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Developing Competent Health Workers: A Handbook for Designing Education and Training Programs

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BOSTON UNIVERSITY

CENTER FOR EDUCATIONAL Development in Health

DEVELOPING COMPETENT HEALTH WORKERS: A HANDBOOK FOR DESIGNING EDUCATION AND TRAINING PROGRAMS

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PREFACE

This book presents an approach or technique for use in developing courses, curricula, and training programs. The approach is called competency based curriculum development (CBCD). Mastery teaching, task oriented training and training by objectives are other terms frequently used to describe competency based curriculum development.

CBCD is different from the way courses and training programs are usually developed. A common approach in developing education and training programs is to collect existing material and to assemble what appears most useful and interesting. CBCD starts from another point of view, with a series of questions:

- 1. What do you expect trained workers to do on the job?
- 2. What do trainees know at the beginning of the training program?
- 3. How do you know trainees are learning what they are supposed to learn?

The answers to these questions form the basis for a series of steps which, if applied, will produce training programs which will give reasonable assurance that trainees will be able to perform on the job what they learn in the classroom.

CBCD programs focus on the three questions listed above. As a result, they are usually shorter and simpler than courses produced by other methods and provide greater assurance that trainees are more effective on the job than they would be had they been trained by other methods.

The book can be used in a variety of ways:

- A group of curriculum developers designin_b the same or different courses or an individual working alone can use the book.
- 2. The methods presented here are appropriate for developing training courses of a few days duration to long term programs.
- 3. Courses for professional as well as entry level workers can be developed.
- 4. The primary focus of this book is directed at the health professions and the training of primary and public bealth workers in third world countries. All the examples in the book are in rural areas. Nevertheless, the basic approach is relevant to any curriculum or course development problem.

The Center for Educational Development in Health at Boston University, Boston, Massachusetts, U.S.A., has been developing and testing this approach for more than 15 years in the United States and abroad. This Handbook is the product of a research and development project supported by the Development Support Bureau (DSB) of the United States Agency for International Development (USAID). During the early phase of this study, CEDH produced a more scholarly approach entitled, Systematic Course Design for the Health Fields.*

*New York, John Wiley and Sons Inc., 1975

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The text was tested in Ismailia, Egypt; Beersheva, Israel; Kingston, Jamaica; Kuala Lumpur, Malaysia; Kathmandu, Nepal; Lagos, Nigeria; Ofra, Nigeria; Manila, Philippines; and Washington, D.C., U.S.A. CEDH is particularly grateful to the feedback from those individuals who implemented and evaluated the field tests as well as in some cases shared in the writing of the Handbook. These include:

Training Branch The Ministry of Health Kingston, Jamaica
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Ben Gurion University of the Negev School of Health Sciences Beersheva, Israel
University of the District of Columbia Washington, DC, USA
School of Health Technology Offa, Kwara State, Nigeria
Office of Health Education and Personnel Training Ministry of Health Manila, Philippines

CEDH is particularly grateful to the hundreds of trained professionals in the United States and elsewhere who have developed competency-based courses using this method. Four outstanding examples of their products are included in the text. These are:

Community Health Orientation	David Olubaniyi, MD, MPH
Introductory Course for	Ministry of Health
Nigerian Medical Assistants	Ilorin, Kwara State, Nigeria
Control of Water Borne	Mathura Pd. Shrestha, MBBS, MPH
Diseases in Rural Areas	Institute of Medicine
of Nepal	Kathmandu, Nepal
Nutrition Education for	Heng Leng Chee, MPH
Public Health Workers	Kuala Lumpur, Malaysia
Sputum Testing Techniques for Parish Health Workers	Dorothy Blake, MD, MPH Ministry of Health and Social Security Kingston, Jamaica

The Handbook has been translated into French by W. Almeida, MD in Lome, Togo, World Health Organization Regional Teacher Training Center, We extend our appreciation to Dr. Almeida and to Dr. B. F. Adjou-Moumouni, Coordinator of Studies, for undertaking this task.

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Lori Vanderschmidt Tom Frostman John McCollum Ascher Segall

Boston University October 1981

INTRODUCTION

This Handbook presents a method, technique or way of developing training or educational courses. It does not dictate to the course developer the subject matter of a course; but it presents a step-by-step method for developing courses.

The method follows the steps noted in Figure 1, page xi.

If this handbook is to be used in a group setting, a class of 10 to 20 course developers should be enrolled in a workshop of 12 to 15 days duration.

Developing courses following this approach does not require any special resources save pencil and paper, access to workers working in the areas in which courses are being developed, and resource materials in appropriate subject matter areas.

The Handbook is organized into three parts:

Part I

This consists of Chapters I through IV which presents step by-step process on how to develop courses.

Part II

This is a methods section. Discussed are methods to use in completing some of the steps in Part I.

Part III

This presents four examples of courses developed following the handbook process.

FICURE 1: COMPETENCY BASED CURRICULUM DEVELOPMENT



DEVELOPING COMPETENT HEALTH WORKERS

PART I

<u>GUIDEBOOK</u>

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CHAPTER ONE

DEFINING COURSE GOALS

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CHAPTER ONE

DEFINING COURSE GOALS

CHAPTER PURPOSE This chapter provides guidelines for defining the goals of your course...

- 1. To describe in general terms the purpose and nature of your course,
- To lessen the time the course designer must spend on "getting started". and
- 3. To increase the usefulness of your course by insuring the course teaches what students should learn.

Start with what is known. As you begin you probably know such things as the characteristics of students who will study, the number of "class" hours, facilities and resources available, etc. To focus on some of these ongoing considerations and to communicate what your course is about, list some of the things known about the course.

GUIDELINES >

DESCRIBE THE INSTRUC-TIONAL SITUATION

A. Describe The Instructional Situation

Using Form 1, p. 6, describe the INSTRUCTIONAL SITUATION. In completing your INSTRUCTIONAL SITUATION and other steps in the design of your course, you may find these examples in the Handbook useful:

- 1. Following the introduction of each step you will find a brief example of a portion of an actual course. The same example is used throughout all steps. See page which presents the INSTRUCTIONAL SITUATION for the Course "Community Health Organization: An Introductory Course in Community Development for Nigerian Medical Assistants".
- 2. Part III of the Handbook (see page 103) contains examples from four courses.

Review these examples, then complete your INSTRUCTIONAL SITUATION:

Following page 227, you will find a set of forms which may be used or reproduced to complete various stages of the course.



FORM 1: INSTRUCTIONAL SITUATION

ame:		Project:
FORM 1: INST	RUCTIONAL SITUATION	
<u>A5</u>	SIGNED	WOULD PREFER
COURSE TITLE:		
COURSE PURPOSE:		
EXPECTED STUDENTS:		
Number of Students		
Educational Background		
SETTING:		
CONSTRAINTS :		
Such as		
No time to prepare		
Large number of student:		
RESOURCES:		
Such as		
Funds:		
Personnel:		
Laboratory facilities: etc.		

EXAMPLE

FORM 1: INSTRUCTIONAL SITUATION

	FORM 1 : INSTRUCTIONAL SITUATION	
	ASSIGNED	WOULD PREFER
<u>COURSE TITLE</u> :	Community Health Organization: An Introductory Course in Community Development for Nigerian Medical Assistants.	
COURSE PURPOSE:	To train medical assistant students to identify community related health problems in communities in which they work.	
EXPECTED STUDENTS:	Candidates with full secondary education (i.e., 11 years of schooling) with or without health-related job experience. <u>Number of Students</u> : 30	Candidates who failed the qualifying exam; with one science subject e.g., biology, health science.
SETTING:	School of Health Technology, Offa in Kwara State, Nigeria	
<u>CONSTRAINTS</u> :	The course is part of a 6-week introductory program in the 24 month training period of medical assistants. <u>Date</u> : July 1st - August 12th <u>Total Hours</u> : 48 hours	October 2nd - November 13th
	Community health training has not been systematically planned and implemented during the training period of medical assistants.	
	Other instructors will "build" on this introductory course as major emphasis will be on community health during the training.	
RESOURCES:	Funds: Xwara State Government sponsored course.	
	Personnel: Two full-time instructors and one public health physician, part-time, acting as consultant.	In addition one Public Health Nurse Tutor, full- time, and a pocial worker, part-time
	Facilities: Limited. Most of the activities will be performed in communities i.e., out of class. Lectures and in-door demonstrations will occur in a classroom. Two tape recorders, two land- cruiser vehicles provided. No slides, videotapes or films.	10 bicycles for ease of individual student movement in the community

- 3. Include in column one only those items that are assigned or fixed.
- 4. As your course is developed and as you see the need to change certain items, list desired changes in column two.

The INSTRUCTIONAL SITUATION is important for designing the rest of your course. Keep it in a notebook for future reference.

INTRODUCTION B. Write a Job Description

Assume the general purpose of the course or program is to prepare trainces or students to perform certain tasks or skills on the job. This section will assist in determining the nature of that job, and the specific job-related tasks which should be taught in the course.

The assumption is: the course you design will be of greater value when you have accurate and complete information of what trainees must do on the job upon completion of training.

This first attempt at specifying what trainees or students trained in your course will do on the job is based on what you already know about the job. This is the first step in producing a job description. Later you will become more precise by verifying the accuracy and completeness of the JOB DESCRIPTION.

GUIDELINES 1. Using

WRITE A JOB DESCRIPTION

- Using Form 2 (see page 10), list the job(s) related to your course for which you will prepare your students. Then for each job...
 - 2. Think about what people do on the job. List or describe the tasks they perform. (See the definition below.)
 - a. If there are people now doing this job, list the tasks they do when the job is done well. Describe good or desired performance, regardless of how well the job is done now.
 - b. If no one now does the job (i.e., if you are preparing students for a job that does not exist), describe the tasks you think they <u>should</u> be doing.

DEFINITION: <u>Task</u> What a person does on the job when carrying out his/her responsibilities. Demonstration of specific behaviors including but not limited to:

- makes decisions
- interacts with others
- provides services
- produces a product
- evaluates (people, products, programs, events)
- makes judgements
- plans (activities, programs, etc.)
- implements (activities, programs, etc.)

Tasks are action words, they describe action that is occuring. State your tasks with words such as: designs, develops, conducts, writes, examines.

Partial examples of JOB DESCRIPTIONS are on pages 11, 141, 169, and 198. Review them before developing your JOB DESCRIPTION.

- 3. At this point you may feel your course is getting too large, that is, that you will have more tasks than you can handle, given the course constraints and resources. If this is the case, refer to your INSTRUCTIONAL SITUATION and decide...
 - a. If you need to consider changing any of the "constraints" or "resources"(such as the number of class hours, number of students, available facilities, etc.). Indicate such changes in column two of your INSTRUCTIONAL SITUATION, and/or
 - b. if you need to remove certain tasks from the JOB DESCRIPTION. Are some tasks clearly less important than others? (If so, perhaps they should be eliminated.) Might certain tasks be better learned in other courses or on the job?

For 2, page 11, is an example of how a JOB DESCRIPTION can be verified.

Because your course design will build upon the tasks as described in the JOB DESCRIPTION, it is essential that this description be <u>thorough</u>, <u>accurate</u> and <u>complete</u>. That is the tasks <u>do</u> represent the work activities.

Therefore...

FORM 2: JOB DESCRIPTION

Name :	Pro	Date:
	FORM 2: JOB DESCRIPTION	
JOB TITLE:		
There a		
TASKS:		
	ETELD STUDY	
	(Verify Job Description)	
PROCEDURE :		
<u> </u>		
FINDINGS		
11.01.000		

.

EXAMPLE

FORM 2: JOB DESCRIPTION

FURM 2: JOB DESCRIPTION			
This is a partial job description, refering only to the activities covered by the course.			
JOB TITLE: Medical Assistants design, conduct and complete Orientation Studies			
TASKS: 1. Designs, conducts and completes community health profiles.			
 Identifies conditions in the environment which contribute to health problems. 			
 Refers severe illnesses in families, schools and other settings to appropriate health clinics for attention. 			
4. Conducts community health education sessions in family compounds, homesteads, schools and with community groups on environmental sanitation, communicable disease control and personal hygiene.			

EXAMPLE

FORM 2: FIELD STUDY

1	FORM 2: FIELD STUDY
	There are no medical assistants performing these activities at the present time. Most of their work is spent in clinics treating patients. There are community nurses and public health inspectors performing some of the activities taught in this course.
	Three methods shall be used in verifying the job tasks. <u>ONE</u> : The instructor shall accompany community nurses and public health inspectors to see how they relate to community health problems encountered and how the community reacts to them.
	<u>TWO</u> : A conference will be organized consisting of community nurses, public health inspectors and a community physician to critically analyze various community health problems.
	<u>THREE</u> : Existing documents on the health care system will be reviewed to determine the major health problems at the community level, the structure of health services, a list of commonly available equipment and supplies.

J GUIDELINES D

VERIFY YOUR JOB DESCRIPTION

C. Verify Your Job Description (Field Study)

- Once you have written your job description, the next step is to verify it for accurateness and completeness. For example:
 - a. Does it contain all the major tasks now carried out by workers on the job?
 - b. Does it contain all tasks workers should be completing on the job but are not now doing
- 2. In addition, the field study should answer a number of questions which might have an impact on training:
 - a. What is the nature of the health delivery system in the area?
 - b. What are the major health problems?
 - c. What are the habits and beliefs of people relating to the major health problems?
 - d. Are motorable roads, telephone service available?
 - e. What is the educational level of people who are available as trainees? What ways of learning are they used to?
 - f. What are the constraints and resources? For example, how far apart are health facilities? What equipment, supplies and medicine are available?
- 3. Now study the methods for Job Analysis and Verification on page 67ff, and select or construct a method for verifying the tasks in your JOB DESCRIPTION. You may find it helpful to examine the examples (see Form 2 below or other examples, pages 141, 169, 198.
- 4. After selecting one or more approaches to completing the verification of your JOB DESCRIPTION construct a list:
 - a. of individuals you wish to review your JOB DESCRIPTION
 - b. indicating the questions you will ask, such as:
 - Does your project have the approval of policy makers in your agency?
 - Are financial and other resources available?
 - Will the training program be used?

D. Revise The Job Description

- 1. Based on the verification analysis, revise your JOB DESCRIPTION as follows:
 - a. KEEP those tasks that are important that should be performed and/or are now performed on the job.
 - b. CROSS OUT tasks that are unimportant as well as those tasks not performed on the job.
 - c. ADD important tasks you overlooked that can be taught in the course.
 - d. REVISE those tasks that are important but should be stated differently.
 - e. KEEP in mind the information you obtained on educational level of students, on teaching methods used, on resources and constraints as you develop instructional activities for your course.

The JOB DESCRIPTION will serve as the basis for your course design. Keep it along with your INSTRUCTIONAL SITUATION where you can refer to it as it is needed.

(✓) REVIEW AND SELF-CHECK

Look at your INSTRUCTIONAL SITUATION and JOB DESCRIPTION. Before moving on, check (\checkmark) to be certain you have done each of the following:

Regarding the INSTRUCTIONAL SITUATION: (See your completed Form 1)

- () 1. Noted all known or fixed information about the course.
- Indicated certain items you might want to change, especially with regard to resources and constraints.

Regarding the JOB DESCRIPTION: (See your completed Form 2)

- () 3. Identified the job(s) for which you hope to prepare students in your course.
- () 4. Listed <u>tasks</u> for each job which you will teach in the course.
- () 5. Checked out and verified the JOB DESCRIPTION.
- () 6. Revised the JOB DESCRIPTION based on the verifications of your JOB DESCRIPTION.

CHAPTER TWO

PLANNING EVALUATION

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CHAPTER TWO

PLANNING EVALUATION

INTRODUCTION	You now have (in your JOB DESCRIPTION) a list of tasks for which you plan to prepare students to carry out after training.
	Since, in most cases, you will not observe your students on the job, how will you know, <u>based on student performance in your</u> <u>course</u> , whether they have learned the job-related tasks?
	An important step for the course designer is to clearly define what students will do <u>in the course</u> which will demonstrate whether they can carry out the tasks on the job.
	This is similar to that of explaining to another how to get to a certain location when he has never been there. You not only need to give clear and concise directions, but you need to describe the destination well enough so the traveller will know when he/she has arrived.
	Or, another way of putting it
	If the "objective" o f your course is to teach people how to carry out specific job-related tasks, how will you know when your objective has been met?
	Once you have described what students must <u>do</u> to meet the course objectivesto demonstrate that they are capable of doing job- relevant tasks <u>then</u> you select instructional approaches which

Describe first where you are going. Then decide how to get there.

CHAPTER PURPOSE The purpose of this chapter is to guide you in planning evaluation of the student performance based on the tasks in the JOB DESCRIPTION.

lead to students learning the tasks.

Provisions Page Cloude



Think of the learning process as a ladder. The JOB DESCRIPTION is a list of the tasks the trained students perform on the job. These tasks have been listed in Chapter 1. What the course must do is to make it possible for the student to move up the ladder, to the point where he/she performs the tasks on the job. This is point G on the ladder in Figure 2.

Next two additional points on the ladder must be specified. ENTRY LEVEL PERFORMANCE describes what the student knows and is able to do at the beginning of the course. So ENTRY LEVEL PERFORMANCE becomes Point A on the Ladder.

