities inside and outside of Africa.
- The technology/pedagogy gap, where the onset of the technology has not resulted in teacher preparation for the use and operation of the



technology as a teaching tool, has made computer training a function of commercialism thus locking out its advantages from those who could best benefit from it.

- Due to high costs involved in setting up a computer facility in a school, very few schools can afford more than a rudimentary lab. A single computer lab cannot suffice the learning needs and skills training for your learners.

### **Learning Activity 3.4: Discussion**

*In a group of two students discuss the advantages and limitations of computers cited above. Check the link given in this reading for more information on the topic.*

**FORMATIVE ASSESSMENT:** *Learners form groups and participate actively in group discussion.*

#### **Communication Satellites:**

Satellites are communication objects that are located over 36,000 kilometres above the earth along the equator by communication middlemen. These satellites receive either data or image signals from a ground source and distribute them to ground receivers and on to the destinations. The area of coverage by a satellite beam is about one third of the earth and this area of coverage is referred to as the *footprint*. Thus the footprint of a communication satellite stationed above the Atlantic would cover the eastern side of North and South America. Parts of Europe, Africa and some parts of the Middle East. The process of sending material to a satellite is called *uplink* while that of bringing it down is called *downlink*.

A lot of data, radio and television programmes, telephone links and various derivative media from the mainstream form a gigantic traffic referred to as the information highway courtesy of these satellites. The Internet is also possible because of satellites. Consumption is possible through providers who normally charge high fees, especially if your provider is a monopoly as is the case in many African countries.

#### **Digital Communications:**

Digital technologies have had a major impact in communication expansion and efficiency. Traditional broadcast capacity has been enhanced by use of digital systems to increase frequency utilization. Today one frequency can be used by 24 stations without interference. More payloads can be carried by one communication satellite.



At your level, the broadcast signal you will receive for your teaching is very clear, to say nothing of the portability of your receiving medium due to the small size required carrying the technology. The high-speed data and graphic capacity brought about by fibre optic technologies gives you the efficiency which you may require for the incorporation of communication technologies into your teaching plans.

### **Multimedia:**

The rapid expansion of communication technologies, digitization, capacity and speeds has led to more innovative approaches to media of communication. The direction is towards maximization of use for any technology leading to amalgams of those technologies. For instance, a video conference uses voice, picture and graphics.

This brings in the use of technologies of radio, television and the computer if it is local. Beyond that we call in satellites to *uplink* and *downlink* in milliseconds using the capacities inherent in digital technology.

### **Learning Activity 3.5: Group Work**

*(To be done in small groups of 4 to 6 members)*

- (a) Using compulsory reading and the notes given in the learning activity list the various media used in educational setting. Mention three advantages and three limitations of radio, TV and books respectively.

FORMATIVE ASSESSMENT: Learners answer questions correctly.

- (b) The following media have derivatives that can be used in educational setting. For example, radio has audio cassettes and CDs. Give two derivatives of each of the following media:

- Television
- Computers
- Books

FORMATIVE ASSESSMENT: *Learners respond to the questions correctly.*

- (c) From the discussions in this unit and the previous units, select the media that would be appropriate for each of the following teaching and learning activities:

- (i) Presentation
- (ii) Demonstration
- (iii) Drill and practice
- (iv) Interaction
- (v) Collaboration

FORMATIVE ASSESSMENT: *Learners select appropriate medium for each activity.*



## Learning Activity #4

### Teacher role and environment in educational communication

#### Specific Objectives

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

- (a) Identify possible teacher situations in the African environmental settings
- (b) List various media that can be used in educational settings
- (c) Identify naturally occurring local resources which can be used to enrich the learning experience on learners
- (d) Make and use simple teaching aids.
- (e) Access and download resources from open courseware platforms

#### Summary

In this unit the role of environment in educational communication is discussed. Selection and use of local resources to enhance teaching and learning are discussed. Having looked at the environment and the available local resources, some teaching and learning aids are designed to enrich the experience of the learners. The internet as a source of teaching media is also discussed.

#### Compulsory Reading

- [http://en.wikibooks.org/wiki/Contemporary\\_Educational\\_Psychology/Chapter\\_12:\\_The\\_Nature\\_of\\_Classroom\\_Communication/Classroom\\_Talk\\_to\\_Stimulate\\_Thinking](http://en.wikibooks.org/wiki/Contemporary_Educational_Psychology/Chapter_12:_The_Nature_of_Classroom_Communication/Classroom_Talk_to_Stimulate_Thinking)

#### Additional General Reading

- [http://en.wikibooks.org/wiki/Contemporary\\_Educational\\_Psychology/Chapter\\_12/The\\_Nature\\_of\\_Classroom\\_Communication/Communication\\_in\\_Class\\_vs.\\_Elsewhere](http://en.wikibooks.org/wiki/Contemporary_Educational_Psychology/Chapter_12/The_Nature_of_Classroom_Communication/Communication_in_Class_vs._Elsewhere)
- [http://en.wikibooks.org/wiki/Gender\\_and\\_ICT/Implications\\_of\\_Integrating\\_a\\_Gender\\_Perspective\\_at\\_National\\_Level](http://en.wikibooks.org/wiki/Gender_and_ICT/Implications_of_Integrating_a_Gender_Perspective_at_National_Level)
- [http://en.wikibooks.org/wiki/ICT\\_in\\_Education/The\\_Uses\\_of\\_ICTs\\_in\\_Education](http://en.wikibooks.org/wiki/ICT_in_Education/The_Uses_of_ICTs_in_Education)
- [http://en.wikibooks.org/wiki/Instructional\\_Technology/Bases\\_of\\_the\\_Field](http://en.wikibooks.org/wiki/Instructional_Technology/Bases_of_the_Field)

#### Key Words

Environment: Physical location, and or context in which communication is based.



## Detailed description of the learning activities

### Learning Activity 4.1

In this activity the role of environment in educational communication is discussed. We look at an example where communication by teacher to the learner depends on the situation (environment) where the teacher and the student are. We take the example of a classroom.

**Read:** “*Using Classroom Talk to Stimulate Students’ Thinking*” from the compulsory reading.

From this reading we learn that the classroom talk register constrains how communication between teachers and students can take place, but it also gives teachers and students a “language” for talking about teaching and learning

**Question:** Given this double-edged reality, how can teachers use the classroom talk register to good advantage? How in particular can teachers communicate in ways that stimulates more and better thinking and discussion?

**Resource:** Look at the final section of the chapter, for some suggestions to the questions posed above. Also see [Gagne’s Contributions](#).

FORMATIVE ASSESSMENT: *Learners access the reading cited above and answer the questions correctly.*

### Learning Activity 4.2

In this activity the selection and use of local resources to enhance teaching and learning are discussed. Our activity is based on two articles from the compulsory reading namely: “*Probing for Learner Understanding*”, and “*Helping Students To Articulate Their Ideas and Thinking*” The main theme in the two readings show how the teacher can vary her questions in the classroom to facilitate learning. Also important is the use of artefacts to concretize ideas.