Point F, or <u>DESIRED STUDENT PERFORMANCE</u>, describes the highest or most desired level of performance expected of students regarding a particular task while still in the classroom. It will not always be possible for students to demonstrate in the classroom that they have mastered the on-the-job performance requirements for a particular task. The reason is that there may not be patients, equipment, etc. available. So in the classroom student performance may not be the same though it should be close to <u>DESIRED</u> JOB PERFORMANCE.



Once we have determined ON THE JOB PERFORMANCE (G), the beginning and endpoints of instruction (A & F), the other rungs on the ladder are no longer arbitrary and can be rationally planned.

Points A, F, & G also define the endpoints of evaluation as we shall discuss in this chapter.

()GUIDELINES A. Describe Desired Job Performance

DESCRIBE DESTRED JOB PERFORMANCE

To describe on-the-job conditions and Desired Job Performance...

- 1. Select a task from your JOB DESCRIPTION.
- 2. Use Form 3, Desired Job and Student Performance, page 20. List any on the job conditions that might affect how the task is completed. On the job conditions might include:
 - other people (fellow workers, clients, supervisors, etc.)
 - resources, equipment and facilities
 - specific problems or challenges
 - physical location
 - physical or emotional stress
 - time constraints
 - other factors that affect performance
- 3. With the above conditions in mind, describe what the person does when the task is completed at a satisfactory level. This description of job performance is a restatement of the task itself with additional information about how fast the task should be completed, etc. ("Additional information" should help define what is meant by "good" or "desirable" performance.)
- 4. Repeat steps 2 and 5 above for each task in your job description.
- 5. If you have correctly stated the task you have selected, then Point G on the ladder is complete. Examine your task again: does it indicate what the trained worker is supposed to be able to do on the job? If not, the task must be rewritten. If the task does describe what the workers' desired performance on the job, then all you must do is list the task in terms of:

FORM 3: DESIRED JOB AND STUDENT PERFORMANCE

1ame:	_	Project:	
	TRED TOR AND STUDE	NT PERFORMANCE	
	IRED JOB AND STOL		
TASK:			
CONDITIONS		PERFORMANCE	
	On-The-Job Perform	ance	
When given	Th	e worker will	
I) Desired Student Per	formance	
When given	Th	e student will	
	Entry Level Perfo	ormance	
When given	Th	ne student will	

EXAMPLE

FORM 3: DESIRED JOB AND STUDENT PERFORMANCE

FORM 3: DESIRED JOB AND ST	IDENT, PERFOPMANCE
TASK 1: Designs, conduct health profiles	s, and completes community
CONDITIONS	PERFORMANCE
	The worker will
a rural community of approxi- wately 500 people	 Contact and introduce themselves to community leaders (chief, oba) and and aides, political and religious leaders in order to familiarize and solicit their cooperation. Produce a rough map of the community location; key places such as footpaths, markets, rivers, schools, mosques, houses and or compounds, etc.
• •	 Design a sampling procedure to sample households for a community survey. Design a community health survey instrument. Administer the community health survey, tabulate and report the results and recommendations.
When given	The student will
follow students in role playing situations.	 role play medical assistant and village leaders explain ing a proposed community health project and seeking support of the leaders.
descriptive materials of a typical Nigerian village	 produce a rough map indicating key places and households, draw a sample household for interviews, construct a questionnaire for a community survey and indicate how the information collected will be tabulated and reported.

- a. the conditions under which the worker completes the task. In the task in Example 3, the key condition is the village. Surveying a rural village is different than surveying a modern city.
- b. Performance describes efficiency, completeness and thoroughness by which a task is to be completed.

Now you have described the conditions under which the trained worker will perform one task.

GUIDELINES

B. Describe Desired Student Performance

DESCRIBE DESIRED STUDENT PERFORMANCE As you move to the next stop, think of how the teaching situation compares with on the job working conditions and how the difference between "classroom" and "working" conditions might affect student performance.

Also think about how best to describe classroom conditions and student performance in such a way that "successful" performance in the classroom leads and approximates as closely as is possible "successful" performance on the job.

Using Form 3, select a task and:

1. Describe performance expected of students at the end of the course in the classroom or in the field. Consider teaching emergency resuscitation. probably not possible to bring to the classroom patients who may or may not be showing signs of shock to permit students to complete the job performance requirements of the task. In these cases the course designer must approximate the job conditions and performance as closely as is possible. Here are some ways of approximating job conditions and performance:

When given:	The student will:
examples	describe
cases	explain or differentiate
questions	answer correctly
fellow students	role play

The example in Figure provides another way of approximating reality: showing a

- 2. Review the examples on pages 145, 171, and 200. Then, on Form 3, for each task or Desired Job Performance statement, write the desired student performance.
- 3. Remember, not always will Desired On The Job Performance and DESIRED STUDENT PERFORMANCE be a different statement: they could be the same.

C. Describe Student Entry Level Performance

FIGURE 4: THE LEARNING LADDER SHOWING ENTRY LEVEL PERFORMANCE



GUIDELINES

SPECIFY ENTRY LEVEL PERFORMANCE To specify Entry Level Performance...

Are there skills or knowledge students must be able to display at the beginning of the course? Must students be able to write, read, or compute at certain levels to enroll in the course? Should students have completed other courses before enrolling in the course? If so, add Entry Level Performance requirements as noted in Figure 4 above.

FIGURE 5: ENTRY LEVEL PERFORMANCE EXAMPLE

STUDENT ENTRY LEVEL PERFORMANCE	
CUNDITIONS	PERFORMANCE
When given	The student will
a test of English language in an interview situation	 be able to demonstrate ability to read English language manuals and to write simple English language reports.
an interview situation	 demonstrate that he/she can listen and talk to villagers politely and describe conditions in the village.
simple arithmetic tests	 demonstrate simple addi- tion, multiplication, and division skills.

In developing Entry Level requirements, follow the same procedures as in developing Desired Job and Student Performance requirements. Use Form 3 to list Entry Level requirements.

A note about Entry Level requirements:

- Entry Level requirements are most important when the course you are planning is based on successful completion of other courses. (Biochemistry, for example, will require knowledge of General Chemistry.)
- 2. If you think several Entry Level skills are necessary and that many students will have difficulty displaying the required behaviors, perhaps you should consider:
 - making the Entry Level requirements part of the Checkpoints which are discussed in Section D which follows.
 - organizing a remedial course to train students in the Entry Level areas.
- 3. Sometimes you may not need to describe Student Entry Level:
 - when you don't assume special skill or knowledge, or
 - when you have all the information you need about the student from other tests or selection procedures.

D. Prepare Task Analysis To Develop "Checkpoints"

Entry level performance A A A B C Checkpoints

FIGURE 6: THE LEARNING LADDER DISPLAYING CHECKPOINTS

Now that "end-of-course" behaviors ("G" and "F" on the Learning Ladder) and Entry Level requirements (if required) are defined, the next step is to identify skills and knowledge students must acquire to move from entry levels to end-of-course levels. See Figure

To do this, you carry out a TASK ANALYSIS for each task. The analysis will help:

- 1. Identify the specific skills and knowledge to be taught during the course to assure students move from point "A" to "B" and eventually to "F" and "G".
- 2. Identify specific skills and knowledge to be <u>tested</u> during the course to measure the learning progress of the students or what are called CHECKPOINTS.

In completing a TASK ANALYSIS, use Form 4 on page 216. A TASK ANALYSIS starts with the description of on the job tasks and specifies the skills and knowledge associated with each task.

DEFINITION: are what students must be able to do to perform the task.

<u>Skills</u>	Thinking or	"mental"	skills	Skills which are mainly intel- lectual in that they involve thinking more than they do motor or physical action. For example, planning, interpreting data or information, problem solving, de- cision-making, etc.
---------------	-------------	----------	--------	--

Doing or "physical" skills	Skills which, while they require thinking, involve using the hands or physical action. For example, changing bandages, giving injec- tions, assembling or repairing instruments, etc.
Communicating or "inter- personal" skills	Skills which deal mainly in inter- acting with others, including af- fecting attitudes, social skills. Includes also speaking and writing skills involved in communicating with others.

DEFINITION: what students need to know to perform the task.

Knowledge

- Examples: names of things (parts of the body, names of medicines, names of instruments.
 - how things function (how the heart functions, how mosquitoes breed, how the health department functions).
 - important ideas (the idea of prevention, the idea of infection).

GUIDELINES D To develop a TASK ANALYSIS:

DEVELOP A TASK ANAYLSIS

- 1. List the specific skills involved in each task, whether they are:
 - thinking
 - doing
 - communicating
- 2. In the knowledge column, list <u>only</u> those specific terms, facts and concepts necessary to do the job. Do not list facts and theories that are '<u>nice</u>' to know but which the student does not need to know.
- 3. The knowledge needed for a particular skill should be written on the same line as the skill. Then the reader will know how the skill and knowledge relate to each other.
- 4. See Form 4 below and examine carefully the examples on pages 28, 148, 176, and 206. Remember you <u>need not</u> write something under each heading <u>unless</u> it applies.
- 5. Complete a TASK ANALYSIS of each task, using Form 4.

FORM 4: TASK ANALYSIS

Name:	Date: Project:
FORM 4: TAS	K ANALYSIS
TASK DESCRIPTION:	
<u>SKILLS</u> (Thinking, Doing, Communicating)	KNOWLEDGE

EXAMPLE

FORM 4: TASK ANALYSIS

FORM 4: TASK ANALYSIS	
TASK 1: Designs, conducts and completes community profiles.	
<u>SKILLS</u>	KNOWLEDGE
Thinking: - judges and determines which customs and beliefs are potentially harmful and should be discouraged, harmless to ignore, helpful to promote	 community; community leadership and heirarchy; community profiles; culture.
- plans anead when making appointments with leaders Doing:	•
 constructs maps of communities snowing location of health clinics and public places; includes drawing skill, constructs questionnaires for community services 	 how to design and interpret simple maps and questionnaires
Communicating: - speaks and writes local language - makes contact with community leaders	 interviews community members observes behavior in typical rural communities
TASK 2: Identifies conditions in the en health problems and develops pl members to combat specific prob	l. Vironment which contributes to ans of action with community lems.
<u>SKILLS</u>	KNOWLEDGE
 Thinking: selects refuse depot sites, taking into account access roads, safety and volume of refuse recognizes magnitude of health problems 	 proper methods for water and refuse disposal polluted drinking water
 relates ill-health to environ- mental problem(s) develops plan to combat environ- mental problem(s) 	 improper disposal of refuse and human waste
 identifies group leaders who will help in organization 	• formal and informal leaders

You may have noticed that each step in the course development process is slightly more specific and precise than the step which proceeded. This is especially important in the TASK ANALYSIS phase. BE SPECIFIC AND PRECISE. And list all the possible skills and knowledge which you can identify. It is much better to put in too much on the side of precision and detail than too little. If later on you find skills and knowledge items are duplicated or unnecessary, they can be edited out, but if you overlooked essential skills and knowledge, your course will be weakened.

E. Develop a Course Evaluation Plan

Another way of looking at the instructional ladder which we have been building is to consider the endpoints and checkpoints as evaluation activities or tests which tell instructor the extent to which students have mastered a given step on the ladder.

FIGURE 7: THE LEARNING LADDER SHOWING PROGRESS TESTS



Desired student performance F is measured by a <u>Posttest</u>. Entry Level Performance A is measured by an <u>Entry Level Test</u> or a <u>Pre-test</u>. When a <u>Pre-test</u> is used, it is often the same as the <u>Posttest</u>.

The checkpoints B, C, D, and E are measured by Progress Tests. Definitions are given below.

DEFINITION:	These are the methods of testing used:
Conditions	Examples of testing conditions include:
	- a topic or question to discuss
	- a procedure to demonstrate
	- written questions: multiple choice, true/false, essay
	- with or without the use of notes and references
	- "in-class" or "take home"
	- with or without other people or resources
	 self-evaluated, teacher evaluated, evaluated by classmates
	- with or without audiovisuals, etc.
	- prepare and deliver a 15 minute talk to
	- demonstrate the correct procedure for
	- circle correct answers with 80% accuracy
	- take part in a discussion about
	- play the role of
	- discuss a solution for
	 performs on the job skills acquired in the classroom, i.e. cleans wounds, takes sputum tests, diagnoses malnutrition
Posttest	assesses the degree to which students perform tasks <u>after</u> instruction.
	The posttest or final test is often used to grade students, to decide if they are ready to go to the next higher course, or if they should be assigned to a job.
Pietest	assesses the degree to which students can perform tasks before instruction.
	The main reasons for giving a pretest are:
	a. to identify students who already know how to complete task(s), and hence do not need the instruction,
	b. to measure how much students have learned from the beginning (pretest) to the end (posttest),
	c. posttests and pretests usually include the same or similar items.

Entry Level Test a set of conditions used to assess the degree to which students have the skills and knowledge needed in order to begin learning a certain task(s).

Note: Both the Entry Level Test and the Pretest are given before instruction begins.

The PRETEST is used to identify students who can already complete the task, the ENTRY LEVEL TEST is used to identify students who are/are not ready to begin learning the task.

- Progress Test
or Checkpoint1. A set of conditions used to assess the degree to which
students are learning needed skills and knowledge during
instruction.
 - 2. A means of checking on student progress and a basis for on-going course revision.

GUIDELINES	In order to develop your evaluation plan for the course:
DEVELOP A COURSE EVALUATION	 Use Form 5 below Specify pre/post test (use your completed Form 3). Specify Entry Test (if applicable). Use your completed Form 3).
	 Read TASK ANALYSIS to specify checkpoints (Use your completed Form 4).
	5. Specify Progress Tests in terms of conditions and performance.
	6, Sequence tests (Use flow A or B or some combination of both). See page 32.

EXAMPLE Examples of the process of developing a <u>complete evaluation</u> plan for a course are shown on pages 35, 150, 177, and 212.

You will need your COURSE EVALUATION PLAN to design the rest of your course. Keep it handy for future reference.
F. Sequencing and Ordering Test Items

When you develop your Evaluation Plan you must decide:

Whether or not all tasks will be taught separately, 1. or together or in some combinations of the two, whether progress tests should be limited to one task or a combination of tasks. First, sequence your tasks. There are two general ways, described as Flow A and Flow B.

FLOW A

All tasks are taught together. Each progress test involves a closer approximation to the desired job performance. Each progress test evaluates key skills and knowledge requirements for the overall set of tasks. Finally, the posttest calls for all of the tasks to be performed. See Example B, pages 150-151. second example of Flow A, see Example D, pages 212-213.

for all tests.

in the posttest.

page 177, which is somewhat

like this, except that the

tasks are evaluated separately

Pretest/Entry Level Test (for all tasks combined) Progress Test #1 (for all tasks combined) Progress Test #2 (for all tasks combined) Progress Test #2 (for all tasks combined) Progress Test # (etc.) (for all tasks combined) Posttest (for all tasks combined)

FLOW B

A different flow from above Pretest/Entry Level Test (for all tasks combined) in that the progress tests are task-by-task after which **Progress Tests** there is a combined posttest (for task 1 See Example C,

> **Progress Tests** (for task 2)

Progress Tests (for task 3)

Posttest (for all tasks combined)

It is not necessary to use one flow exclusively. ľn Note: portions of your curriculum you may use both.

- 2. Next, sequence all evaluation activities for all tasks.
 - a. You may see items that can be combined or eliminated, especially if two or more tasks require the same skills and knowledge.
 - b. You may want to code each test item or group of items in this final sequence, for example, as being part of a pretest (PRE), entry level test (ENT), progress test (PROG) or posttest (POST). See the examples on pages 212-213.

SUMMARY Once you have identified the tasks which will form the basis of your course and have completed a well-developed evaluation plan, you will be able to: a. identify students why can/cannot complete the task (pretest/posttest), b. identify students who are/are not ready to learn the tasks (entry level test), c. identify students who are/are not having problems learning the tasks (progress tests or checkpoints) d. identify how well students have mastered the tasks (posttest), e. design instructional activities to help students learn the tasks (the subject of the next chapter). Figure 8 is a diagram of the competency based curriculum development and evaluation process. The lines and arrows show decisions which must be made. For example, if a student fails the entry level test, he/she should receive special help and then take the entry level test again.

FORM 5: COURSE EVALUATION PLAN

	Name :
Name:	Project:
	EVALUATION DI AN
FORM S: COURSE	EVALUATION PLAN
TESTING CONDITIONS	PERFORMANCE
the since	The student will
when given	110 Studine #11111

FORM 5: COURSE EVALUATION PLAN

	FORM 5: COURSE EVALUATION	I PLAN
	TESTING CONDITIONS	PERFORMANCE
!	When given	The student will
ENTRY	NOTE: All students will have passed an er knowledge of the English language a screened in interviews (the 30 stud have been chosen from 1,000 candid	ntry examination to test basic and mathematics and have been dents in the class will probably ates).
PROGRESS	1. Directions in class	 recall definitions/ explanations of some words/terms used in clinical practice
"	 Classroom situations without reference to notes. 	 explain the following: extended family compound/homestead rural/urban community culture various community leaders
	3. Fellow students	 describe using rough sketches the way to the bospital, health clinic, dispensary from different locations in the community
u	4. Pencil and paper and within specified time	 list the breeding sites of flies/mosquitoes list the sources of drinking water and ways water is polluted
"	5. Multiple-choice items	 recugnize: environmental sanitation measures communicable disease control measures local food sources
"	6. Classroom situation	 explain to a fellow student action plan to combat a community health problem

FORM 5: COURSE EVALUATION PLAN (Continued)

	TESTING CONDITION	PERFORMANCE
PROGRESS	7. Directions in class	• explain the following:
		 food hygiene
		- personal hygiene
1		- balanced diet
		- immunization
**	8. Multiple-choice items	• recognize the clinical
		features leading to the
		diagnosis of:
		- severe diarrhea and
		vomiting
		- mainutrition
		- severe cougn
		- nigh fever
	Numbers 1 to 8 are progress items.	
POST	TASK 1. PARE 1	
TEST	9. A rural community	 solicit the cooperation of the community leaders
		• locate all public places
		Including health factifies
		 submit a written report on above
	TASK 2 Page	
11	10. An ill child with his/her mother	 take a brief history
		 recognize if the child has
		any of the following:
		- dobudration
		- denyuration - devere diarrhea and
		vomiting
		- malnutrition
	1	- severe cough
		- high fever, and
		 refer immediately to the
		appropriate nearest health clinic

FORM 5: COURSE EVALUATION PLAN

(Continued)

POST
TEST

TESTING CONDITIONS	PERFORMANCE	
TASK 3 Page 11. An environmental health problem such as:	 recognize the magnitude of the hazard to health 	
 well pollution mosquito/fly breeding refuse accumulation in a compound, institution, or public place 	 give health education to the group organize and develop a plan of action with group 	
	 participate in project implementation write and submit a report 	
TASK 4, Page 12. A group in the community (family group, school children or mothers, etc.) for health education	 choose appropriate topics from the following: environmental sanitation food and personal hygiene breast feeding balanced diet give a talk/demonstration in the local language 	
NOTE: Numbers 9 through 12 are post test items.		
Most of the post test items are conducted in the community (i.e., outside the classroom); where success/failure of the program can be assessed.		

FIGURE 8: PLANNING EVALUATION



(✔) REVIEW AND SELF-CHECK

Examine your \bigcirc OURSE DESCRIPTION, JOB DESCRIPTION and COURSE EVALUATION PLAN. Before going further check (\checkmark) to make sure you have completed the following.

FOR EACH TASK:

- () 1. Specified pre/posttesting "conditions" and "performance" that <u>match</u> on-the-job conditions and performance to the extent possible, given the course constraints and resources.
- () 2. Specified plans to evaluate entry level skills and knowledge before instruction.
- () 3. Identified the skills and knowledge needed to carry out the task (TASK ANALYSIS).
- () 4. Specified "checkpoints" (or conditions and performance for progress tests) to assess whether the needed skills and knowledge are being learned during instruction.

FOR ALL TASKS:

- () 5. Combined and eliminated certain evaluation activities, where two or more tasks require the same skills and knowledge.
- () 6. Sequenced all evaluation activities for all tasks to develop an Evaluation Plan for the entire course, the COURSE EVALUATION PLAN.

CHAPTER THREE

DESIGNING ACTIVITIES

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B.	Write an Activities Plan	46

CHAPTER THREE

DESIGNING ACTIVITIES

C'APTER PURPOSE The purpose of this chapter is to provide guidelines for designing activities to help students move from entry level skills and knowledge to mastering job-related skills.

OVERVIEW To outline the overall teaching strategy, an ACTIVITIES PLAN will be developed for the entire course as follows:

- The course is divided into segments (as defined by successive evaluation events from the COURSE EVALUATION PLAN).
- Teaching goals are identified for each segment
- A variety of teaching methods are considered
- Activities are designed for each segment (to assist students to move from one evaluation event to the next).

FIGURE 9: THE LEARNING LADDER SHOWING TESTING POINTS





DEFINITION:any event or experience which is designed to assist studentsActivitylearn a segment of the course.

In-Class Activities

Some events or experiences may be in a classroom and/or during class hours, In-class activities might include: (See also Chapter 7, Teaching Methods, pages 87-101.)

- discussion of a case study
- role play activity
- simulation/game
- lecture or programmed lecture
- panel discussion
- laboratory exercise
- clinical experience
- evaluation activity
- practice problem solving
- complete exercises

Outside Activities

Other events or experiences may be outside the classroom and/ or outside of class hours. Outside activities might include:

- constructing facilities/wells, latrines, etc. under supervision
- interviewing
- observing
- teaching
- reading assignments
- homework problems
- library research
- field trips
- data collection exercise
- clinical exercise etc.

You have already answered an important part of the problem of selecting activities to help students learn by designing a COURSE EVALUATION PLAN.

How so?

Each item in your evaluation plan...each set of testing conditions and performance...whether for pretesting, entry level testing, progress testing or posttesting represents an event cr an activity and is designed to assist students learn...learn by doing.

Your evaluation plan represents not only a framework for designing learning activities, but also <u>IS</u> a set of learning activities in itself. This set of activities will now be made longer for purposes other than evaluation.

GUIDELINES A. DESIGNING AN ACTIVITIES PLAN

DESIGN AN ACTIVITIES PLAN Refer as needed to your COURSE DESCRIPTION, JOB DESCRIPTION and COURSE EVALUATION PLAN.

- 1. Look at the first two items of your COURSE EVALUATION PLAN. In order to move students from the first evaluation event to the second, note what students need to learn in this first segment of the course:
 - a. What <u>knowledge</u> should they acquire (key terms, concepts, etc. as outlined in your TASK ANALYSIS)?
 - b. What <u>skills</u> should they learn (doing, thinking, and communicating)?

FIGURE 10

Table d	ר¶ל	Teaching	Goals
---------	-----	----------	-------

IF YOUR TEACHING GOAL IS	THIS MUST OCCUR	USING THESE ACTIVITIES
1. To provide a frame of reference.	Relate what is to be learned to the past and to the future. Review past sessions. Overview new material. Connect old material to new.	Show a film of a task being done on-the job. Follow the film with a discussion of what experience, if any, students have had with that task.
 To provide a reason to learn. 	Motivate and excite students. Make them curious.	Conduct a guest interview with someone who has suffered/benefited as a result of a job-related task being done poorly/ well. Have students and the guest discuss the need to learn the task well. Send students to the field where they might experience a task being carried out.
3. To transmit information.	Provide students with key terms and concepts, criteria, theories, guide- lines, etc.	Assign readings; give handouts; use pro- grammed exercises, flow charts, worksheets, lectures, etc.
 To demonstrate skills and attitudes. 	Model (by doing) the desired skills and attitudes. Display what the students should do and how they should act (especially as related to the job for which they are being prepared.)	visit a facility where tasks are being completed. Ask students to observe what is being done and how it is being doneboth skills and attitudesgood and bad.
5. To allow practice of skills and attitudes.	Guide and encourage students to demon- strate desired skills and attitudes as related to on-the-jub performance. Nork for improvement with each practice activity.	Have students assume job-related roles. Present an on-the-job situation(real or made up) and ask students to act out their roles in the context of that situation. If the skills is doing or communicating, make it possible for student to practice this skill.
6. To respond to scudent performance	Respond to student (both individually and in groups) and comment on their performance. Emphasize what is good, and suggest ways to improve where needed.	Give a practical examination to assess physical skills. Call attention to good performance. Ask for others' suggestions where performance can be improved.

2. Study Figure 10: Teaching Goals, on page 44. Still considering the first segment of the course, in order for students to learn new skills and knowledge as outlined in step one, decide if you need to design activities...

		1105	NO
a.	to provide a frame of reference		
b.	to provide a reason to learn		
c.	to transmit information		
d.	to demonstrate skills and attitudes		
e.	to allow practice of skills and		
	attitudes		
f.	to respond to student performance		

- 3. Review the extensive list of teaching methods described on page 87ff.
 - a. Depending on teaching goals and on desired levels of student participation, certain teaching methods are usually more appropriate than others in bringing about the desired learning. Try to choose methods that will match as closely as possible required on the job learning experience.
 - b. Pay special attention to those teaching methods with which you are less familiar. The choice of a method should be based on whether or not it will help students learn than on whether you as a teacher are "comfortable" with the method.
 - c. Consider which methods are feasible given the constraints and resources of your course.

4. Given...

- ... the variety of teaching methods available
- ... the specific skills and knowledge that students need to learn
- ... your teaching goals for this segment of the course
- ... the desired student performance at the end of this segment (as described in the EVALUATION PLAN...

design as many activities as you need (both "in-class" and "outside" activities) in order to:

- a. meet your teaching goals
- b. convey needed skills and knowledge
- c. ensure the desired student performance

B. Write an Activities Plan

Describe these activities for the first segment of your course using the format suggested below. (See also Form #6.)

FIGURE 11; FORMAT ACTIVITIES PLAN

Name: <u>ACTIVITIES_PLAN</u>	- Date: Project:
EVALUATION (from. Evaluation Plan)	ACTIVITIES
1. When given , the student will tue tue tue tue tue tue tue tue tue tue	A B C
2. When given , the student will	



At this point, you have described all the activities that you think students need to experience to move from one step (checkpoint) to the next on the learning ladder, shown below.

FIGURE 12: LEARNING ACTIVITIES ON THE LEARNING LADDER

	<u>Desired In-The-Job Performance</u> <u>Desired Student Performance</u>
	7
A	
Entry Level Performance	
	Sector
	Evaluation
	Accivity D Accivity C
	Activity B
	First Evaluation

GUIDELINES >>

WRITE AN ACTIVITIES PLAN 5. Complete your ACTIVITIES PLAN for the entire course, segment by segment, by repeating steps 1-4, pages 43-45. for each successive pair of events in your COURSE EVALUATION PLAN.

Note that all of your tests (PRE, ENT, PROG, POST) will appear in the left column. All of the instructional activities which enable students to pass these tests appear in the right hand column.

FORM 6: ACTIVITIES PLAN

Name:	Date: Project:
<u>Form 6: Act</u>	IVITIES PLAN
EVALUATION (from Evaluation Plan)	ACTIVITIES
Ŋ	

FORM 6: ACTIVITIES PLAN

FORM 6: ACTIVITIES PLAN		
EVALUATION (from Evaluation Plan)	ACTIVITIES	
Progress Test		
I. When given directions in class, students will recall definitions/ "xplanation of some words/ terms used in clinical practice. Progress Test	 A. Lecture on terms used in clinical practice. B. Handouts explaining different terms 	
2. When given a classroom situation without reference to notes, students will explain the following terms: - family-nuclear/extended - compound/homesteads - rural/urban community - culture - various community leaders - community organization Progress Test	 A. Reading assignments (rural/ urban communities) B. Individuals are asked to define/explain key terms and concepts. 	
	A Computer Stald and an	
Students, students will describe using rough sketches the way to the hospital, health clinic, dispensary from different locations in the community.	 K. Community field trips- as group (first); individually (later) B. Practice on the job after initial demonstration C. Individuals discuss the report on the assigned community. Instructor with the class collects <u>all</u> reports. 	
Progress Test		
4. When given pencil and paper and within specified time, students will list the breeding sites of flies/mosquitoes, sources of drinking water and ways of pollution.	 A. Guest interview e.g., with a public health inspector B. Lecture and handouts on public health nuisances and control. 	

Your complete ACTIVITIES PLAN will look like the following: (See example, p. 49.)

(SELF-CHECK AND REVIEW

Look at your COURSE DESCRIPTION, JOB DESCRIPTION, COURSE EVALUATION PLAN and especially your ACTIVITIES PLAN. Before going on, check (\checkmark) to make sure you have done each of the following.

For each segment of the course:

- () 1. Designed activities to teach skills and knowledge needed for the next higher level of evaluation.
 - 2. Designed activities as needed to meet teaching goals such as:
- a.) to provide a frame of reference (
 - to provide a reason to learn) b.
- ((() c. to transmit information
 -) to demonstrate skills and attitudes d.
 -) to allow practice of skills and attitudes e.
 -) f. to respond to student performance
- () 3. Designed activities using methods that are appropriate for each teaching goal and for the desired learning.
- () 4. Designed activities which are feasible, given the course constraints and resources.

CHAPTER FOUR

PLANNING SESSIONS

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CHAPTER FOUR

PLANNING SESSIONS

CHAPTER PURPOSE In the last chapter you planned a set of learning activities for your course. These activities must now be grouped into class sessions. Sessions are the units, periods or building blocks of your course. Each session must be planned in sufficient detail to show how the activities of that session will be carried out and to relate one session to others.

> This chapter provides guidelines for grouping or "packaging" activities into individual class sessions (the course syllabus), and developing detailed plans for each session (session plans).

OVERVIEW The SYLLABUS and SESSION PLANS will be developed as follows:

- "In-class activities" from the ACTIVITIES PLAN are grouped according to the time constraints of each session.
- "Outside adtivities" are grouped to correspond with in-class activities.
- A checklist is used to plan the approach for carrying out the activities of each session.
- References and resources are noted for each session.

A. <u>Develop a Course Syllabus</u>

Think of the syllabus as a set of guidelines for your students. Students will use the syllabus to:

- 1. Remind them what they have studied as they proceed through the course and tell them what they will study as the course progresses.
- Determine what they must do to prepare for coming sessions in the course.
 A session is a block of time usually one to two hours, but it may be shorter or longer. A session should contain learning activities focusing on a single idea or topic.
- 3. The syllabus should be retained by students following completion of the course as their permanent record of the course.



Here are some important assumptions and considerations at this point:

- 1. This step assumes that you do have individual sessions, and that the number and length of the sessions are fixed. IF, on the other hand, you have freedom in the number and length of sessions, then simply specify how many sessions you need and how long each should be (perhaps varying the length of sessions as needed.)
- 2. Realizing that some activities are designed to be carried out "back-to-back" or following each other, without a time break...that other activities <u>require</u> a time break between them...and that still other activities may each take <u>several</u> class sessions to complete...adjust your division of sessions to reflect these factors.
- 3. Based on realistic time estimates for each activity, and in view of the length of class sessions, separate activities to indicate which activities are in a given session.
- 4. When you must decide between grouping activities...so that a particular session is not overloaded, you are deciding between teaching some things thoroughly as opposed to teaching more things not so thoroughly,

GUIDELINES D

DEVELOP A SYLLABUS

- Start with your ACTIVITIES PLAN, Form 6 and Example, Develop your syllabus using Form 7, Example 7, and the examples in Part III, pages 156, 183, and 216.
- 2. Complete Session 1, which (all or part of it) usually:
 - a. Contains an introduction to the course:
 - purposes
 - how it will be taught

Steps to follow in developing a SYLLABUS:

- what is expected of the students
 - special information such as the time and venue, materialsstudents should have, etc.
- b. Provides opportunities for the instructor and students to become acquainted with each other.
- c. Is when pretests and entry tests are usually administered.
- 3. After you complete session 1, with your ACTIVITIES PLAN nearby, complete the rest of the syllabus by:
 - a. Grouping activities into topics or related areas. At the same time be certain the sequence in which the tasks will be taught is not destroyed.

- b. For each session in the "in-class" column
 - describe what the instructor will do
 - what the students will learn
 - what will occur in the session
- c. For each session in the "outside activities" column:
 - list reading or other assignments which must be completed before the next session
 - if the session will occur in the field describe where the session will be held
 - outline the activities in the field
- d. Estimate the time required to complete each session.

See Section C for some ideas on reading assignments and student preparation for future sessions.

Reading Assignments and Preparation Activities for Future Sessions

When you assign reading materials for future sessions, keep these points in mind.

- 1. Students may resist reading more than a few pages of materials.
- 2. Reading materials should be brief, perhaps no more than ten pages a session.
- 3. Reading materials should be directly concerned with the session.
- 4. When reading materials are assigned it is important that the instructor discuss the material in the class. If this is not done students will conclude they need not read the materials.
- 5. When discussing reading materials, be certain to:
 - a. link the materials with classroom activities
 - b. clarify questions students have about the materials

There are other ways students can prepare for a session. Some are:

1. Students can be assigned an activity to observe. Suppose one is teaching a course in community health. Students can be assigned to walk about the community and identify the chief community health problems.

FORM 7: SYLLABUS

Name:		Date:
		Project:
	FORM 7: SYLLABUS	
Course Titles		
Instructor:		
SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES
		1
		-
ļ		

FORM 7: COURSE SYLLABUS

NOTES ON COURSE SYLLABUS

- 1. More than half of the time allocated for this course will be spent in the community.
- Students will have to spend more of their own free time (i.e., outside the normal official time allocated for community exercise) in the community.
- 3. A strong indication of student involvement in the community assigned to him/her will be the quality of the reports and performance in the final evaluation.

FORM 7: COURSE SYLLABUS				
Course: Community Health Orientation: An Introductory course in Community Development for Medical Assistants.				
SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES		
	(to be completed this session)	(to be completed before next session)		
<pre>#1 Time: 2 hours</pre>	 Introduction Lecturedefinitions/ explanation of terms/words in clinical and preventive practice. Discussion of handouts defining selected difficult terms used in medicine. 	1. Reading assignment A for Session #2		
#2	 Lecture/discussion based on reading assignment, Nigerian rural culture, family structure, various community leadership and cultural practives regard- ing health. Feedback: Randomly call on 15 students to explain/ define some terms cover- ed in Sessions 1 and 2. 			