**Read:** “*Probing for Learner Understanding*”, and “*Helping Students To Articulate Their Ideas and Thinking*” from the compulsory reading.

**Discussion:** From the article “*Probing for Learner Understanding*”, the teacher asks the learners two questions shown in the article. By asking those questions she creates a **zone of proximal development**. What is the importance of creating a **zone of proximal development** in the learners during classroom communication?.

FORMATIVE ASSESSMENT: *Learners access the reading cited above and answer the questions correctly.*



### Learning Activity 4.3

Having looked at the environment and the available local resources, some simple teaching and learning aids are designed to enrich the experience of the learners.

To appreciate the importance of these objects, please:

**Read:** “Instructional Technology/Bases of the Field: *Audio-Visual Foundations*” from [http://en.wikibooks.org/wiki/Instructional\\_Technology/Bases\\_of\\_the\\_Field](http://en.wikibooks.org/wiki/Instructional_Technology/Bases_of_the_Field)

The internet as a source of teaching media also plays an important role in Education [http://en.wikibooks.org/wiki/ICT\\_in\\_Education/The\\_Uses\\_of\\_ICTs\\_in\\_Education](http://en.wikibooks.org/wiki/ICT_in_Education/The_Uses_of_ICTs_in_Education)

**Read:** *How have computers and the Internet been used for teaching and learning?*

**Question:** Three general approaches to the instructional use of computers and the Internet are cited in the reading. Mention these approaches.

Which approach or approaches do you identify with it in your school?

The internet is not only applied in the teaching and learning situations but in many other spheres such as gender, policy, governance, commerce and more. [http://en.wikibooks.org/wiki/Gender\\_and\\_ICT/Implications\\_of\\_Integrating\\_a\\_Gender\\_Perspective\\_at\\_National\\_Level](http://en.wikibooks.org/wiki/Gender_and_ICT/Implications_of_Integrating_a_Gender_Perspective_at_National_Level).

**FORMATIVE ASSESSMENT:** *Learners access the reading cited above and answer the questions correctly.*

### Learning Activity 4.4: Study Project

In the design of learning activities in this module, a number of equipment and facilities were assumed with respect to a school environment. For example equipment such as radio, TV, computers and their derivatives. The availability of a functioning internet facility was also assumed. With the internet, you were able to volumes to recommended texts and other web materials.

We are also aware that a number of schools in Africa may not have all these facilities in each school. This is quite understandable given the high initial costs of some of these facilities. In this module we make provision for a study trip for students to visit laboratories or Communication facilities in their nearby local cities so that they see how the equipment function. This visit is very important as it will enable the students to see some of the equipments not available in their schools and to appreciate how the equipment work.



Coupled with the demonstrations and theories given at school, this visit will play an important role in the making what the students have learnt meaningful and relevant.

In the Learning Activity 3.3, you wrote a letter to the director National Broadcasting Authority (NBA) in your country through your course tutor. You listed your areas of interest and asked NBA what teaching and learning materials were available. You also indicated that you as a group planned to pay a study visit to the NBA, specifically to the technical department to get acquainted with the facilities and the equipment. The letter was sent and you received an affirmative reply from the Director of NBA, indicating which date and time they were expecting your group to NBA.

**Activity:** *Make the necessary arrangements with concerned authorities to take the group of students to NBA facility in learn how the facility works. Take into account all the different communication equipment mentioned in this module.*

**Individual Report:** *Each student is to write a report of not more than 3000 words about the visit*

*Report should include which sections of NBA were visited, what equipment was seen and briefly what each equipment does. Report should include the officials met at NBA and what they do at NBA.*

*Any other relevant information should be included.*

**FORMATIVE ASSESSMENT:** This report will constitute 20% of the score in the final examinations.



### XIII. Compiled List of all Key Concepts (Glossary)

**AUDIO-VISUAL:** A medium either appeals predominantly to the ear (radio) or to the eye (television).

**CHANNEL:** A term from communication theory for the physical means of carrying the signal. Light waves carry visual signals, airwaves carry sound signals.

**COGNITIVE LOADING:** How much a domain of the brain can carry and avail for use. Division of content into various media helps distribute load to different domains of the brain and that way increasing the carrying capacity that can be stored and availed for use.

**COMMUNICATION:** Negotiation and exchange of meaning so that what the initiator (sender) means becomes what the recipient (destination) understands.

**COMMUNICATION TECHNOLOGY:** Technical media employed to transfer knowledge from teachers (source) to learners (destination) and vice-versa. The purpose is to increase efficiency and effectiveness.

**CYCLICAL:** Some communication theorists posit that a communication does not begin with the Source and end with the Destination as posited by Berlo. Instead it moves in cycles with each end playing the role of Encoder-Decoder- Interpreter through the process of Feedback until a clear meaning is arrived at. (See the Schramm and Osgood model in this module.

**DECODE:** The capacity to change a transmitted message back to its original form. A radio transmitter can only send electric signals. A radio-set is able to decode from electric signal to sound signal. A literate person puts words into script. A literate person on the other end is able to read and verbalise. Note that the ability to read does not mean understanding the meaning.

**ELECTRONIC COMMUNICATION:** Communication facilitated by use of a transmitter and a receiver e.g. radio, TV.

**ENCODE:** Put the message in a form which can be accommodated by the medium for transmission and which can be translated by the receiver (radio-set) back to the initial verbal message. An example is the encoding a radio message into an electric signal which is then translated back to a voice signal by the receiver for the destination (recipient).



**FEEDBACK:** Informing the sender of information about the status of his/her communication so that the message can, if necessary, be modified for a common meaning to emerge.

**INSTRUCTIONAL DESIGN:** The practice of arranging media (communication technology) and content to help learners and teachers transfer knowledge most effectively.

**LINEAR:** A communication process that begins with a Source and ends with the recipient destination. An example is a military command. It is presumed that both sides have enough capacity to understand what each means and expects.

**MEDIUM/MEDIA:** intermediate agency/agencies that enable a communication to travel from the source to the destination. Non-technical media include speech, writing, dress, acting while the technical media include radio, TV, computers, books newspapers etc.

**MEDIUM/MEDIA:** intermediate agency/agencies that enable a communication to travel from the source to the destination. Non-technical media include speech, writing, dress, acting while the technical media include radio, TV, Computers, Books, Newspapers, and so on.

**MULTIMEDIA:** Processed products of different media combined to make or facilitate one communication e.g. a CD that contains text, video clips and sound tracts.

**NOISE:** Any interference added to the message between the sender and the receiver that will make accurate interpretation of the message more difficult.

**NON-VERBAL COMMUNICATION:** Sending and receiving message signals by use of body parts, e.g. eye contact, smile or pout, posture, gesture, body distance, smell other come-on signals, hair ,clothes and earrings.