2. Students can be asked to collect information by bringing samples or examples to the class, by interviewing people and by performing procedures in the laboratory.

| GUIDELINES

В.

Develop Session Plans

DEVELOP SESSION PLANS Examine your Course Syllabus and for each session, ask yourself "What APPROACH will I (the teacher) use in carrying out the activities of this session?" Again, the Session Plan is the instructor's guide to the course...what to teach, when to teach and how to present the learning material.

Also, keep in mind that you may not be the only instructor teaching this course. Then for others the Session Plans should be a thorough and complete document which will be a Guide to other teachers. Using Form 8, develop your session plan following the example on page 60. Also, pages 160 and 193 in Part III contain other examples of session plans.

CHECKLIST FOR PLANNING SESSIONS

		YES	NO
a.	Have the objectives for each session been specified?		
b.	Does the activity(s) suggest a particular room/site arrangement?		· ·
c.	Is special equipment needed?		
d.	Does anyone need to be introduced (students, guests, teachers, etc.)?		·
e.	Will I deal with immediate (though not necessarily anticipated) student problems and concerns?		
f.	Have I made provisions for a review of previous sessions?		
g.	Does the activity(s) need an introduction?	 ?	,
h.	Do students and/or the teacher have specification tasks during the activity that need explanation?	fic	
i.	Do I need to plan a follow-up to the activity?		
j.	Does the ending of the session need special planning?		
k.	Is there provision for feedback?		
1.	Are there any portions of this session which will be difficult for students?		

FORM 8: SESSION PLAN

Name:_____

Date: _____ Project: _____

FORM 8: SESSION PLAN

Session #

ACTIVITIES	APPROACH/CONTENT
References and Resources:	
Reminders:	

FORM 8: SESSION PLAN

FORM 8: SESSION PLAN		
Session # _ 5		
ACTIVITIES	APPROACH/CONTENT	
 Guest interview: a practicing public health inspector. 	Classroom setting. Introduction of guest. <u>30 minutes</u> Specific guestions guest would	
	answer:	
	1. Describe briefly your duties.	
	 Environmental sanitation duties Comminicable disease control malaria control measures mass immunization campaigns measles/DPT, cholera, yellow fever leprosy control Building plans approval and house-to-house inspection Food and meat inspection markets abbatoirs 	
	 What is a public health nuisance? Enumerate the procedure you take for an owner/occupier to abate a nuisance. 	
	 How successful have you been in keeping this community clean? 	
	20 minutes	
	Discussion involving guest, instructor and students on above issues.	
	<u>10 minutes</u>	
	Break	

FORM 8: SESSION PLAN

(Continued)

	ACTIVITIES	APPROACH/CONTENT
2.	Lecture/discussion	<pre>Review first hour activity and its relevance to the second part of the session. <u>30 minutes</u> Review reading assignment B. • Environmental sanitation measures - refuse disposal: dust bins, incineration - proper ventilation • Control of communicable diseases - reduction of breeding sites for flies/mosquitoes - larvaecides/insecticides for larvae/adults - prevent indiscriminate defecation-pit latrines - protection for sources of drinking water • Local food sources - protein foods: ewa, eran, wara, epa, eyin, ere - CHO foods: isu, gari, oka, ogede - fruits: orombo, guava, mango, ope, oymbo, etc. <u>20 minutes</u> Entertain comments/questions. Students list more local food sources.</pre>
<u>Ref</u>	erences and Resources inders	Reading assignment B. Classroom regervation. Specific questions to the guest. Remind guest of time of session.

GUIDELINES >

DEVELOP SESSION PLANS You may want to include in your approach some notes about the following:

- 1. Setting the "tone" of a particular session/activity at the beginning of the session.
- 2. Maiing charts or diagrams you want to display in each session.
- 3. Listing specific questions to ask during the session.
- 4. Having a backup plan if the activity(s) does not work out as planned.
- 5. Making time estimates of where the teacher and students should be at key points in the session (and noting these times in the Session Plan).
- 6. At the bottom of each session plan, list references and resources you will need for that session (audio-visual equipment, tests, handouts, guests, etc.).
- 7. Finally, make a list of "reminders" for that session, including:
 - a. materials to be prepared for that session
 - b. people to call or see ahead of time
 - c. room or equipment to be reserved
 - d. etc.

(

Look at your COURSE DESCRIPTION, ACTIVITIES PLAN, COURSE SYLLABUS and individual SESSION PLANS.

Check (\checkmark) to make sure you have done each of the following:

- () 1. Grouped all "in-class" activities into class session.
- () 2. Grouped all "outside" activities to correspond with in-class activities.
 - Developed a session plan for each session in the syllabus, having...
- () a. described the teaching approach for carrying out the activity(s) of the session
 -) b. listed references and resources needed for the session
- () c. listed reminders for preparing for that session.

(√) SELF-CHECK AND REVIEW

Developing Student Handouts

When you develop your Syllabus, you made a decision as to whether of not Student Handouts or Student Supplementary Materials were to be used. If such materials will not be used in your course, your course is now completed and you may omit this Section.

If all or portions of your course will require Student Handouts, review your Syllabus and produce a list of Handouts, indicating for each handout:

- 1. topic or title
- 2. the behavior the learner is expected to display as a result of the session and the reading of the handout

Next, ask yourself this question: Are materials currently available which are useable as handouts or must you produce the material? Whether or not you produce new material or use existing materials your materials should meet these general requirements. They should be:

- 1. brief, no more than 7 to 10 typewritten pages per session
- 2. readable to all students
- 3. specifically related to the session
- 4. useable by the students on the job after the course is completed.

DEVELOPING COMPETENT HEALTH WORKERS

PART II

METHODS

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CHAPTER FIVE

METHODS FOR JOB ANALYSIS AND VERIFICATION

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CHAPTER FIVE

METHODS FOR JOB ANALYSIS AND VERIFICATION

INTRODUCTION Your course is based on the tasks in the JOB DESCRIPTION, thus it is essential that this description be complete and valid. The tasks must reflect what people can and should be doing on the job.

CHAPTER PURPOSE How can I check the JOB DESCRIPTION to be certain...

- ... the tasks can and should be done on the job?
- ...I have not overlooked important tasks that should be included?
- ...I can identify which tasks to emphasize to best meet the needs of the population to be served by my students?

There are several methods for analyzing what people can or should be doing on the job (JOB ANALYSIS) and these same methods can be used to check whether a given job description is valid and complete (JOB VERIFICATION).

These methods for JOB ANALYSIS and JOB VERIFICATION can even be used to verify a JOB DESCRIPTION for a job that does not yet exist (for example, in programs to train health workers for expanded duties). In such cases, the emphasis of the analysis is to verify that real needs have been identified, and that the proposed training does focus on helping to meet those needs.

All of the methods for JOB ANALYSIS and JOB VERIFICATION involve somehow "checking out" your JOB DESCRIPTION with others. These "others" should include as many of the following as might be appropriate for your teaching situation:

- 1. administrators and policy makers responsible for setting priorities and policy making
- 2. workers already on the job (probably the most important group)
- 3. "clients" of workers on the job (for example, nursing mothers being served by public health workers).
- 4. other teachers and students (perhaps who also have been involved with similar training programs)

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5. other members of the community, including government, religions, industry, etc. (especially to determine where the greatest need is for the proposed training).

Regardless of the method(s) you select to check your JOB DESCRIPTION, you will probably want to discuss your plan with knowledgeable people. Although such discussion might be helpful, the number of people you can contact on a one-to-one basis, and hence, the amount of information gathered that way is usually limited by time and distance constraints.

Therefore, to help ensure a valid response to your plan for competency based training, consider using one or more of the following methods for JOB ANALYSIS and JOB VERIFICATION.

A. Questionnaire and Interview Techniques

This is the process of collecting information by asking people to respond to a list of questions.

EXAMPLE QUESTIONNAIRE

FIGURE 13: FXAMPLE OF THE USE OF QUESTIONNAIRES IN VERIFYING JOB DESCRIPTIONS

	Questionnaire Regarding the Role of Medical in Nigeria	Assist	ants
Do	you think medical assistants should be trained	to:	
		YES	NO
1.	Identify community leadership and hierarchy?		
2.	Establish contacts with community leaders?		
3.	Refer serious illness in the family to appropriate health clinic		
4.	Identify adverse health conditions in the environment?		
5.	Provide health education p rograms in the community?		

Another approach asks individuals to answer questions in his/ her own words.

EXAMPLE QUESTIONNATRE

FIGURE 14: EXAMPLE OF THE USE OF INTERVIEWING SCHEDULES IN VERIFYING JOB DESCRIPTIONS

Questionnaire Regarding the Role of Medical Assistants in Nigeria What are the major categories of health workers in Nigera? 1. What is the role of medical assistants? 2. How do they relate to the other health workers? 3. Where do they work? With whom do they work? 4. What educational level do health assistant students 5. generally have? List three health services now badly lacking in 6. your community. Why are these health services not well provided? 7. Could medical assistants be trained to help provide 8. such services? Please explain why or why not.

Either of these approaches enables one to collect a great deal of information easily and quickly. In the case of questionnaires the value of the information collected depends on how the questionnaire was constructed, e.g. are the most important questions included? Also, are the questions worded properly?

In the case of interviews, the same issues apply as well as how the questions were asked.

In addition, some experience and skill is required in constructing both interview schedules and questionnaires. Both approaches can be used with individuals or groups.

B. Critical Incident Techniques

This approach consists of a survey of how well key tasks or jobs are performed. The survey is done by collecting observations of good and/or poor performance of people on the job.

With this method, one is interested in documenting specific critical incidents during which the worker performed particularly well or particularly badly -- ultimately, to analyze whether job training (or the lack of it) was directly related to the observed performance.

FIGURE 15: <u>A SAMPLE CRITICAL INCIDENT FORMAT</u>

EXAMPLE OF CRITICAL INCIDENT TECHNIQUE

To be asked of mothers seen by outpatient clinic health team members.

During a recent visit, one of our team members should have discussed with you the advantages and disadvantages of breast feeding.

Describe below if you think the advantages and disadvantages were described well or described poorly.



Breast feeding explanation was done well because:

"All the good points and bad points of breast feeding were covered, and these were also written out so I could read them again."



Breast feeding explanation was done poorly because:

"The team member was a man and I didn't like being told about breast feeding my baby by someone who's never done it and never will. Also, there should have been more information about bottle feeding, too."

The person analyzing the incidents decides what were the chief points both positive and negative in each category. He or she sums these points up. The report will assist course planners in developing or revising JOB DESCRIPTIONS and training programs.
C. Log Diary

A written description of what a worker does on the job over a period of time is called a LOG DIARY. The diary is kept by the worker and entries are made at the end of blocks of time during the day or at the end of the day.

FIGURE 16: A SAMPLE LOG DIARY

FOR: DIRECTION	Nutrition Education Health Workers S: Describe what you did today on the job, and indicate how much time is spent on each activity or group of activities.
TIME	ACTIVITIES
7-8 AM	Answered correspondence and attended staff meeting.
8-9	Prepared materials for distribution to mother's group.
9-9:15	Rode my bicycle over to the elementary school for mothers' group meeting.
9:15-11:30) Conducted nutrition education session with mothers of newborn infants.
11:30-3	Visited with mothers and children in their homes near the school; answered nutrition questions and helped plan diets and meals. Also ate lunch at one of the homes.
3 - 3:30	Rode my bicycle back to the health centre.
3:30 -4	Wrote up report of home visits for follow-up.

A major advantage to this approach is that the worker describes what he or she does during the period being measured. A disadvantage is workers may only report what they think is important or do not report in sufficient depth. For example, from 8-9 am in the example above, the worker reports that he/she prepared materials. We do not know the skills and knowledge required to prepare the materials: a crucial issue in training programs. D. Checklist

This is a form of questionnaire research in which required responses are short and simple, generally recorded by checking "yes/no" or by rating on a scale of "1-10" etc. The checklist might be done by the worker or by someone observing the worker on the job.

Follow the same procedures suggested for questionnaire research.

FIGURE 17: SAMPLE CHECKLIST

	JOB INVENTORY: SUPERVISOR OF COMMUNITY HEALTH CENTER				
	DIRECTIONS: Check (♥) all the tasks which you perform. Add tasks involving your job which are not listed. Rate the tasks you check in terms of skills required.				
	TASKCHECK (V) IF DONEHighAverageLow				
	Advise others in solving technical maintenance problems				
İ	Assign workload to				
	Counsel others				
	personal problems				
	Supervise inspection	İ			
L	procedures.				
•					
	THER TASKS Specify):	T			
		+			
-		1			

E. Work Participation

This involves the course designer taking part in the job tasks. Depending on the difficulty of the job and upon the expertise of the investigator, he/she may want to work closely with an experienced worker who can then critique the work of the course designer.

F. <u>Technical Conference</u>

This is similar to group interviews, but the subject matter experts in this case are generally charged with the sole responsibility of developing JOB DESCRIPTIONS. Conferees attempt to reach consensus on the job related tasks based on:

- 1. their own previous experience
- 2. a demonstrated need for the job
- 3. the feasibility of such tasks being carried out

G. Participant Observation

This is the process of the course designer observing workers on the job and noting the tasks performed along with the knowledge and skills required. For example, a course designer may accompany a public health inspector as he visits communities. Over a period of a week or more the course designer would reduce to writing the various tasks performed by the inspector. One such task might be: "Explain to village leaders the dangers involved in using chlorine and the process involved in using it to purify water."

CHAPTER SIX

EVALUATION METHODS

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CHAPTER SIX

EVALUATION METHODS

INTRODUCTION You are a patient in a hospital in need of having an open wound sutured. Which of the three nurses would you select to suture your wound? The only information you have on which to base your decision is the method by which each nurse has been evaluated and judged to be competent in suturing wounds. Nurse A received a perfect score on an elsay describing how to suture wounds. Nurse B sutured "wounds" correctly on 4 out of 5 trials using manikans in a lab setting. Nurse C sutured wounds correctly on 5 out of 7 patients in a health center under supervision. Nurse A, B, or C? Most people select Nurse C. Why? The task of suturing wounds involves a number of skills including: - putting the patient at ease - cleaning the site - selecting instruments - applying local anesthetic

- using needle and thread to suture wound
- tying off sutures

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Nurse A clearly had mastered the important <u>knowledge</u> components of suturing wounds (as demonstrated by performance on the essay), but this method of evaluation cannot predict how well Nurse A might <u>apply</u> that knowledge in an actual setting.

All on the job <u>conditions</u> (including an apprehensive patient, the pressures of other responsibilities, the need to set up the equipment, etc.) were missing. Furthermore, the desired <u>performance</u> could not be observed based solely on an essay test -performance such as putting the patient at ease, cleaning the injection site, actual suturing, etc. The only <u>skill</u> that can be evaluated based on Nurse A's performance is writing or communicating.

The method by which Nurse B was evaluated is more desirable. Testing conditions more closely match on the job conditions including the actual equipment and a person-like model with which to work. And much of the desired performance could be observed including cleaning the site, selecting the instruments etc.

What is lacking are conditions of working with a living, frightened and suffering human-being as well as all the normal distractions of a clinical setting including responsibilities for other patients.

Clearly the testing conditions for Nurse C most closely match on the job conditions. The only difference is that can turn to her supervisor if she requires guidance or assistance.

In general, in selecting a method of evaluating students for a specific job related task, the goal of the evaluator should be to design testing conditions that match AS CLOSELY AS POSSIBLE on the job working conditions, and to specify desired student <u>performance</u> that matches AS CLOSELY AS POSSIBLE performance on the job.

And whereas "paper and pencil" tests might be appropriate for assessing <u>knowledge</u> components, they are often inadequate for assessing the degree to which students can <u>apply</u> that knowledge in an on the job setting.

Think of a SKILL as being the <u>application of knowledge</u>, then students who master skills can be assumed to have also mastered the relevant knowledge. But as seen in the examples above, the reverse is not necessarily true -- that is, it is not safe to assume that students who demonstrates mastery of knowledge have also mastered job-related skills.

Therefore, the course designer must plan evaluation activities to assess:

- 1. the various knowledge components of a given task (especially to help students who cannot apply assumed knowledge at some point in the course.)
- 2. skills needed for doing the task

CHAPTER PURPOSE The purpose of this chapter is to describe a variety of methods that are appropriate for assessing skills and/or knowledge relevant to the tasks of the JOB DESCRIPTION.

What follows is a brief discussion of several testing methods.

A. Practical Examinations

Practical tests allow the instructor to observe and assess students as they perform critical tasks. A practical test is a test of <u>performance</u>. It tests the actual on the job skills (thinking, doing, communicating) or comes as close as possible to testing these skills.

One simple way of testing performance is by constructing a checklist which outlines the critical steps in the procedure.

Directions for constructing practical examinations follow:

1. Identify Critical Steps.

First decide what the critical (important) steps are in performing the task...

- a. list the steps
- b. cross out unnecessary steps, and
- c. order steps as they would be performed on the job
- 2. List the steps one by one.

Each step should be written so that it can be checked "yes" or "no". That is, each step should consist of a single idea. Statement a and b be ow can easily be checked <u>yes</u> or <u>no</u>. But you might have difficulty deciding between <u>yes</u> and <u>no</u> for statement c.

- a. Use cleansing agent Yes No
- b. Washes instruments thoroughly Yes No
- c. Using cleansing agent, washes instruments thoroughly ____Yes No
- 3. Describe behaviors using strong action verbs.

In writing statements, do not use imprecise phrases like "answer quickly" or "listens carefully". Try to state exactly what you mean in terms of behavior. For example:

He/she computes the correct dosage of medicine. He/she is able to describe the procedures for rehydration of infants. 4. Develop clear instructions.

Develop specific instructions to the person taking the test. If others are administering the test, ask them to read the instructions and the test. If any statements are unclear, explain the step and revise it accordingly.

An example of a practical exam follows:

EXAMPLE Traditional birth attendants are being trained to use modern, aseptic techniques when they are helping mothers give birth.

<u>Instructions to the student</u>: "Here is a group of instruments that have been used at a recent childbirth. Sterilze the instruments."

Checklist for Sterilizing Instruments:

a.	Uses cleansing agent	Yes	No
b.	Washes instruments	Yes	No
c.	Rinses sterilizer	Yes	No
d.	Places instruments in sterilizer	Yes	No
e.	Adds water to cover	Yes	No
f.	Brings water to boil	Yes	No
g۰	Boil water for 15 minutes	Yes	No
			the second division of the second division of

Instructions to the teacher: "Observe the trainee and mark yes or no for each step. If the trainee fails to perform one step of the procedure or performs incorrectly, the trainee fails the exam."

B. Observational Reports

This consists of documented observations of student performance over a period of time. Students are asked to perform tasks in settings close to an on the job environment. The observer often uses a checklist or a rating scale to assess the performance such as in practical examinations discussed above.

EXAMPLE

- 1. Throughout the duration of several cases, a health assistant is observed at different stages of patient management.
- 2. Once a day the head nurse observes each student nurse's performance for five minutes and records ratings about that performance.
- 3. In a dental clinic, the teacher is required to evaluate each successive stage of a dental preparation.

C. Oral Examination

Students respond to questions or to problem situations. Students may be asked to formulate and justify an approach to a problem. They may also be asked to assume certain roles and to respond from that viewpoint.

EXAMPLE

Given background information regarding:

- a. the socio-economic make-up of a village
- b. available resources in that village
- c. health problem in that village

Students assume the role of a public health officer and discuss an appropriate plan to deal with the health problem.

Given an assignment to conduct sputum tests as appropriate in a village, students will describe:

- a. equipment and supplies needed
- b. the process of completing sputum tests
- c. how they will approach people to be tested
- d. how they will record information and follow-up

D. Project Assignment

Students are given tasks or projects to complete in a given time period. Performance is evaluated on the basis of the product produced.

The product produced might include:

- a research paper
- a laboratory experiment or demonstration
- a community survey
- tissue dissections
- dental preparations

E. Essay Examinations

Similar to oral examination, except the student responds to questions or problems in writing.

EXAMPLES

- 1. Given a letter from a community group requesting advice on how to design community health services, the student drafts a reply.
- 2. Given a copy of the clinical record of a child, the student writes instructions for follow-up care by the parents at home.

F. Objective Examinations

The student responds to questions by <u>choosing</u> the best answer(s) from those given (multiple choice, true-false, matching, rank-in-order) or by writing an appropriate answer (fill-in-the blank- or other short answer format). The questions may be given with related visual or auditory material.

EXAMPLES

- 1. Given a partially completed statement table, the student completes the table.
- 2. Given a tape-recording of heart sounds, the student answers a series of multiple-choice questions regarding what he/she hears.
- 3. Given a medical history for a patient who has been admitted to a hospital with given symptoms and lab tests, the student selects the most likely diagnosis from a set of six possible alternative diagrams.

SUMMARY



BEST USES (X) OF CERTAIN EVALUATION METHODS

Figure 26

* Including role-plays for communication skills.

CHAPTER SEVEN

TEACHING METHODS

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CHAPTER SEVEN

TEACHING METHODS

INTRODUCTION This chapter describes a variety of methods that can be used for teaching groups and individuals. Guidelines are also provided for <u>choosing</u> appropriate methods to meet specific teaching methods.

> Assume that you are designing an introductory course in Nigeria to train medical assistants in community health.

Task: Makes community profiles (More specifically...)

- Contact and solicit the cooperation of community leaders.
- Describes the locations of available health services in the community (hospital, school clinic, dispensary and infant welfare centers).
- Sketches a map of the community (markets, schools, halls, parks, churches, mosques, etc.).

Which of these methods would you choose to teach this particular task?

- ____ Lecture on the importance of doing a community profile.
- Film showing how community profiles are completed.
- Case study of a community (in which students write a profile based on background information provided in the case).
- Field visit to a community to produce a profile.
- Project assignment: Each student is assigned a community and asked to produce a community profile.

Whether a given teaching method is appropriate depends on the following factors:

• What are the goals of the teacher?

1).... to provide a frame of reference?

- 2).... to provide a reason to learn?
- 3).... to transmit information?
- 4).... to demonstrate skills and attitudes?
- 5).... to allow practice of skills and attitudes?
- 6).... to respond to student performance?
- What is the desired student performance?
 - What skills and knowledge are students expected to acquire?
 - What if the student performance is specified in the EVALUATION PLAN?
- <u>Is the method feasible?</u>
 - What are the constraints of the teaching situation?
 - What resources are available?

In view of three factors -- teaching goals, student performance, feasibility -- consider each of the methods described for teaching students how to produce community profiles.

Go back to the list of methods on page . For each method listed, write one or more numbers -1) through 6) - see What are the goals of the teacher? above to show the teacher goals that could be best served by each method. Then compare your choices with the table on the next page.

FIGURE 18: TEACHING GOALS

• What are the goals of the teacher?

The following table summarizes which teaching methods are most likely to meet various teaching goals when dealing with the task of doing a community profile.

Use this method To meet this teaching goal	LECTURE	MOUTE	CASE STUD	FIEID	TSTT PROJECT	ASSIGNMENT
To provide a frame of reference.	Х	Х	Х	Х	Х	
To provide a reason to learn.	Х	Х	Х	Х	Х	
To transmit information.	X	Х	Х	X	X	
To demonstrate skills and attitudes.		Х		Х	Х	
To allow practice of skills and attitudes.			Х	Х	Х	
To respond to student performance.			Х	Х	Х	

• What is the desired student performance?

NOTE: Student performance should be specified in the EVALUATION PLAN. Without having access to that plan, student performance <u>can be observed</u>. Below are the teaching methods suggested for the example described on page

METHOD: OBSERVABLE STUDENT PERFORMANCE

- LECTURE: Students listen, then discuss.
- MOVIE: Students watch and listen, then discuss.
- CASE Students <u>describe</u> how they might contact community STUDY: leaders.

Students describe location of health services.

Students map the case community.

FIELDStudents contact community leaders as a group withVISIT:help from the instructor.

Students locate health services as a group.

Students map a real community as a group.

- PROJECT Each student contacts community leader(s).
- MENT: <u>Each</u> student locates health services.

Each student maps a real community.

Ultimately, the method(s) chosen for teaching a particular task must ensure, to the extent possible, the level of student performance as specified in the EVALUATION PLAN.

• Is the method feasible?

ASSIGN-

Whether or not a given teaching method is feasible depends on available resources as well as constraints. With regard to the problem at hand...

METHOD	FEASIBLE?
LECTURE:	Yes, in almost any situation.
MOVIE:	If film and equipment available.

CASE STUDY:	If time to develop the case or if access to an existing case.
FIELD VISIT:	If time to do it. If transportation available as needed. If cooperative community.
PROJECT ASSIGNMENT:	If time to do it. If transportation available as needed. If cooperative community. If needed supervision and guidance is available.

Consider the factors of feasibility, student performance and teacher goals as you choose from among the following methods or as you make up your own methods.

TEACHING METHOD

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A. Group Discussion

In this approach, classes are less formal, and the students do much of the talking. Students are encouraged to state their views freely. If a class is large, it may be divided into smaller groups to allow more student exchange. Group discussion can be used to examine issues, present alternative points of view and to develop communication skills.

B. Programmed Lecture

The programmed lecture is an instructional technique that bridges the traditional lecture with programmed instruction.

The instructor planning and implementing a programmed lecture:

- 1. Establishes objectives for the lecture.
- 2. Attempts to justify the content by asking, "If I want to present this material, what do I want students to do with it? How can I test for any desired change in skills or knowledge?"
- 3. Constructs test items that....
 - are relevant to the information presented.
 - are few in number (say, ten per fifty minute lecture).
 - are brief.
 - avoid ambiguity.
 - require short answers.
- 4. Presents test items in a format visible to all students simultaneously (eg, slides or large placards, perhaps verbally).
- 5. Gives immediate feedback to student responses.

NOTE: Students may respond to test items by....

.... a show of hands.

- holding up color-coded cards.
- making quick responses to objective test
 - items (true-false, multiple choice, etc.).

C. Role Play/Simulation Games

In <u>role playing</u> the student adopts a specified role and tries to behave as does the person in that role.

Using health issues as an example, role playing may involve one student taking the part of a nutritionist working with village patients, and having another student play the role of a patient. Both are given a setting or situation in which to interact. <u>Classroom games</u> usually involve a simulation of real-world situations, often in a simplified but dramatic manner. Games designed for educational purposes stress the process of doing something rather than the outcome.

Simulation games involve elements of group discussion and of role playing. An important difference among the three is in the degree of structure. Usually there is the least structure in group discussion; there are some implicit behavior patterns to be followed in role playing: in simulation games there are usually explicit rules to be obeyed, which are similar to the regulations and procedures in an actual setting outside the classroom.

Some games involve problem solving by posing a problem and specifying a sequence of steps for solving the problem.

In board games, ideas or processes are represented by means of concrete symbols: chips, markers, and a game board. Students investigate the process by manipulating the symbols.

- EXAMPLE A student nurse may acquire insights into team member behavior if she is allowed to play the role of team nurse while others in the class act as the social worker, physician, family member or hospital administrator.
- EXAMPLE (For students studying hospital administration): Students divide into groups of hospital specialists: nurses, surgeons, maintenance personnel, social workers, etc. The classroom represents a full meeting of the hospital council where each group of specialists vies for a larger section of the budget and more physical space in the building. If all the students playing this game are able to work out their viewpoints thoroughly, perhaps as a homework assignment, the simulated council session can become lively and students will observe the potential for rivalries, grievances, and perceived injustices in a hospital setting. The speeches, rebuttals, and discussions should help them acquire a more realistic understanding about problems they may face as hospital administrators.

D. Guest Interview

Involves having the instructor or course participant direct a series of prearranged questions to an invited speaker. The interview conforms to the natural flow of conversation rather than to any formal questioning procedure. The guest interview is an alternative to the traditional use of guest lecturers, which is often unsuccessful for one or more of the following reasons:

- The lecturer may cover points that have already been covered in the course or omit points you wanced him/her to cover.
- The standard lecture method makes it difficult to dovetail the contributions of several visiting speakers.
- Once started, a lecturer is likely to "follow his own flow of thought", regardless of the original agreement.

ARRANGING FOR THE INTERVIEW:

- 1. The instructor selects the areas in the curriculum where it seems desirable to involve outside speakers and chooses possible speakers.
- 2. The instructor then contacts the speakers, tells them of the interest in interviewing them, describes the interview method, and requests each guest's relevant publications and/or job description.
- 3. The instructor reviews the speaker's background and draws up a tentative list of questions to be asked in the interview (this may be done in collaboration with the students).
- 4. The list is submitted to the guest speaker, who is asked to make modifications, deletions and additions. It also permits the guest speaker to anticipate semsitive questions. The final list of questions forms the basis for the interview.

CONDUCTING THE INTERVIEW:

- 1. The instructor or members of the class review the agreement with the speaker before the interview.
- 2. The interview begins with a brief introduction and overview of the session.
- 3. The interview should allow time for class participation and exchange with the guest.
- 4. The dialogue should develop naturally.
- 5. The guest should be kept to the subject by turning to the list of questions as needed.

E. Case Method

The case method presents factual information about a problem area.

Cases may be used as examples to support a point the instructor is trying to make. The instructor points out general principles that held true in the case under study. The students are more or less passive listeners when cases are used in this way. Class time is largely taken up by the instructor telling what the case "means".

Other cases are designed for students to play a more active role, and the instructor simply moderates the discussion. Cases in which students may play an active role include:

<u>OPEN ENDED CASES</u>: in which students are asked to read a case that outlines a complex situation and includes a problem calling for decisions. The case narrative stops at the decision point, and students are asked what they would do and why. In class, students defend the reasoning that led to their decision.

INCIDENT TYPE CASES: Students are presented with short descriptions of a problem situation. If they ask the right questions, they are supplied with more information. As a group, students take the role of the decision-maker trying to straighten out the problem. Sometimes the students are divided into teams and asked to defend their respective positions.

F. Field Studies

Sometimes it is possible for the instructor to help the students develop certain attitudes by arranging for them to experience specific aspects of the world outside the classroom. Often these experiences involve exposure to conditions normally experienced by patients of the health professionals being trained.

Field studies may involve on-the-job work participation, or they may simply involve experiencing an aspect of a certain health role. For example, nutrition students might be required to follow a diet that later they plan to prescribe to others. This experience should help to develop a more realistic attitude about the problems a patient encounters in following a diet prescribed by a health professional.

G. Individualized Instruction

Instruction is individualized when contents, sequence, pace and/or methods match the learner's present knowledge, ability, interest and learning style.

Instruction can be individualized in many ways, most of which remove the teacher from the center of the stage. Emphasis is placed on having each student learn at his/her own pace in his/her own way. The instructor becomes more a coach, counselor, leader of small groups or a director of individual projects.

Evidence has shown that individualized instruction is more effective than group instruction....

.... when students differ widely in backgrounds, interests, abilities and/or future professional goals.

.... when students as a group tend to be selfconfident and self-initiated.

It is generally easier to individualize instruction when the student-teacher ratio is low. However, individualization can be accomplished even when a high student-teacher ratio prevails by dividing students into small groups and/or using selected students as teaching assistants.

The following table summarizes several ways in which instruction can be individualized.

FIGURE 19: INDIVIDUALIZING INSTRUCTION

VARIABLE	METHODS FOR INDIVIDUALIZING INSTRUCTION
Content	 From a prepared set of objectives, allow students as a group or individuals to select those which they want to achieve.
	 Suggest a wide range of topics for individual projects cr encourage students to select project of own interest.
	 Offer "reading", "tutorial" or "supervised research" components.
	 Provide remedial and/or advanced segments for different levels of students.
	5. Divide class into small interest groups which then pursue different topics or objectives.
Sequence	1. Encourage students as a group to choose the order in which the class will cover a set of objectives.
	 Develop self-instructional packages and encourage students to go through the materials in whatever order they choose.
Pace	1. Encourage students to set their own deadlines for meeting specific objectives; for example, for turning in parts of a research proposal.
	2. Encourage students to take tests and exams when- ever they are ready (instead of at a scheduled time).
	3. Assign units of programmed instruction that students may work through at their own pace.
Methods	1. Set up different "tracks" or ways in which students can learn the same subjects.
	 Encourage students to select those instructional activities they wish to pursue to achieve the objectives.

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H. Note On Use of Media

Any of the above teaching methods might be used in conjunction with audiovisual aids. Depending on available resources, the following media should be considered for use by the course designer:

Chalkboards

Flip Charts

Overhead Projection

Slides

Audiotape

Videotape

Filmstrips

Movies

I. Job and Training Aids

In addition to audiovisual aids, you should give consideration to such other aids as job aids and training aids.

Job (or performance) aids usually take the form of printed or written information that can be used onthe-job as guides or reminders. This book contains job aids intended for your use whenever you are developing a course. For example:

- Each "Review & Self Check" (eg Page 38)
- The step-by-step guidelines (eg Page 21)
- The sample forms (eg Page 34)
- Decision-making guides, such as the diagram, <u>Planning Evaluation</u> (eg Page 8)
- The descriptions of job verification study techniques, evaluation methods, and teaching methods.

Training aids are similar and serve the same purpose as job or performance aids, but are likely to be more specific to the teaching activities. For example:

- A list of course objectives which serve to guide student's study activities.
- A course syllabus which provides students with a "map" of the overall coursework.
- An overview description or diagram of a given process, such as that in the Preface of this book.
- Assignment sheets accompanying the course syllabus, so that the students have a clear picture of what is expected of them step-by-step through the course.
- Examples of desired outputs, such as is in this book.

Depending on the resources and time available to you, job and training aids can be prepared by any of the following means.

Write the aids on a chalkboard or easel pad for students to copy; or show them using slides or transparencies.

Have the aids printed via mimeograph or other inexpensive reproduction equipment process.

Identify the aids in resource materials available in libraries to which they have access.

Put charts or posters on the walls of the classroom.