**PEDAGOGY:** Methods employed in teaching

**RECIPIENT:** The person for whom communication is intended. In non-linear communication between two people, the recipient is also the next source (Sender).

**SIGNAL:** What a message is converted into so that it can be transmitted.

**TECHNOPHOBIA:** Unfounded fear of technology.

**TRANSMITTER:** An electronic device used for converting a message into an electronic signal and sending it to a **receiver** which then converts the message into its original form.



## XIV. Compiled List of Compulsory Readings

### Reading #1

*Complete reference:* Communication in Class vs. Communication Elsewhere

[http://en.wikibooks.org/wiki/Contemporary\\_Educational\\_Psychology/Chapter\\_12:\\_The\\_Nature\\_of\\_Classroom\\_Communication/Communication\\_in\\_Class\\_vs.\\_Elsewhere](http://en.wikibooks.org/wiki/Contemporary_Educational_Psychology/Chapter_12:_The_Nature_of_Classroom_Communication/Communication_in_Class_vs._Elsewhere)”

*Abstract:* The reading provides examples of communication inside and outside the classroom. Communication outside of school is different. The most desirable balance among the features depends on grade, level, curriculum area, and personalities of students or teachers. The article shows how teachers can use classroom talk to good advantage. For example, how teachers can communicate in ways that stimulate more and better thinking and discussion in the classroom.

*Rationale:* The reading provides good teaching tips for teachers.

### Reading #2

*Complete reference:* Communication: Communication as information transmission

<http://en.wikipedia.org/wiki/Communication>

*Abstract:* The reading defines communication in different contexts. One context is “transmission of message with the expectation of some kind of a response”. This can be interpersonal or intrapersonal. Six major dimensions of communication such as content, source, form, channel, destination, and purpose are outlined. In this reading communication is also seen as processes of information transmission governed by three levels of semiotic rules, namely syntactic, pragmatic and semantic levels.

*Rationale:* The theory of communication is well explained in this reading, giving different perspectives and contexts. This provides good background on communication theory which is applicable in the rest of the module.



### Reading #3

*Complete Reference:* The Uses of ICTs in Education

[http://en.wikibooks.org/wiki/ICT\\_in\\_Education/The\\_Uses\\_of\\_ICTs\\_in\\_Education](http://en.wikibooks.org/wiki/ICT_in_Education/The_Uses_of_ICTs_in_Education)

*Abstract:* The reading looks at the various media used for educational content delivery e.g. radio, print, audio-video cassettes, TV broadcasts, computers and the Internet. It introduces the 5 levels of technology use in education, that is, presentation, demonstration, drill and practice, interaction and collaboration. A justification is given for the ‘hands-on’ learning of the ICTs by the teacher for him/her to become a competent and knowledgeable consumer of the technology.

*Rationale:* Involvement of technology by the teacher in the teaching and learning process is unavoidable. To be able to use technology more effectively requires “hand on” experience. This reading provides deeper insights on the use of technology in education.



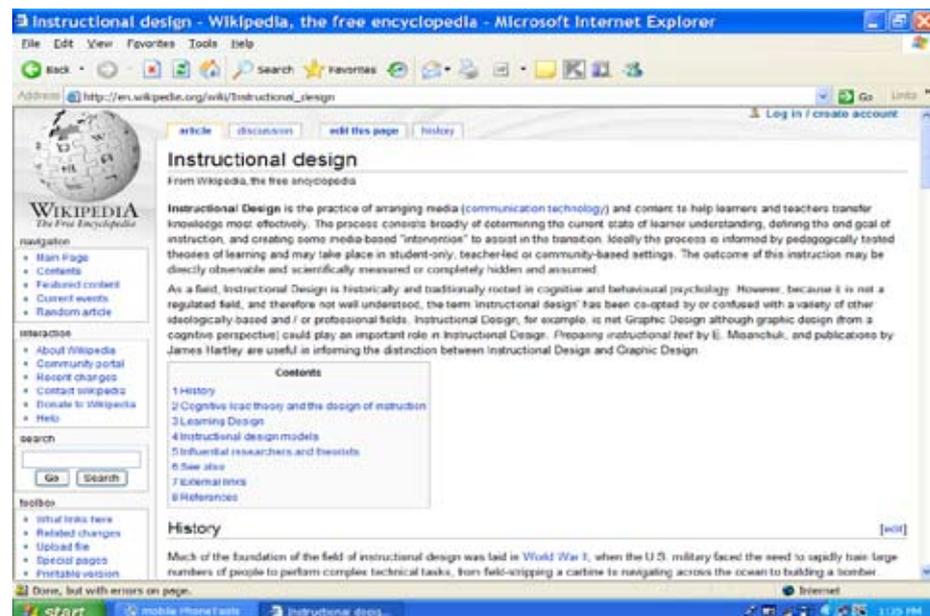
## XV. Compiled List of Useful Links

### Useful Link #1

**Title:** Instructional Design

**URL:** [http://en.wikipedia.org/wiki/Instructional\\_design](http://en.wikipedia.org/wiki/Instructional_design)

**Screen capture:**



**Description:** The reading describes *instructional design* as the practice of arranging media (*communication technology*) and content to help learners and teachers transfer knowledge more effectively. It also underscores the importance of media for *cognitive loading* and states that the format of instructional materials has a direct effect on the performance of the learners using those materials.

**Rationale:** The reading helps you capture the importance of design for media use in education. Unless there is an educational need drawn from theory, then educational media will not fulfil its function of facilitating learning.

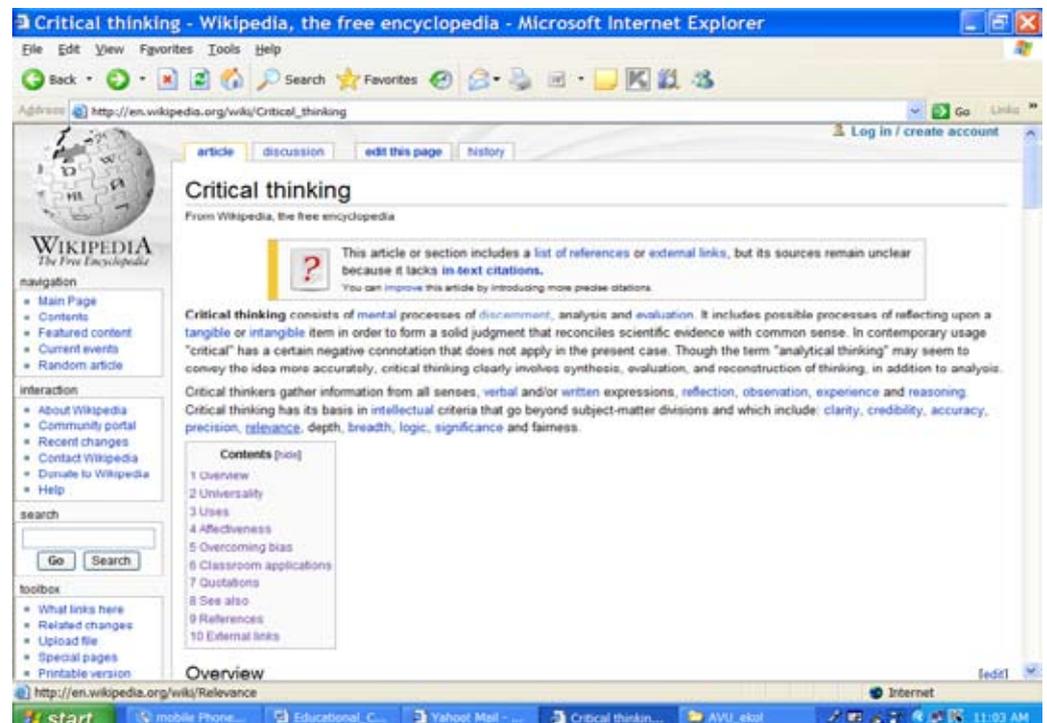


## Useful Link #2

**Title:** Critical Thinking

**URL:** [http://en.wikipedia.org/wiki/Critical\\_thinking](http://en.wikipedia.org/wiki/Critical_thinking).

## Screen capture



**Description:** Critical thinking is a form of judgment, specifically purposeful and reflective judgment. Critical thinking helps one to take a decision or solve a problem of judging what to believe or what to do, but does so in a reflective way. Critical thinking gives due consideration to the evidence, the context of judgment, the relevant criteria for making that judgment well, the applicable methods or techniques for forming that judgment, and the applicable theoretical constructs for understanding.

**Rationale:** Critical thinking is necessary in a classroom discourse between the teacher and the learners. For example, when a teacher poses a question to the class, if it is a challenge question, it could require some quick reflection and recollection by the student to attempt the question reasonably. This piece of reading is therefore chosen for its direct relevance in educational communication.

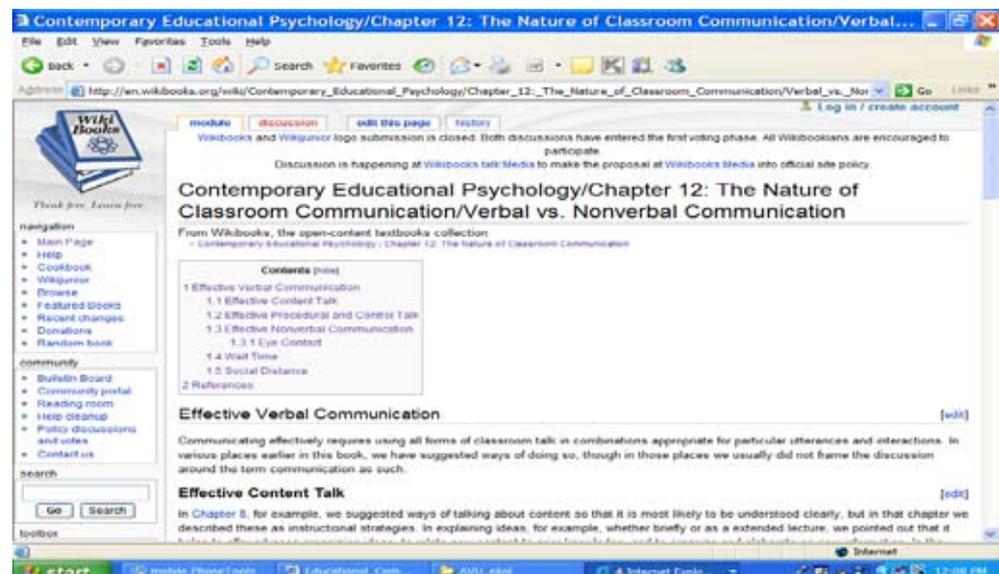


### Useful Link #3

**Title:** Verbal vs. nonverbal communication

**URL:** [http://en.wikibooks.org/wiki/Contemporary\\_Educational\\_Psychology/Chapter\\_12:\\_The\\_Nature\\_of\\_Classroom\\_Communication/Verbal\\_vs.\\_Non-verbal\\_Communication.](http://en.wikibooks.org/wiki/Contemporary_Educational_Psychology/Chapter_12:_The_Nature_of_Classroom_Communication/Verbal_vs._Non-verbal_Communication.)

**Screen capture:**



**Description:** Communicating effectively requires using all forms of classroom talk in combinations appropriate for particular utterances and interactions. This link provides more information on this and covers topics such as effective verbal communication, content talk, procedural and control talk, non-verbal communication, eye contact, wait time, and social distance.

**Rationale:** This page provides a good link to communication in the classroom.

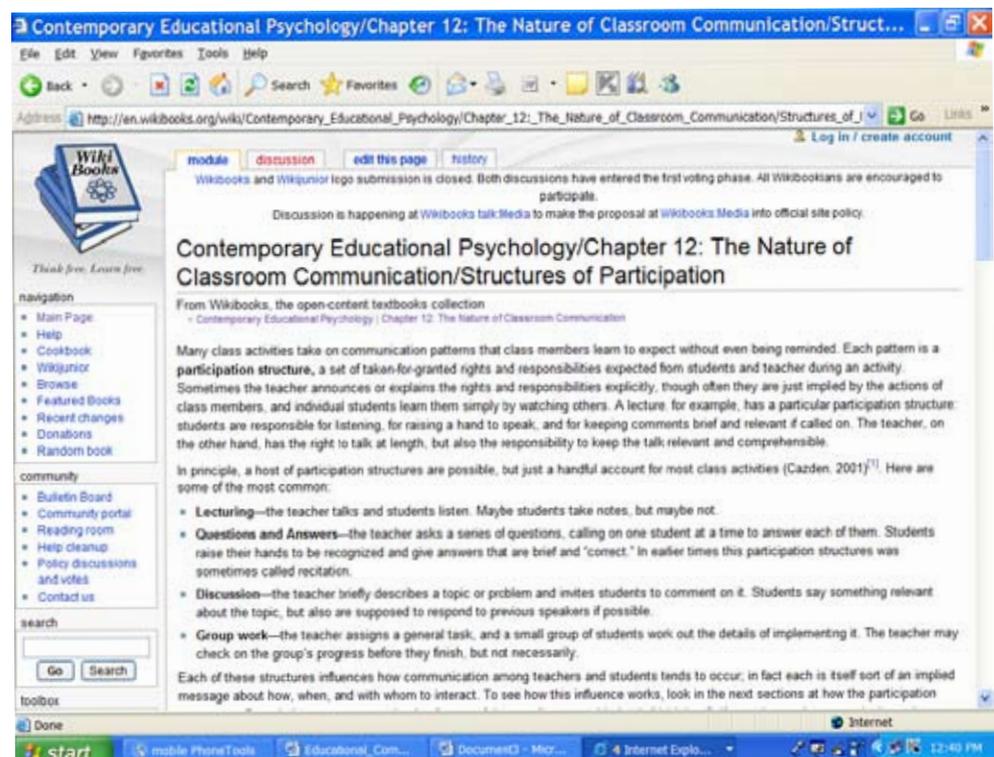


## Useful Link #4

**Title:** Structures of participation

**URL** [http://en.wikibooks.org/wiki/Contemporary\\_Educational\\_Psychology/Chapter\\_12:\\_The\\_Nature\\_of\\_Classroom\\_Communication/Structures\\_of\\_Participation.](http://en.wikibooks.org/wiki/Contemporary_Educational_Psychology/Chapter_12:_The_Nature_of_Classroom_Communication/Structures_of_Participation.)