DEVELOPING COMPETENT HEALTH WORKERS

PART III

EXAMPLES

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Front Course and Line Participation

EXAMPLE A

COMMUNITY HEALTH ORGANIZATION

INTRODUCTORY COURSE FOR NIGERIAL MEDICAL ASSISTANTS

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	ASSIGNED	WOULD PREFER
COURSE TITLE:	Community Health Organization: An Introductory Course in Community Development for Nigerian Medical Assistants.	
COURSE PURPOSE:	To train medical assistant students to identify community related health problems in communities in which they work.	
EXPECTED STUDENTS:	Candidates with full secondary education (i.e., 11 years of schooling) with or without health-related job experience. <u>Number of Students</u> : 30	Candidates who failed the qualifying exam; with one science subject e.g., biology, health science.
<u>SETTING</u> :	School of Health Technology, Offa in Kwara State, Nigeria	
<u>CONSTRAINTS</u> :	The course is part of a 6-week introductory program in the 24 month training period of medical assistants. <u>Date</u> : July 1st - August 12th <u>Total Hours</u> : 48 hours	October 2nd - November 13th
	Community health training has not been systematically planned and implemented during the training period of medical assistants.	
	Other instructors will "build" on this introductory course as major emphasis will be on community health during the training.	
RESOURCES:	<u>Funds</u> : Kwara State Government sponsored course.	
	<u>Personnel</u> : Two full-time instructors and one public health physician, part-time, acting as consultant.	In addition one Public Health Nurse Tutor, full time, and a social worker , part-time

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RESOURCES: Cont'd.	Facilities: Limited. Most of the activities will be performed in communities i.e., out of class. Lectures and in-door demonstrations will occur in a classroom. Two tape recorders, two land- cruiser vehicles provided. No slides, videotapes or films.	10 bicycles for ease of individual student movement in the community.
	tilms.	

FORM 2: JOB DESCRIPTION

This is a partial job description, refering only to the activities covered by the course. JOB TITLE: Medical Assistants design, conduct and complete Orientation Studies TASKS: Designs, conducts and completes community health profiles. 1. Identifies conditions in the environment which contribute 2. to health problems. 3. Refers severe illnesses in families, schools and other settings to appropriate health clinics for attention. 4. Conducts community health education sessions in family compounds, homesteads, schools and with community groups on environmental sanitation, communicable disease control and personal hygiene.

FORM 2: FIELD STUDY

There are no medical assistants performing these activities at the present time. Most of their work is spent in clinics treating patients. There are community nurses and public health inspectors performing some of the activities taught in this course.

Three methods shall be used in verifying the job tasks.

- <u>ONE</u>: The instructor shall accompany community nurses and public health inspectors to see how they relate to community health problems encountered and how the community reacts to them.
- <u>TWO</u>: A conference will be organized consisting of community nurses, public health inspectors and a community physician to critically analyze various community health problems.
- THREE: Existing documents on the health care system will be reviewed to determine the major health problems at the community level, the structure of health services, a list of commonly available equipment and supplies.

FORM 3: DESTRED JOB AND STUDENT PERFORMANCE		
Task: Designs, conducts, and completes community health profiles.		
CONDITIONS When given a rural community of approxi- mately 500 people	 PERFORMANCE The worker will Contact and introduce themselves to community leaders (chief, oba) and and aides, political and religious leaders in order to familiarize and solicit their cooperation. Produce a rough map of the community location; key places such as footpaths, markets, rivers, schools, mosques, houses and or compounds, etc. Design a sampling procedure to sample households for a community survey. 	
	 Design a community health survey instrument. Administer the community health survey, tabulate and report the results and recommendations. 	
When given follow students in role playing situations.	The student will • role play medical assistants and village leaders explain- ing a proposed community health project and seeking support of the leaders.	

descriptive materials of a typical Nigerian village	 produce a rough map indicating key places and households, draw a sample household for interviews, construct a questionnaire for a community survey and indicate how the information collected will be tabulated and reported.
TASX 2: Identifies conditions in th to health problems and deve community members to combat	ne environment which contribute elops plans of action with specific problems.
CONDITIONS	
When given	PERFORMANCE
rural communities in Nigeria	 examine the water supply sanitation facilities and practices, food preparation and storage procedures, identify potential and exist- ing health problems.
When given	The student will
paper and pencil tests and questions in the classroom	 identify and describe condi- tions and settings in typical Nigerian rural villages likely to be associated with community health problems.
a compound consisting of 3 or more families who have a shallow well (located about 10 feet on a lower gradient to a pit latrine) without a cover and the only source of drinking water, individuals using their own buckets to draw water	 recognize the magnitude of this health problem and the likely hazards involved. organize two meetings with <u>ALL</u> members of this small group; first meeting to edu- cate them on the hazards of drinking polluted water (diarrhea, vomiting, fever) and to require them to think of solutions to the problem.



TASK 3: Refers severe illnesses in families, schools and other settings to health clinics for attention.		
CONDITIONS When given children at home, or teachers with children in schools or children in villages	 PERFORMANCE The worker will recognize signs and symptoms of severe diarrhea, malnutrition, severe cough and high fever. instruct the mother/teacher to take the child to nearest health clinic for treatment. check on child's progress the following day. 	
When given cases or children displaying selected signs and symptoms.	 The student will describe signs and symptoms of severe diarrhea, severe cough, high fever, etc. and appropriate treatment for these signs and symptoms. 	

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TASK 4: Conducts community health education in family compounds, homesteads, schools and with community groups on common environmental sanitation problems, communicable disease control and personal hygiene.		
CONDITIONS	PERFORMANCE	
When given	The worker will	
a compound/homestead of three or more families seated in the courtyard in the evening without visual aids and in 45 minutes	 give a talk in the local language in these areas: maintenance of a clean environment inside/out-side the house using refuse bins and burning or incineration. proper and adequate ventilation especially in the living rooms. fly/mosquito breeding control proper food, hygiene and the "good" local foods 	
	 adequate protection for source of drinking water, e.g., well. 	
a class of 30 pupils age 10-12 years and with aid of a chalkboard and flipcharts	 give a talk/demonstration on: proper personal hygiene tooth brushing daily bath clean clothes neat hair and clean fingernails daily exercise 	
group of mothers standing under a tree, shed, or just in an open space and with the aid of some charts (pre- ferably not in a health clinic)	 maintenance of clean environment sweeping and burning of waste proper food hygiene washing hands covering food to pre- vent flies adequate cooking state the importance of balanced diet and what local foods can be used list the high protein local foods teach the importance of breast feeding state the role of good nutrition to growth and development, prevention of disease and malnutrition 	
--	--	
	 state the role of good nutrition to growth and development, prevention of disease and malnutrition 	
	 encourage mothers to take their children to well- baby clinics regularly for weighing and immuni- zation 	

STUDENT ENTRY LEVEL PERFORMANCE		
CONDITIONS	PERFORMANCE	
When given	The student will	
a test of English language in an interview situation	• be able to demonstrate ability to read English language manuals and to write simple English language reports.	
an interview situation	• demonstrate that he/she can listen and talk to villagers politely and describe conditions in the village.	
simple arithmetic tests	 demonstrate simple addi- tion, multiplication, and division skills. 	

FORM 4: TASK ANALYSIS		
TASK DESCRIPTION: TASK 1: Designs, conducts and completes community profiles.		
SKILLS	KNOWLEDGE	
 judges and determines which customs and beliefs are potentially harmful and should be discouraged, harmless to ignore, helpful to promote 	 community; community leadership and hierarchy; community profiles; culture. 	
 plans ahead when making appointments with leaders 	planning skills	
<pre>Doing: - constructs maps of communities showing location of health clinics and public places; includes drawing skill, constructs questionnaires for community services Communicating:</pre>	 how to design and interpret simple maps and questionnaires 	
 speaks and writes local language makes contact with community leaders 	 interviews community members observes behavior in typical rural communities 	
TASK 2: Identifies conditions in the environment which contribute to health problems and develops plans of action with community members to combat specific problems.		
<u>SKILI.S</u>	KNOWLEDGE	
Thinking: - selects refuse depot sites, taking into account access roads, safety and volume of refuse	 proper methods for water and refuse disposal 	

 recognizes magnitude of health problems 	• polluted drinking water
 relates ill-health to environ- mental problem(s) 	 improper disposal of refuse and human waste
 develops plan to combat environ- mental problem(s) 	
 identifies group leaders who will help in organization 	 formal and informal leaders
Doing:	
- collects larvae of fly/mosquito	• breeding sites of flies/
 participates in the implementation of projects 	
Communicating:	
 organizes community groups to combat environmental hazard(s) 	 methods of community organization
 seeks expert help for problems as needed 	• when expert help is needed
TASK 3: Refer severe illnesses from the fam other educational institutions to t for management.	nily, pre-school, school and the appropriate health clinic
SKILLS	KNOWLEDGE
Thinking:	
 takes history; interpret what is said in view of what is observed 	• what questions to ask
 recognizes children with severe illness (diarrhea, malnutrition, dehydration, severe cough, high fever). 	• symptoms
 reads different temperature scales (F and C) 	 normal and abnormal temperature range
 decides if child should be referred to health clinic 	 referral possibilities procedure

Doing:	
- takes pulse	• pulse
 counts respiratory rate (adults: 15-18/minute; children faster) 	 what information can be obtained from respiratory rate
- takes temperature with thermometer	• oral and anal temperature
 "feels" temperature with back of hand if no thermometer 	• fever
– examines stool	• parasites in stool
- examines blood	• white cell, red cell, blood count
Communicating:	
 communicates with parents in local language 	
 motivates parents to cooperate with follow-up plans (e.g., requesting mother to take stool sample to health clinic) 	• why follow-up is needed
TASK 4: Conducts community health education steads, schools and with groups on e problems, communicable disease contr	in family compounds, home- nvironmental sanitation ol and personal hygiene.
Thinking:	
 recognizes the important health problems in the community 	 environmental sanitation measures; communicable disease control; food hygiene; personal hygiene; balanced diet; local food sources; breast feeding; immunization
Communicating:	
 speaks, reads and writes in the local language 	
 applies basic interpersonal and teaching tools 	• small group discussion using simple A-V aids demonstrat-
- stresses the importance of preventive medicine	ing behavior to be learned

	FORM 5: COURSE EVALUATION	N PLAN	
	TESTING CONDITIONS	PERFORMANCE	
	When given	The student will	
ENTRY	NOTE: All students will have passed an en knowledge of the English language a screened in interviews (the 30 stud have been chosen from 1,000 candida	ntry examination to test basic and mathematics and have been dents in the class will probably ates).	
PROGRESS	l. Directions in class	 recall definitions/ explanations of some words/terms used in clinical practice 	
11	2. Classroom situations without reference to notes.	 explain the following: extended family compound/homestead rural/urban community culture various community leaders 	
	3. Fellow students	 describe using rough sketches the way to the hospital, health clinic, dispensary from different locations in the community 	
11	 Pencil and paper and within specified time 	 list the breeding sites of flies/mosquitoes list the sources of drinking water and ways water is polluted 	
I	5. Multiple-choice items	 recognize: environmental sanitation measures communicable disease control measures local food sources 	
"	6. Classroom situation	 explain to a fellow student action plan to combat a community health problem 	

	TESTING CONDITION	PERFORMANCE
PROGRESS	7. Directions in class	• explain the following:
		 food hygiene personal hygiene balanced diet immunization
"	8. Multiple-choice items	 recognize the clinical feature leading to the diagnosis of:
		 severe diarrhea and vomiting malnutrition severe cough high fever
	Numbers 1 to 8 are progress items.	
POST TEST	TASK 1, Page 1 9. A rural community	 solicit the cooperation of the community leaders
		 locate all public places including health facilities
		 submit a written report on above
"	TASK 2, Page 10. An ill child with his/her mother	• take a brief history
		 recognize if the child has ary of the following:
		 dehydration severe diarrhea and vomiting malnutrition severe cough high fever, and
		 refer immediately to the appropriate nearest health clinic

TESTING CONDITIONS	PERFORMANCE
<pre>TASK 3 Page 11. An environmental health problem such as: - well pollution - mosquito/fly breeding - refuse accumulation in a compound, institution, or public place</pre>	 recognize the magnitude of the hazard to health give health education to the group organize and develop a plan of action with creat
TASK 4, Page 12. A group in the community (family	 or action with group participate in project implementation write and submit a report choose appropriate topics
group, school children or mothers, etc.) for health education	 environmental sanita- tion food and personal hygiene breast feeding balanced diet
NOTE: Numbers 9 through 12 are post test	 give a talk/demonstration in the local language items.
Most of the post test items are conducted the classroom); where success/failure of t	in the community (i.e., outside he program can be assessed.

POST FEST

	FORM 6: <u>ACTIVITIES PLAN</u>			
	EVALUATION (from Evaluation Plan)		ACTIVITIES	
	Progress Test			
l. W s	Then given directions in class, students will recall definitions/ explanation of some words/ terms	А.	Lecture on terms used in clinical practice.	
U	used in clinical practice.	в.	Handouts explaining different terms	
	riogress lest			
2. W w w	Then given a classroom situation without reference to notes, students will explain the following terms:	А.	Reading assignments (rural/ urban communities)	
	 family-nuclear/extended compound/homesteads rural/urban community 	В.	Individuals are asked to define/explain key terms and concepts.	
	 culture various community leaders community organization 			
	Progress Test			
3. Wi s ro ho	hen given fellow students, tudents will describe using ough sketches the way to the ospital, health clinic, dispensary	А.	Community field trips- as group (first); individually (later)	
f: co	rom different locations in the ommunity.	в.	Practice on the job after initial demonstration	
		с.	Individuals discuss the report on the assigned community. Instructor with the class collects <u>all</u> reports.	
	Progress Test			
4. Wh wi wi	nen given pencil and paper and Ithin specified time, students Ill list the breeding sites of	Α.	Guest interview e.g., with a public health inspector	
f1 dr po	lies/mosquitoes, sources of rinking water and ways of ollution.	в.	Lecture and handouts on public health nuisances and control.	

	EVALUATION		ACTIVITIES
	Progress Test		
5.	<pre>When given multiple-choice items, students will recognize: - environmental sanitation measures - communicable disease control - local food sources Progress Test</pre>	А. В.	Field trips- visit to com- pounds in a local community as a group and later by individuals. Individual reports on field trips.
6.	When given classroom situations, students will explain to fellow students action plans to combat community health problems.	А.	<pre>Field trips to identify specific health hazards, first in groups, then as individuals. Students - Submit <u>all</u> field reports - Discuss 5 reports in</pre>
	Progress Test		
7.	When given directions in class, students will explain:	Α.	Lecture or programmed lecture on health education with handouts.
	 personal hygiene balanced diet immunization 	в.	Reading assignments on health education.
		с.	Field trip- visit a health clinic where health education programs are underway.
		D.	Health education role-play activity.

EVALUAT JON	ACTIVITIES
Progress Test	
8. When given multiple choice items, students will recognize the clinical features leading to	A. Clinical case study and discussion
the diagnosis of:	B. Lecture on severe illnesses using flow charts and handoute
- malnutrition	nandouts.
- severe cough - high fever	C. Reading assignment on re- cognizing severe illness.
	D. Field trips to clinics and community.
	E. Bring clinical cases to classroom.
Items 9 through 12 are Post test Items.	 individuals report on community visits/ activity
9. TASK 1, Page Posttest	
When given rural communities, stidents will solicit the cooperation of community leaders, construct maps, locate public places including services, complete	A. Guest interview e.g., social worker describing how he/ she went about "knowing" the community.
community surveys and submit a written report on above.	B. Field activity- individuals have different part of community assigned to him/her.
	C. Evaluation activity
	 submit field activity report

	EVALUATION		ACTIVITIES
10.	TASK 2, Page Posttest		
	When given an ill child with his/ her mother, the student will take	۸.	Discussion on a referral case study.
	child has any of the following:	в.	Community referrals involving many trips.
	 severe diarrhea and vomiting malnutrition severe cough high fever 	c.	Evaluation of referrals in the community by the instructor.
	and refer immediately to the appropriate nearest health clinic.		
11.	TASK 3, Page Posttest		
1	When given an environmental health problem such as:		
	 well pollution mosquito/fly breeding refuse accumulation 		
	in a compound, institution or public place, the student will:		
	 recognize the magnitude of the hazard to health give Health Education to the 		
	group - organize and develop a plan of		
	action with group - participate in project execution - write and submit a report		
12.	TASK 4, Page Posttest		
	When given a group in the community (family group, school children or mothers, etc.) for Health Education,	Α.	Students are given groups in the community for Health Education.
	the student will choose appropriate topic from the following:	в.	Posttest
	 Environmental Sanitation Food and Personal Hygiene Breast Feeding Balanced Diet 		 Instructor makes on the job assessment of performance.
	and give a talk/demonstration in the local language.		

NOTES ON COURSE SYLLABUS

- 1. More than half of the time allocated for this course will be spent in the community.
- 2. Students will have to spend more of their own free time (i.e., outside the normal official time allocated for community exercise) in the community.
- 3. A strong indication of student involvement in the community assigned to him/her will be the quality of the reports and performance in the final evaluation.

FORM 7:COURSE SYLLABUS		
Course: Community Health Orientation: An Introductory course in Community Development for Medical Assistants.		
SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES
	(to be completed this session)	(to be completed before next session)
#1 Time: 2 hours	 Introduction Lecturedefinitions/ explanation of terms/words in clinical and preventive practice. Discussion of handouts defining selected difficult terms used in medicine. 	l. Reading assignment A for Session #2
#2	 Lecture/discussion based on reading assignment, Nigerian rural culture, family structure, various community leadership and cultural practives regard- ing health. Feedback: Randomly call on 15 students to explain/ define some terms cover- ed in Sessions 1 and 2. 	

SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES
	(to be completed this session)	(to be completed before next session)
#3 Time: 3 hours		 Community visit or trip. 30 students divided into two groups of 15 each. 15 in each land- cruiser with one instructor, go around the community stopping at various points. Assign each "ward" to two students. Ward usually consists of a group of families having a common an- cestor; may be up to 10 to 20 houses.
#4 Time: 4 hours	 Spend 1 hour on student reports. Four students given 10 minutes each to read their individual report. Students and instructor criticize. 	 First Community Exercise: identifying public places meeting local community and family leaders write brief reports All students report back to classroom after 3 hours. Reading assignment B for Session 5.

SESSION IN-CLASS ACTIVITIES OUT		OUTSIDE ACTIVITIES
#5 Time: 2 hours	 Guest interview: Invite a public health inspector to discuss his/her duties. 	
	 Lecture/discussion on reading assignment B- public health nuisances and control, local food sources, etc 	
#6 Time: 4 hours		 Second Community Exercise: Divide class into four groups Identify as many as possible nuisance items discussed in Session 5. Each group write a report.
#7 Time: 2 hours	 Progress Test Each group representative reads report to class. Multiple-choice exam for l hour on most items covered so far in the course. 	1. Reading assignment C for Session 8.
#8 Time: 3 hours	 Thirty minutes to discuss reading assignment C- action plan to combat a community health problem 	 1. Third Community Exercise: Each pair of students goes to "ward"

SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES
		 Define a specific health problem With the group, prepare action plan. Individual pairs arrange follow-up Reading assignment D for Session 9.
∦9 Time: 2 hours	 Lecture/discussion on reading assignment D- hygiene, balanced diet and immunization. Instructor demonstration on how to give Health Education. 	 Reading assignment E for Session 10. Individual pair arranges follow-up on third community exercise.
#10 Time: 2 hours		 I. First health clinic visit and exercise: students observe clinic staff provide health education students practice in groups.
#11 Time: 2 hours	 Lecture/discussion on reading assignment, four major illnesses. Handout on main signs for the four illnesses. Techniques for completing community health surveys. Demonstration of one case by the instructor. 	 Continue reading assignment E. At own time continue follow-up on third community exercise.

SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES
#12 Time: 3 hours		 Second health clinic exercise: demonstrate brief history taking and eliciting signs and symptoms to diagnose the four major illness- es. Fourth community exercise: pairs go into "ward" identify illnesses, if any, and write brief report students design and complete community health surveys.
∦13 Time: l ⁱ ź hours	 Guest interview: request social worker to discuss his/her duties and how he/ she gets to "know" the community. A discussion should follow. Fourth community exercise report and criticisms. 	
#14 and #15 Time: 15 hours		<pre>Sessions 14 and 15 shall be devoted to posttest activities in the community. Total hours shall be 15 hours; each instructor shall spend 1 hour with each student: A. Assess individual in the "ward" on skill in taking brief history and recognition of signs and symptoms leading to the diagnosis of the four severe illnesses.</pre>

SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES
		B. Give appropriate health education to a group in the community.
		C. Submit a written report on third community exercise (progress report is acceptable if task is not yet completed by the group).

FORM 8: SESSION PLAN	
Session # 1	
ACTIVITIES	APPROACH/CONTENT
1. Introductions	Classroom setting, 30 students with a chalkboard.
	<u>10 minutes</u>
	Instructor/student introductions. Course overview.
2. Lecture/Discussion	<u>40 minutes</u>
	Instructor defines/explains the following:
	 terms- health, disease, clinic, etc. symptoms (the complaint), signs (discovered on examination) fever, vomiting, diarrhea, malnutrition
	10 minutes
	Break
	<u>30 minutes</u>
	Instructor defines/explains more terms and gives examples of signs and symptoms.
3. Handout I	Instructor gives a compiled list of the difficult medical/clinical terms.
4. Reading assignment A	Instructor distributes this to each student for Session 2.
References and Resources	Handout I Reading assignment A
Reminders	Classroom reservation with chairs, desks for 30; chalkboard, chalk, and duster

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FORM 8: SE	SSION PLAN
Session #5	
ACTIVITIES	APPROACH/CONTENT
ACTIVITIES 1. Guest interview: a practicing public health inspector.	APPROACH/CONTENT Classroom setting. Introduction of guest. <u>30 minutes</u> Specific questions guest would answer: 1. Describe briefly your duties. • Environmental sanitation duties • Comminicable disease control - malaria control measures • mass immunization campzigns measles/DPT, cholera, yellow fever • leprosy control • Building plans approval and house-to-house inspection • Food and meat inspection • Food and meat inspection • The second second second second second second • Mat is a public health nuisance? 3. Enumerate the procedure you take for an owner/occupier to abate a nuisance. 4. How successful have you been in keeping this community clean? <u>20 minutes</u> Discussion involving guest, instructor and students on above issues. 10 minutes
	Break

ACTIVITIES	APPROACH/CONTENT
2. Lecture/discussion	<pre>Review first bour activity and its relevance to the second part of the session. <u>30 minutes</u> Review reading assignment B. • Environmental sanitation measures - refuse disposal: dust bins, incineration - proper ventilation • Control of communicable diseases - reduction of breeding sites for flies/mosquitoes - larvaecides/insecticides for larvae/adults - prevent indiscriminate defecation-pit latrines - protection for sources of drinking water • Local food sources - protein foods: ewa, eran, wara, epa, eyin, ere - CHO foods: isu, gari, oka, ogede - fruits: orombo, guava, mango, ope, oymbo, etc. <u>20 minutes</u> Entertain comments/questions. Students list more local food sources.</pre>
<u>References and Resources</u> <u>Reminders</u>	Reading assignment B. Classroom reservation. Specific questions to the guest. Remind guest of time of session.

EXAMPLE B

CONTROL OF WATER BORNE DISEASES

IN RURAL AREAS OF NEPAL

- COURSE DESIGN CONTENTS -

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CONTROL OF WATER BORNE DISEASES IN RURAL AREAS IN NEPAL Presented by: Dr. Mathura Pd. Shrestha Time Unit: 36 hours FORM 1: INSTRUCTIONAL SITUATION WOULD PREFER ASSIGNED Control of water borne diseases COURSE TITLE: in rural areas. This is a part of a general course on communicable diseases. (i) To impart sufficient knowledge COURSE PURPOSE: and skill to students on Principles and Practices of water borne disease in rural areas so that they will be able to take charge of health posts. Their responsibilities will include preventive and curative care and sanitation. The Health Assistant will work with the Auxiliary Health Worker (AHW), Assistant Nurse Midwife (ANM) and Village Health Workers (VHWs). The Health Assistant will also work as liaison with District Health Officer, and supervises works of ANM, AHW and VHWs. (ii) To organize Health Education and Motivation Programs for the villager for prevention of the contamination of the water supply. Groups of students Health Assistant Students, 60-100 EXPECTED STUDENTS: of 20-30 because in number. it is difficult to teach such large groups. Would prefer that COURSE SETTING Institute of Medicine, Maharajgunj a field rotation Campus, Kathmandu. in the rural area were included in the course.

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CONTROL OF WATER BORNE DISEASES IN RURAL AREAS IN NEPAL

<u>RESOURCES</u> :	Adequate funds are available. Limiting factors like lack of personnel, Audio-visual aids are largely compensated by providing practical demonstrations at the nearby Mahankal Village Panchayat. Here students are able to study wells and water supply. Assistance of Sani- tarians, Health Educators, Village Panchayat members and Health Post In- charges may be sought.	WOULD	PREFER
<u>CONSTRAINTS</u> :	Personnel, A.V. equipment, Laboratory facilities.		
FUTURE POST:	Health Assistant who is the In-charge of a Health Post. He works in rural areas and is responsible to give Health Education, Preventive health measures, sanitation and curative services in addition to administrative work in- cluding supervision, recording and reporting		

FORM 2: JOB DESCRIPTION

JOB TITLE: Health Assistant works to Control Water Borne Diseases.

TASKS:

1. Planning aspects:

- a. Surveys and investigates water sources of villages like wells, springs, lakes, rivers, canals, etc.
- b. Investigates night soil and garbage disposal system of villages.
- c. Prepares schedules of field visits for Village Health Education so as to protect the water supply from contamination.

2. Implementation aspects:

- a. Educates the people on what are water borne diseases and how drinking water carries disease.
- b. Educates the people on various routes of water contamination.
- c. Motivates the people:
 - To dig deep sanitary wells To protect springs, lakes, rivers etc. from possible contamination. To keep the well safe for drinking. This responsibility forms the basis of the Instructional Unit developed in the remainder of this example.
- d. Immunizes the people against Typhoid, Paratyphoids and Cholera.
- e. Records the field activities.

FORM 2: FIELD STUDY

We, party of six, went to Satungal Health Post about 7 miles from the Center of Kathmandu for job verification. I interviewed the Senior Auxiliary Health Worker along with one Auxiliary Health Worker and one Assistant Nurse Midwife.

We discovered at the interview, that there is no succinct control program for water borne diseases except immunization against typhoid, paratyphoid and cholera and infrequent casual Health Education. The job description about water borne diseases is not clear. But workers realize that it should be a part of their job to be involved in control of water borne diseases. They think it necessary that the community should be made aware of such diseases.

Workers want to help with a safe water supply, care of drinking water, disposal of night soil, etc. Unfortunately their activities are only limited to the curative aspect of the health post. Their public contact is casual and not obligatory.

The village has a few water taps. The reservoir is about 2 miles away but Health Post staff have never seen the reservoir and have not learnt anything about the condition of the reservoir.

The Health Post sees 15-20 cases daily of water borne diseases out of 50 average in the summer and 5 out of 40 average daily in the winter. According to their experience only 1% of village people have sanitary latrines.

The Senior Auxiliary Health Worker thinks that he is incompletely trained for the control of water borne diseases. He strongly feels that Sanitation and Health Education Programs on the control of water borne diseases should be launched. For this purpose he suggests that Health Posts should be supplied with self explanatory demonstration models, charts, design manuals for sanitary wells, filtration systems, reservoirs and sanitary latrines. Promotion for merit, for him and his staff, chances for further study and occasional seminars and meetings are necessary to increase workers' efficiency.

My conclusion: Because of the high incidence (judging from the Health Post attendance register) control of water borne diseases should be one of the chief professional responsibilities of Health Assistants. Based on it, I have to revise the professional responsibilities in relation to water borne disease control. The changes and additions which were made reflect the importance of water borne diseases in rural Nepal and the necessity for focusing on this topic.

REVISED JOB DESCRIPTION

JOB TITLE: Health Assistant works to Control Water Borne Diseases

TASKS:

(new)

- 1. Planning aspects:
 - a. Inspects and investigates, along with village leaders, nature, condition and topography of:
 - water sources like rivers, wells, lakes, rivers, reservoirs of tap water, if any, etc.
 - disposal systems like latrines, garbage pits, drains, manure pits, etc.
- (new) b. Develops a plan with village leaders and influencial people for the control of water borne diseases.
 - c. Prepares schedules of regular field visits for Health Education and Motivation for control of water borne diseases.
 - 2. Implementation aspects:
- (new) a. Makes field visits regularly.
 - b. Educates the people: What are water borne diseases and how drinking water carries them.
 - ways of water contamination..
 - c. Motivates the people:
 - to dig deep sanitary wells
 - to keep the well safe for drinking
 - to use hand pumps
 - to protect springs, lakes, rivers, etc.
- (new) to dig sanitary latrines, garbage pits, manure pits, drains away from water sources.
- (new)3. Supervisory aspects:
 - a. Supervises, gives technical advice and guidance when villagers are making deep sanitary wells or sanitary latrines, or drains or fitting hand pumps or making reservoirs.
 - b. Supervises and advises his subordinates like Assistant Nurse Midwife (ANM) and Auxiliary Health Worker (AHW) in their professional responsibilities with relation to control of water borne diseases.
 - 4. Immunization Responsibilities:
 - a. Makes schedules of immunization against Typhoid, Paratyphoids and Cholera for all villages.
 - b. Carries out immunization program with the help of Assistant Nurse Midwife, Auxiliary Health Worker and Village Health Workers and other volunteers to cover greatest number of people possible.

5. Recording and Reporting Responsibilities:

a. Records the field activities.

(new) b. Reports any cases of Cholera and Typhoid suspects to District Health Officers.

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(new) c. Reports monthly progress made on this aspect.

	FORM 3: DESIRED JOB AND STUDENT PERFORMANCE		
Task Task	ask Number: <u>2c</u> ask Description: <u>Motivates people to keep the well safe for drinking</u> .		
	CONDITIONS	PERFORMANCE	
When e e e	<pre>given Villagers have to dig their own wells, latrines and garbage pits. Generally poor economic status of the people. Scarcity of construction materials But locally available cheap construction materials could be used. Cooperation among villagers to dig and maintain wells. Scarcity of cheap disinfectants like bleaching powder. Habits of people defecating, washing dirty clothes and dirty utensils, bathing, cattle feeding near the well. Traditional beliefs.</pre>	<pre>The worker will Studies and investigates with village elders: How the well is constructed? How often it is used? How water is drawn? How many people use the well? How far is the well from nearest latrine, cess pool or garbage pit? Do the people bathe, wash dirty clothes and utensils and feed the cattle near the well? Assembles village people who use the well or makes home visits to teach: What are water borne diseases and how they enter our body. Commonest ways of contamina- tion of wells and what must be catter in a mater borne diseases and how they enter our body. </pre>	
•	Illiteracy.	 be the contamination route of a particular well. How to disinfect the well cheaply by using lime or bleaching powder. Decides with the villagers what improvements could be made to keep the wells safe. 	

CONDITIONS	PERFORMANCE
Obligatory field visits for health education and motivation for keeping the well water safe for drinking. Other conditions being poor communication, generally illiterate and poor people with many superstitions, unhealthy traditional belief's and practices.	<pre>Motivates the people: to install hand pumps if possible to dig latrines at least l00 yards away from the well to dig soakage pits, garbage pits, manure pits at least 50 ft. away from the well to clean the well once a year just before Monsoon to keep the bucket and rope used for drawing water clean to disinfect the well water once a month during Monsoon not to defecate near the well not to wash dirty clothes and utensils or feed cattle near the well Supervises and guides when people construct or repair sanitary wells. Plans, educates, motivates and works with villagers to keep</pre>
 When given Various models of wells are put on separate tables each with two or three primed students to role play villagers who give pre- programmed data about construction of wells, approximate volume of water drawn daily, number of people using wells, distance from nearest latrines, drains and soakage pits. "Villagers" would also express misconceptions based upon illiteracy. unhealthy habits and superstitions. Given a field visit in a rural area with an instructor. 	<pre>works with villagers to keep the village well safe for drinking. The Student will Gather the necessary infor- mation, decide how to improve the contamination of a particular well, then start discussion with "villagers". Students motivate "the people" to keep the well safe for drinking. They will also reply to questions posed by "villagers" in non- offensive ways.</pre>

Describe Student Entry Level Performance		
CONDITIONS	PERFORMANCE	
 When given Randomised list of different diseases to match with communicable or non-communicable diseases. Lists of water borne diseases and randomised sets of most common symptoms. Asked to imagine that he is in a village to motivate people for the control of flies and is given an essay examination 	<pre>The Student will Answer correctly in 80% of cases. Answer correctly in 75% of cases. Able to describe: whom to contact first how to assemble people what aids he/she would use to discuss this problem with the people.</pre>	

FORM 4: <u>TASK ANALYSIS</u> Task Number: <u>2c</u> Task Description: <u>Motivates the people to keep the well safe for drinking</u>		
(thinking, doing or communicating:)		
Explains about water contamination to villagers using simple language.	safe and unsafe water sources of contamination dangers of water contamin- ation list of water borne diseases	
Selects and uses visual aids for teaching people.	uses of visual aids for rural conditions techniques of using visual	
Knows how to communicate with illiterate villagers.	aids criteria for using visual aids	
Explains the needs for cleaning the well periodically.	contaminants purefaction of vegetation which falls into well	
Shows his/her concern about the cleanliness of wells.	maintainance of cleanli- ness of well	
Explains the utility and methods of using disinfectants for main- taining the well.	List of cheap disinfectants.	
Chooses economical disinfectants estimates the volume of water selects and calculates amount of disinfectants required describes how well is disinfected	Methods of disinfecting wells.	
Persuades villagers to wash clothes, utensils or bathe at the drain	factors of contamination	
allows cattle to drink water from tanks built outside the parapet of the well. restricts villagers from de- fecating near the well.	transmission of animal borne diseases	

SKILLS	KNOWLEDGE
Cautions villagers from throwing anything into the well.	 putrefaction of green vegetation dangers from putrefaction
Asks villagers not to build latrines, soakage pits and sewage drainage in the vicinity of the well.	 routes of contamination distance from the well for the construction of latrines, soakage pits and sewage drain- age. spread of infectious diseases in the community
Stresses the need for sending samples of water from the well to the district health laboratory for examination periodically.	 method for collecting samples of well water method of sending water sample for analysis to laboratory
Emphasizes the need for repairing the well, maintaining the well.	 sanitary and unsanitary wells list of essential materials required for repairing the well