**Screen capture:**



**Description:** Many class activities take on communication patterns that class members learn to expect without even being reminded. Each pattern is a participation structure, a set of taken-for-granted rights and responsibilities expected from students and teacher during an activity. This reading gives examples of classroom participation structures in terms of lecturing, question and answers, discussion, and group work. Each of these structures influences how communication among teachers and learners tends to occur.

**Rationale:** The reading provides examples of classroom participation structures and how communication among teachers and learners influence teaching and learning.

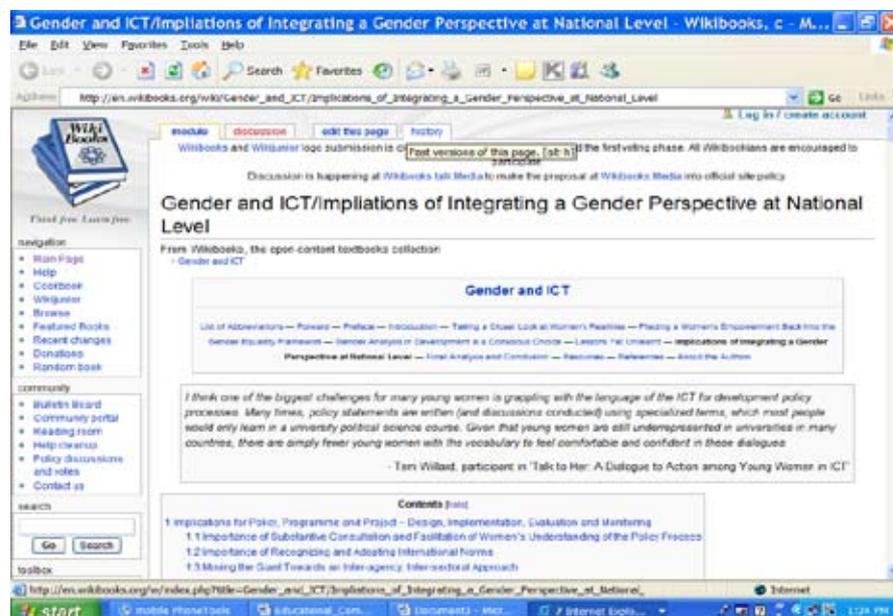


## Useful Link #5

**Title:** Implications of Integrating a Gender Perspective at National Level.

**URL:** [http://en.wikibooks.org/wiki/Gender\\_and\\_ICT/Implications\\_of\\_Integrating\\_a\\_Gender\\_Perspective\\_at\\_National\\_Level](http://en.wikibooks.org/wiki/Gender_and_ICT/Implications_of_Integrating_a_Gender_Perspective_at_National_Level).

**Screen capture:**



**Description:** Mainstreaming gender' is both a technical and a political process which requires

transformation in organizational cultures, perspectives, as well as goals, structures, and resource allocation of governments and NGOs. Mainstreaming incorporates specific gender concerns within institutions, agenda setting, policy-making, planning, implementation, monitoring and evaluation. Elements in the mainstreaming task include staffing, budgeting, training programmes, policy procedures and guidelines. Recognizing the needs and perspectives of women in ICT policy can help ensure the active participation of women in policy discussions and lead to the increased contribution of ICT to socio-economic development, and in particular poverty reduction.

**Rationale:** The link is chosen for its inclusion of gender mainstreaming. This provides good reading in the whole context of Educational communication.



## Useful Link #6

**Title:** Distance Education at A glance

**URL:** <http://www.uidaho.edu/eo/dist1.html>

Direct links and references to this site are permitted when attributed to Barry Willis, Associate Dean-Engineering, and University of Idaho.

### Screen capture:



**Description:** This page provides an overview on Distance Education. In the context of this module it also introduces topics on educational technology such as television, computers, print, video, and the WWW.

**Rationale:** The page is a useful source of reference material on communication resources such as television, computers, print, video, and the WWW.



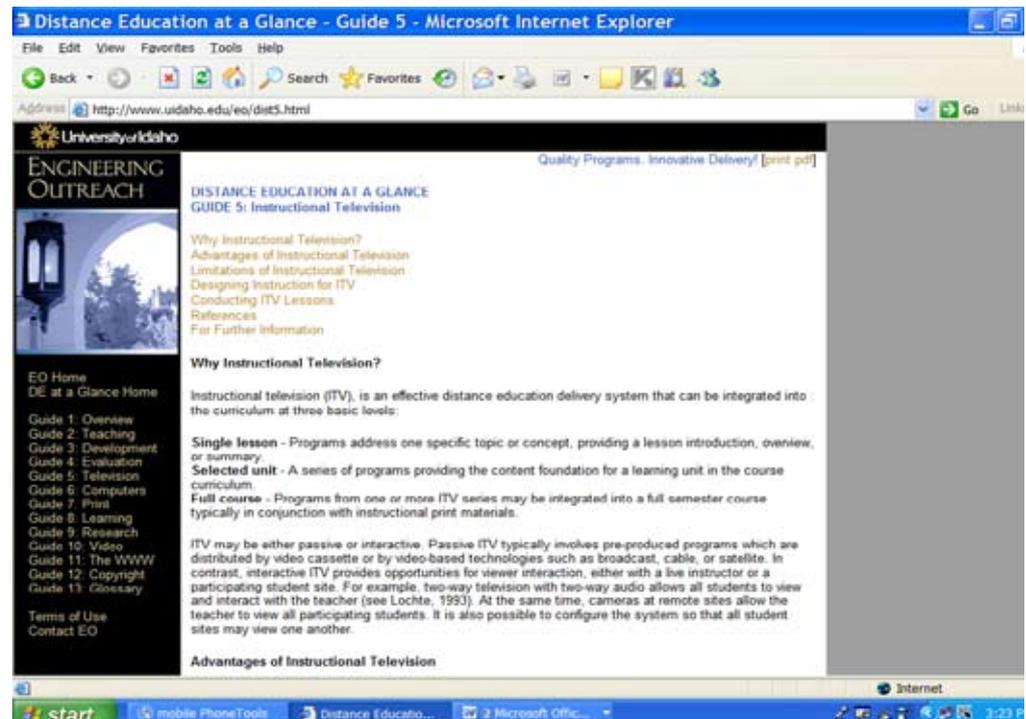
## Useful Link #7

**Title:** Instructional Television

**URL:** <http://www.uidaho.edu/eo/dist5.html>

Direct links and references to this site are permitted when attributed to Barry Willis, Associate Dean-Engineering, and University of Idaho.

**Screen capture:**



**Description:** Instructional television (ITV) is an effective distance education delivery system that can be integrated into the curriculum at three basic levels: single lesson, selected units, and full course. Passive ITV typically involves pre-produced programs which are distributed by video cassette or by video-based technologies such as broadcast, cable, or satellite. In contrast, interactive ITV provides opportunities for viewer interaction, either with a live instructor or a participating student site. It is also possible to configure the system so that all student sites may view one another.

**Rationale:** This page provides interesting insights on Instructional television (ITV).



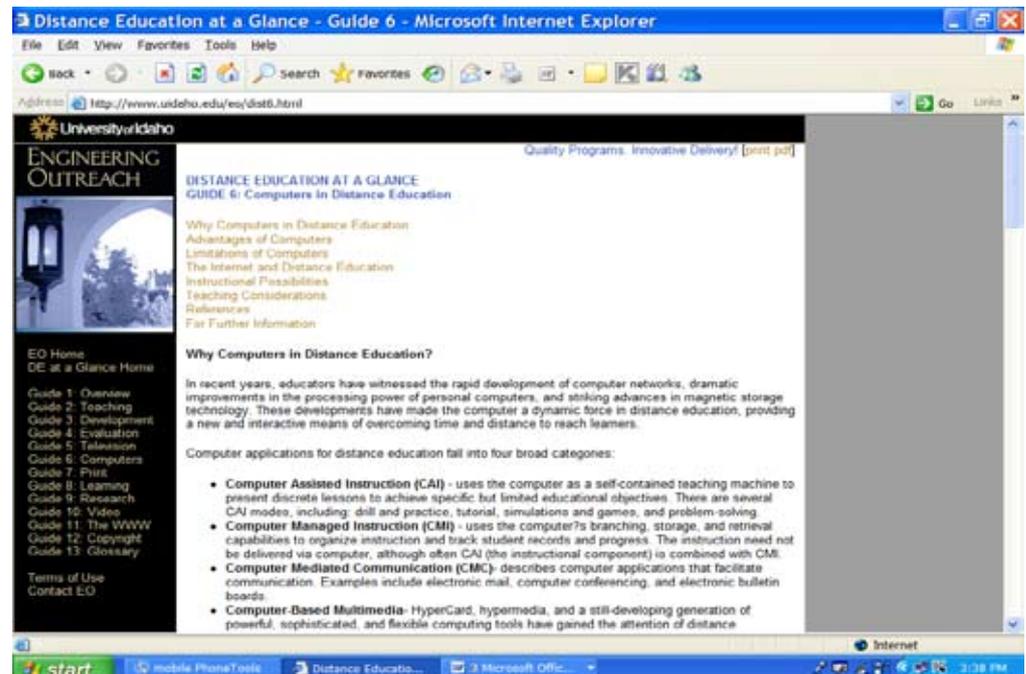
## Useful Link #8

**Title:** Computers in Distance Education

**URL** <http://www.uidaho.edu/eo/dist6.html>

Direct links and references to this site are permitted when attributed to Barry Willis, Associate Dean-Engineering, and University of Idaho

### Screen capture:



**Description:** In recent years, educators have witnessed the rapid development of computer networks, dramatic improvements in the processing power of personal computers, and striking advances in magnetic storage technology. These developments have made the computer a dynamic force in distance education, providing a new and interactive means of overcoming time and distance to reach learners.

**Rationale:** This is a useful link on Computer applications.



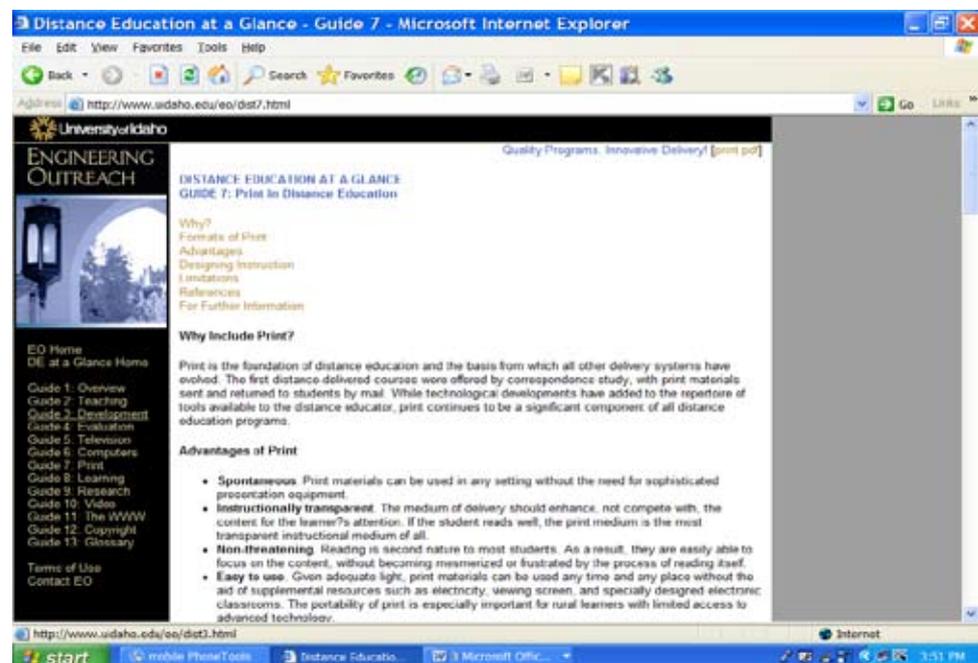
## Useful Link #9

**Title:** *Print* in Distance Education.

**URL:** <http://www.uidaho.edu/eo/dist7.html>

Direct links and references to this site are permitted when attributed to Barry Willis, Associate Dean-Engineering, and University of Idaho.

### Screen capture:



**Description:** Print is the foundation of distance education and the basis from which all other delivery systems have evolved. The first distance-delivered courses were offered by correspondence study, with print materials sent and returned to students by mail. While technological developments have added to the repertoire of tools available to the distance educator, print continues to be a significant component of all distance education programs

**Rationale:** This reading provides yet another tool for educational communication offering a number of advantages.



## Useful Link #10

**Title:** Distance Education and the WWW

**URL:** <http://www.uidaho.edu/eo/dist11.html>.

Direct links and references to this site are permitted when attributed to Barry Willis, Associate Dean-Engineering, and University of Idaho.

### Screen capture:



**Description:** The Internet is the world's largest, most powerful computer network connecting personal computers, sophisticated mainframes, and high speed supercomputers around the globe. Current estimates suggest that over four million computers are part of the Internet. The [World-Wide Web \(WWW\)](#) provides users with a uniform and convenient means of accessing the vast resources of the Internet.

**Rationale:** The link is a good source of information on the internet and its applications in education.



## Useful Link #11

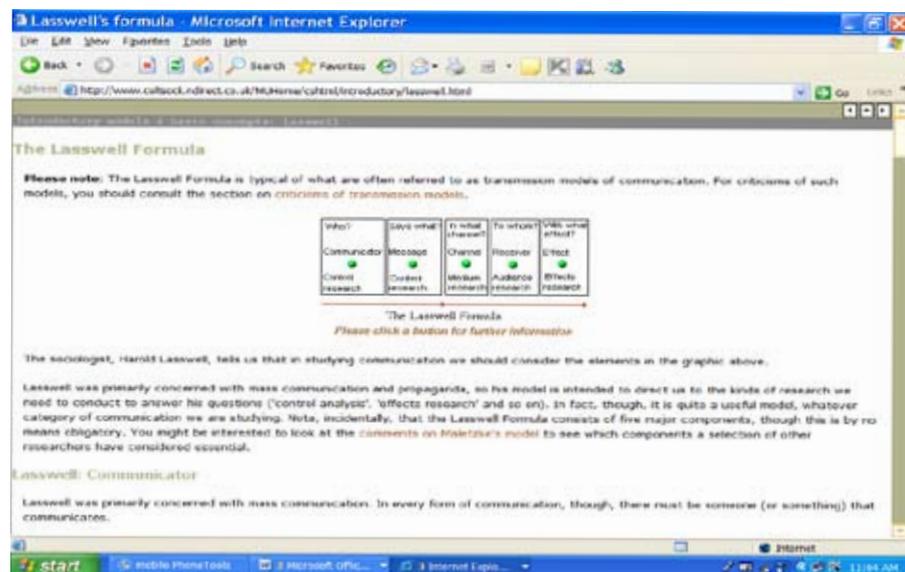
**Title :** Lasswell's Formula

**URL:** <http://www.cultsock.ndirect.co.uk/MUHome/cshtml/index.html>

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**Screen capture:**



**Description:** The Lasswell Formula is typical of what are referred to as transmission models of communication. Lasswell tells us that in studying communication we should consider the elements: Who (Communicator) Says what (Message), in what channel (Channel), To Whom (Receiver), and with what effect (effect). It is quite a useful model, whatever category of communication we are studying. A number of other models have been developed, some of which are modifications of this basic model.

**Rationale:** Provides useful reading especially at the beginning of the study of communication theory.



## Useful Link #12

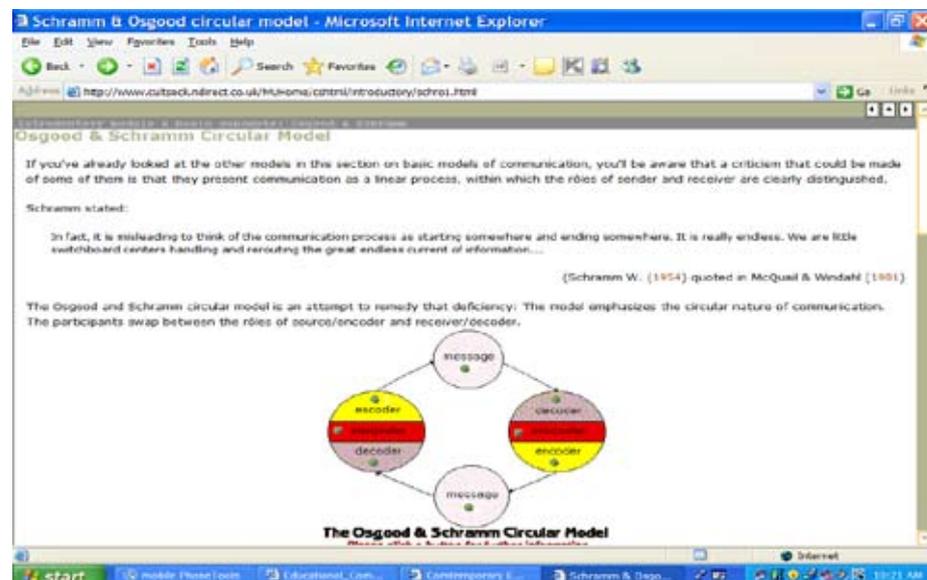
**Title:** Schramm & Osgood Circular Model

**URL:** <http://www.cultsock.ndirect.co.uk/MUHome/cshtml/index.html>

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### Screen capture:



**Description:** The major criticism with basic models of communication is that they present communication as a linear process, within which the roles of sender and receiver are clearly distinguished. The Schramm & Osgood circular model is an attempt to address that question: The model emphasizes the circular nature of communication. The participants swap between the roles of source/encoder and receiver/decoder.

**Rationale:** The reading gives more insight into basic models of communication by bringing in the concept of feedback in communication.



## **XVI. Synthesis of the Module**

The module sets out by giving a broad definition of the term communication. From this broad perspective, educational communication is discussed in the context of human communication. Models are used to illustrate the linear and cyclical views of communication. This is then followed by the theories of mass communication using the media. Again, models are used to represent linear and cyclical presentations bringing in the concept of the 'feedback loop'. The module puts together the views presented above to help discuss the selection and use of various communication equipment such print technology, radio, television, computers, and internet for effective teaching and learning. Various ICTs and their uses in education are also discussed. Importantly also, the students are exposed to the "hands on" experience with the various equipment in practical sessions, and demonstrations. Other learning activities covered include literature search, group discussions, group presentations, study trips, individual projects and report writing.

Individual project and report writing weigh 30% of the final assessment.



## XVII. Summative Evaluation

### EDUCATIONAL COMMUNICATION

#### Final Assessment

**Time Allowed:** 2½ hours

**Date:**

#### Instruction to Candidates

This examination comprises of five (05) essay questions. You are required to answer any four (04) questions. All questions carry equal points.

#### LEARNING ACTIVITY # 1: Introduction to human communication

Q1. Write brief notes on the following terminologies:

- (a) Communication (05 marks)
- (b) Linear communication(05 marks)
- (c) Cyclical communication (05 marks)
- (d) Non-verbal communication(05 marks)
- (e) Noise (05 marks)

#### LEARNING ACTIVITY # 2: Introduction to Electronic communication

Q2. Design the basic models of communication due to Lasswell, and Schramm & Osgood Label these models and indicate the major distinction between them. (25 marks)

#### LEARNING ACTIVITY # 3: Theories of media and Education

Q3. (a) Describe two strengths and two weaknesses associated with radio broadcasting.  
(b) In what ways can a teacher use computers to teach more effectively?  
(Mention two)



### **LEARNING ACTIVITY # 3: Theories of media and Education**

- Q4. (a) State any five examples of educational media that can be used to supplement interpersonal Communication.  
(b) Mention any five pertinent gender concerns with respect to the use of ICTs. (25 marks)

### **LEARNING ACTIVITY # 4: Teacher role and environment in educational communication**

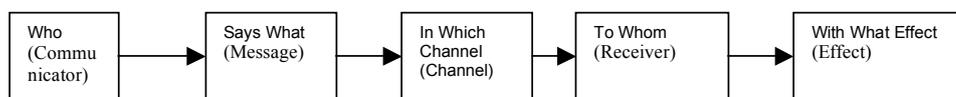
- Q5. Suggest and briefly describe four communication strategies a teacher can adapt to support Problem solving and encourage creativity by her students. (25 marks)

### **Solutions**

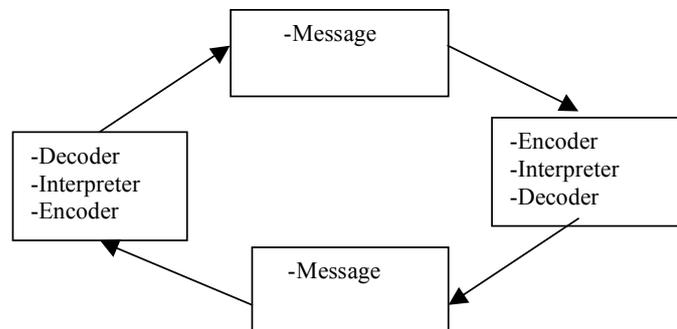
- Q1. (a) Communication: A process by which we assign and convey meaning in an attempt to create shared understanding.
- (b) Linear communication: A communication which begins with a source and ends with a recipient.
- (c) Cyclical communication: communication that moves in cycles with each end playing the role of encoder-decoder-interpreter through the process of feedback until a clear meaning is arrived at.
- (d) Non-verbal communication: Sending and receiving message signals by use of body parts e.g. eye contact, smile, posture, gesture, body distance etc. Non-verbal communication is also referred to as interpersonal communication.
- (e) Noise: Any interference in the message between sender and the receiver that will make accurate interpretation of the message difficult.



Q2. Lasswell and Schramm & Osgood  
label these models and indicate the major distinction between the two  
models. (25 marks)

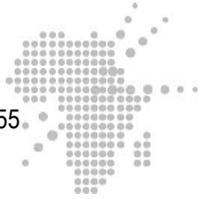


The Lasswell communication model



Schramm & Osgood model of communication

The major distinction between the two models is that whereas in the Lasswell model, communication terminates after the message has been received, in Schramm & Model, the communication continues in cycles, involving feedback, until common understanding of the message has been reached.



Q3. (a) Strengths of a radio:

Familiarity: -most learners have regular experience listening to a radio .

This reduces the distraction caused by the novelty of the medium.

Cost: -Radio sets are on average affordable buy individuals or at family level. It does not require large amount of power to run as it can be operated on dry cells obtainable locally.

(b) The teacher can use computer to maximize learning in the following ways-  
Graphics: - use of computer graphics to simulate situations which is usually not possible in traditional lecture. e.g. in biology the heart pumping blood which is circulated to other parts of the body. This helps the learners to appreciate better the functions of the heart.

Flexibility and interactivity: Unlike radio or television which are mass media, a computer supports individual learning and thus promotes interactive learning. A teacher may use this method by pointing a student to study material on the computer for him or her to study or interact with individually once the objectives of such interactions are set.

Q4. (a) Examples of educational media that can be used to supplement inter-personal include:

- (i) Tape recorder
- (ii) Radio
- (iii) Television
- (iv) Computers
- (v) Video conferencing

(b) Pertinent gender concerns with respect to the choice and use of ICTs

*Access:* Is the ICT infrastructure to freely accessible by women throughout the country in the areas convenient to them? Women may be restricted from accessing ICT even when they are available in their communities because of social, economic, cultural or technological constraints.

*Cost:* Are the available ICTs affordable to most women?

*Training:* Are women included in the training new technologies are being introduced and implemented?

*User-friendly technology:* Are user-friendly technologies, particularly in the context of low literacy levels, being supported and promoted?

*Technological capacity building:* Are role models for young girls and boys being



developed? Are training opportunities available not only for technology professionals but for non-professionals to use ICT?

Q5. The following are some of the communications strategies a teacher can adapt in the classroom:

(i) *Call attention to the intrinsic interest or satisfaction of an activity.*

An example in Mathematics at lower secondary level could be:

*A right triangle has the following dimensions:  $AB = 5\text{ cm}$ ,  $BC = 13\text{ cm}$  and angle  $\hat{C} = 90^\circ$ . Find the distance  $AC$ .*

*Erreur ! Des objets ne peuvent pas être créés à partir des codes de champs de mise en forme.*

In this example, teacher deliberately left out sketch of the right angled triangle so that students can make it themselves. She (the teacher) can encourage the students by focussing them, first to the activity of making the correct sketch of the triangle without worrying about the final solution.

(ii) *Minimize the importance of grades*

This strategy supports one in (i) above by giving students less to worry about making them freer to experience the intrinsic satisfaction of an activity.

(iii) *Make sure that students know that they have ample time to complete an activity.*

If students know that they have not enough time to complete an activity, then they are more likely to choose the “safest”, most familiar responses possible. This in effect may suppress the creativity in the learners just because they are working against time. The teacher can tell her students that if they cannot complete the work now, some more time will be made available for them to complete it.

(iv) *Show that you appreciate and value unusual ideas*

Consider the problem in part (i) above. It is quite likely that students will approach the solution of the problem differently. In some cases the approach will be unusual if not incorrect. The teacher should appreciate the efforts of the student and try to understand why the student is using that approach.



## XVIII. References

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## **XIX. Main Author of the Module**

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George Ekol is Lecturer and Acting Head, Department of Mathematics, Kyambogo University.

He has a Master of Science degree in Mathematics from Makerere University, Uganda. His research interest includes statistics education, statistical computing & data analysis, and mathematics education. He has presented a numbers of research papers in both local and international Conferences including ICME-9, Tokyo (2000); ICSTME, Goa, India(2001); ASE, UK(2002); ICMI-Study 14, Dortmund, Germany (2004); ICME-10, Denmark(2004); ICMI-Regional Conference, Johannesburg, South Africa(2005); and Park City Mathematics Institute, Utah,

USA (2005, 2006). He is a member of Uganda Mathematical Society (UMS), Uganda National Academy of Sciences, (UNAS), International Association of Statistics Education (IASE), International Association of Statistical Computing (IASC), and International Statistical Institute (ISI). He was involved in the design of Basic ICT course with the African Virtual University (AVU) in 2005.