FORM 5: COURSE EVALUATION PLAN Task Number: 2c Task Description: Motivates the people to keep the well safe for drinking. TESTING CONDITIONS PERFORMANCE When given... The student will,,, • Randomised list of different Answer correctly in 80% of diseases to match with cases. communicable or noncommunicable diseases. Lists of water borne diseases • Answers correctly in 75% of and randomised sets of most cases. common symptoms. • Asked to imagine that he is in Able to describe: a village to motivate people for whom to contact first • the control of flies and is given • how to assemble people an essay examination. • what aids he/she would use to discuss this problem with the people(ENT) • List of various diseases, some • Mark the water borne diseases of which are water borne diseases... correctly in all cases. (PROG) List of various wells... Distinguish sanitary wells from non-sanitary ones (PRCJ) • Multiple choice questions on-• Pick the correct answers route and ways of contamination pertaining to safe distances and safe distance of well from of well from: latrines etc.... non-sanitary latrines • sanitary latrines • soakage pits manure pits Pick out right answers about surface, seepage and direct contamination (PROG) List of various common habits Mark the habits related to of villagers in relation to water pollution (PROG) use of water ... List of water disinfectants... • Select cheap and practical disinfectants (PROG). A letter from a villager who Reply in simple comprehensive wants to maintain a sanitary words with sketches and outlines; well... include a stepwise procedure to keep the well safe for drinking (PROG)

TESTING CONDITIONS	<u>P</u> ERFORMANCE
• Some students play the role of illiterate villagers.	 Motivate using simple and non-offensive words and explain: how water gets contaminated how to prevent contamination how to use cheap disinfec- tants and how often why immunization against TABC is necessary (PROG)
• Access to sampling equipment	 Collect the water samples correctly, label them and post them (PROG)
• Access to Visual aids	 Operate the Visual aids and can be able to use them for health education (PROG)
 Access to field visits in a village with instructor 	 Detect the possible contamina- tion of well Motivate villagers using simple words and non-offensive tech- niques on how to keep the well water safe for drinking (PROG)
• A rough map of different types of wells with nearby latrines and drains, soakage pits, etc. with their relative distance given	 Mark the possible source and route of contamination (POST)
• Cases of different types of wells each of which require different corrective measures.	 Describe the necessary correc- tive measures (POST)
 A representative problem involving a village with poor sanitary practice. 	 Analyze the problem Decide upon corrective measures Develop a plan to work with villagers and educate villagers to improve sanitation in the village (POST)

FORM 6: <u>ACTIVITIES PLAN</u> Task Number: <u>2c</u> Task Description: <u>Motivates the people to keep the well safe for drinking</u> .		
• Given a list of various diseases student marks the water borne diseases correctly.	 Students read about water borne diseases and their characteristic features. Oral instruction, why some diseases are water borne and their characteristics, Makes students discuss water borne diseases. Ask one student to list them on the blackboard. Other students help him complete the list and list their characteristic features. 	
 Given a list of various wells student distinguishes sanitary wells from non- sanitary ones. 	 Oral instruction about different wells, their distinguishing features, their importance in relation to contamination from outside Discuss various features of wells and ask students to classify these. 	
• Given multiple choice ques- tions the student picks out the right answer about the ways and route of contamina- tion (Direct, surface and seepage) and safe distances of well from various contami nants.	 Student reads about different contaminating sources and their routes; types of contamination and safe distance of well from latrine, soakage pits, etc. Oral instruction with stress on common contaminating routes. Group assignment to work and prepare health education talks. Keeping villagers in mind on (a) different contaminating sources, (b) routes of contamination of different sources, (c) types of contamination (Direct, surface and seepage), (d) safe distance of well from contaminating sources. Presentation and discussion. 	
EVALUATION EVENTS	ACTIVITIES	
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 Given list of common habits of villagers students can mark the habits related to water contimination. 	 Students name various common habits related to water contamina- tion. Instructor completes the list. Students volunteer reasons in what way these habits are related to water contamination. Students role play villagers and other students give health educa- tion why those habits are bad. 	
 Given a list of water dis- infectants student selects the cheap and practical disinfectants. 	 Students read handouts about various disinfectants, their modes of action and instruction on usage. Oral instruction about their relative advantages and disadvantages, efficacy, practical value and procedures for use. Demonstration on how to use disinfectants. A student lists various disinfectants suggest their mode of action, advantages and disadvantages, and decide whether practical or not. Students compute how much disinfectant to use for given amounts of water. 	
 Given a letter from a villager who wants to maintain a sanitary well students reply satisfact- orily. 	 One student volunteer writes on blackboard a list of sanitary wells, others help to complete the list. Students asked to study various models of sanitary wells and makes sketches, label them and describe how they work. Organized field trips to discuss various wells. Students write field report. Students reply to villagers using simple and non-offensive words giving proper advice. 	

TVALUATION EVENTS	ACTIVITIES
 Students play the role of villagers and others motivate the "villagers" on keeping the well safe for drinking. 	 Instructor gives short over- view on motivation and its socio-psychological aspects. Different models of unsanitary wells with descriptions about their construction and relative distances from latrines and drains. Students write down corrective measures to keep the well water safe. Some students present their work to the class; discussion follows. Students role play villagers and other students motivate villagers to correct unsanitary practices.
 When given sampling equipment students can collect samples, label them correctly and send them to the laboratory. 	 Demonstration of sampling equipment and how to use it. A handout on how to collect samples, how to label and send them to the laboratory. Some important laboratory data indicating safe water and contaminated water. Make field visit to collect sample, label and send to the laboratory.
 Given Visual aids students operate these correctly. 	 Demonstrate Visual aids, their components, how to use and how to take care of them. Students operate Visual aids. Explain how visual aids could be used for motivation. Students practice health education with the help of Visual aids.

EVALUATION EVENTS	ACTIVITIES
• During field study students can detect the possible sources of contamination of wells and motivate the people (under the supervision of an instructor),	 Give handouts of topographical structures and various conditions of village. Instruct whom to contact first, how to talk politely using non-offensive techniques, and how to start discussion. Students suggest some problems. Students discuss them. Work out with students a stepwise plan on how to motivate Students go to the field several times and motivate the villagers (under supervision).

FORM 7: SYLLABUS		
Task Number: <u>2c</u> Task Description: <u>Motivates the people to keep the well safe for drinking</u> .		
SE2STON	IN CLASS ACTIVITIES	OUTSIDE ACTIVITIES
Session l Ashad l (Sunday, 2 hrs)	 Introduction to the Course, Introduce your- self, student introduc- tion, how to use sylla- bus. 	 Read handouts on sources of water, their features in relation to contamina- tion from the outside.
	• Students are asked to help to prepare a list of water borne diseases. Instructor led discus- sion on their character- istic features.	 Students take entry level test on water borne dis- ease and on principles of health education. They score themselves.
	 Students help one volunteer student to write down the character- istics of different water borne diseases 	
Session 2 Ashad 3 (2 hours)	 Instructor led discussion on different sources of water supply in rural areas, and their main features in relation to contamination problems. Instructor led discussions on different types of wells using A.V. equipment and models. Students examine the models of different types of wells, make sketches, label and discuss features of wells in relation to water contamination. 	 Read handouts on route and ways of water contam- ination and types of contamination. Read text on types of latrines, drains, soak- age pits and manure pits.
Session 3 Ashad 6 (Friday, 4 hrs)	 Instructor leads dis- cussion pertaining to various types of well construction, their importance in relation to contamination and the corrective measures. 	 Students are taken in groups to different villages; study different types of wells. Students prepare field report: their observations and their conclusions including their suggestions for improvement of local conditions.

SESSION	IN CLASS ACTIVITIES	OUTSIDE ACTIVITIES
Session 4 Ashad 8 (Sunday, 2 hrs.)	 Feedback on field report Instructor led discussion on different sources of contamination - their routes and types. Instructor divides the class into four groups, each group consisting of four students. Each group works on (a) different sources of contamination (b) contamination routes (c) types of contamination and (d) safe distances of contaminants from the well. Student presentations, dis- cussion and feedback. 	 Read handouts about socio- psychological aspects of villagers, their customs, beliefs and culture.
Session 5 Ashad 10 (Tuesday, 2 hrs)	 One student lists habits related to water contamination of villagers on blackboard. Other students and instructor help to complete the list. Instructor led discussion on how poor habits are responsible for contamination. Multiple choice questions on water contamination. Feedback. Some students role play villagers while others do health education. 	• Read about disinfectants.
Session 6 Ashad 3 (Friday, 4 hrs.)	• Students write second field report and receive feed- back.	 Students are taken to villages. Students and instructor check their field reports. Students interview some villagers about the well, its construction, number of people using it, how they use it. Students give health education talks on how various habits cause water pollution (under supervision). Students read handouts on how to use water disinfectants.

SESSION	IN CLASS ACTIVITIES	OUTSIDE ACTIVITIES
Session 7 Ashad 5 (Sunday, 3 hrs.)	 One student writes a list of water disinfectants on a blackboard, other stu- dents and instructor help him/her complete the list. Instructor led discussion on how to use disinfec- tants, how to calculate approximate dosage, cost, advantages and disadvan- tages of each. Students select cheap and practical disinfectants, discuss and calculate doses and costs for various volumes of water. Students solve some mathe- matical problems to calcu- late volume of water in well. 	• Students read about differ- ent sanitary wells, their construction, problems and maintenance.
Session 8 Ashad 17 (Tuesday, 2 hrs.)	 Given models of different sanitary wells students label various parts and discuss construction pecu- liarities. Instructor led discussion on maintenance problems. A letter from a villager asking advice on mainten- ance of a deep sanitary well is given to students. Students write letters in response and discuss these. 	
Session 9 Ashad 20 (4 hours)	• Students write field re- port and get feedback.	 Field visit. Take measurement of diameter of well and water depth. Calculate approximate volume Calculate dose of disinfec- tant. Teach the villagers in simple words how to use cheap dis- infectants: how much to use and how often. Student demonstrates to villagers disinfection of wells. Read Manuals on A.V. equip- ment and how it works.

SESSION	IN CLASS ACTIVITIES	OUTSIDE ACTIVITIES
Session 10 Ashad 22 (2 hours)	 Instructor develops with students a stepwise plan for field visit and motivation of villagers. Instructor demonstrates visual aids, teaches how to use them and how to take care of components. Students operate Visual aids. Students explain picture projection techniques. 	 Read handouts about sampling of water for laboratory test. Read laboratory data on water contamination.
Session ll Ashad 24 (2 hours)	 Instructor led discussion on water sampling, labeling and dispatching for laboratory test. Students rehearse the process. Students role play villagers while others motivate them. 	• Students perform steps of water sampling.
Session 12 Ashad 27 (4 hours)		Field Study Students take water samples, label them, dispatch them for laboratory test. Students motivate villagers to keep their wells safe. Students write field report.
Session 13 Anu Day one Week		Field Study Students visit village Contact village leaders Investigate wells with village leaders and village elders Find the defects Assemble the villagers Start discussion and health education Show and explain the defects Motivate the villagers to improve the conditions. Write the field report (Post Test)
Session 14	 Submit the field book. Instructor selects some field reports for presentation. Students present their final report. Discussion closing 	

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FORM 8: SESSION PLAN* (Session #2) APPROACH/CONTENT ACTIVITIES 1. Instructor led discussion on 30 minutes different sources of water Discuss sources of water: rivers, wells, supply in rural areas. Their main features as springs, lakes. related to contamination. Contamination by: water borne disease parasitic disease filth borne disease water associated disease. Food New Host Excreta ∍Water-→Milk Focus of >Hands-Infection Arthop d-> Vegetables 🕈 Soil-Spread From Infected Excreta to New Paths By Which Diseases are Host 2. Audio Visual Demonstration 30 minutes of Different Types of Wells: Tube wells slide tape show, models. Protected dug wells Unprotected dug wells Students examine models, 1 hour 3. make sketches, label. Discussion should focus on pollution Teacher leads discussion: of wells at: feature of wells related intake shaft to contamination corrective measures wellhead Situation 50 feet from Intake: latrine, up the hill Shaft: use cement to seal 3 m. of shaft. Wellhead use sealed wellhead and/or headwall use 3m apron all around to prevent seepage

SESSION PLAN*

Session #2

Continued

4. Assignment: Read: S.B. Watt and W.E. Wood. <u>Hand Dug Wells and Their</u> <u>Construction</u>. Intermediate <u>Technology Pub. Ltd. 1976</u> Chapter 2: <u>Groundwater</u> <u>Occurrence Health Aspects of</u> <u>Well Construction</u>.

Read: S. Rajagopalan, M.A. Shiffman. <u>Guide to Simple</u> Sanitary Measures for the <u>Control of Enteric Diseases</u>. World Health Organization, 1974; Section 2: Wastes Collection and Disposal.

* Only two Session Plans are included here.

(Session #5) FORM 8:SESSION PLAN		
ACTIVITIES	APPROACH/CONTENT	
1. Student Discussion on habits related to water contamination.	<u>30 minutes</u> Students summarize main points of	
	discussion on board. Discussion should include:	
	 people washing clothes or themselves near well people defecating near well people using dirty buckets in well. 	
2. Instructor discusses, summarizes causes and possible cures to con-	<u>30 minutes</u>	
taminants.	 Problems of changing human behavior patterns Use of the stationary bucket to avoid contamination Boiling water purifies water which is contaminated Filtering water cleanses some suspended particles 	
3. Multiple choice questions on	<u>30 minutes</u>	
contaminants.	 Progress test Students score themselves Discuss correct answers 	
4. Health Education Role Playing	<u>l hour</u>	
	Students prepare health education talks for specific contamination problems. Problems are outlined in script form.	
	Some students play role of villagers	
	After Role Play discussion occurs on effectivenss of the health education, how the education might be improved.	

SESSION PLAN

Session #5

Assignment: Read Handout on Cultural/Social Patterns (see below)

Reminders: Develop Role Play Scripts so that students can use them in health education role play.

Develop handout on relation of culture to habits and behavior; difficulties of changing behavior; in ethics for promoting behavior change.

EXAMPLE C

NUTRITION EDUCATION FOR PUBLIC HEALTH WORKERS

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FORM 1: INSTRUCTIONAL SITUATION			
	ASSIGNED	WOULD PREFER	
<u>COURSE TITLE</u> :	Nutrition Education for Public Health Workers.		
COURSE PURPOSE:	To equip public health workers for carrying out nutrition education among the rural population in Malaysia.		
EXPECTED STUDENTS:	College graduates with varied academic backgrounds—usually in health-related areas, maybe only in social science fields. They have been given the jobs of public health workers within the ministry of health. 30-40 students will participate.	College graduates with a background in health fields and some working experience with people.	
<u>CONSTRAINTS</u> :	Dates of course: July 3rd to Aug. 8th, 1978 Total Hours:	280 hours (7 weeks)	
	200 hours (40 hrs. per week, 5 weeks)		
	<u>Course reputation:</u> First time course is given.		
	Expectation: Students are expected to be well equipped as nutrition educators at end of course.	Expectations must be lowered. Much more needs to be learned through experience than what can be taught during this course.	

Proviens Page Election

	ASSIGNED	WOULD PREFER
<u>RESOURCES</u> :	Funds: Funds are available for trans- portation of students by bus to and from field study areas, and to cover costs of handouts, slides, reprints, etc.	
	<u>Audio-visual Aids</u> : Available for use.	
	<u>Facilities</u> : Kitchen facilities, laboratory, if needed.	
	<u>Personnel</u> : Two full-time instructors and a wide range of guest speakers from government, quasi- governmental and academic institutions in the country.	

FORM 2: JOB DESCRIPTION

JOB TITLE: Public Health Worker

The public health worker comes into contact with the population at the ground level and implements government health programs and policies at the level of the village community. He/she is mainly concerned with health education, of which nutrition education is a major component, although he/ she also carries out other tasks such as: liaison with other government personnel (agricultural workers, education extension workers, etc.); consultation/advising on the area or community in which he/she works; implementation of other health programs; assistance in other areas (e.g., anti-malaria campaign, breast-feeding campaign, etc.).

JOB WHICH IS RELATED TO COURSE:

Nutrition Education and how to carry that out in the village community.

TASKS:

- Investigates and assesses the nutritional status of a village community in order to prepare for the planning and carrying out of nutrition education. This includes investigating and assessing the nutritional status of individuals and families, although not necessarily from a clinical perspective.
- 2. Plans and teaches: How to plan teaching sessions and how to take advantage of opportunities for informal sessions at very short notice. How to relate to people when carrying out nutrition education for different groups in the community--mothers, children, general villagers, village leaders. What aspects to stress to which group. The general emphasis will be on mothers, pregnant and lactating women and children as these are considered the "vulnerable groups" in the population. Therefore, most of the nutrition education would be aimed at women of child-bearing age, with special emphasis on pregnant and lactating women and women with young children.
- 3. Evaluates and obtains feedback. How to evaluate the achievements/ failures of work done and how to obtain feedback from the community regarding what is being carried out by the public health worker.

Each of these casks is related to the purpose of the course. The main concern is with simulating actual job situations as closely as possible.

FORM 2:FIELD STUDY

This is a first course of its kind, given in conjunction with a redefinition of the role of the public health worker, who has previously mainly been concerned only with hygiene, but is now redefined on a broader perspective. As such, job verification cannot be according to what exists, but feedback can be obtained from village leaders, the village community on the whole and other field workers.

To ask other types of health and field workers:

- 1. What is the incidence of nutrition-related disease and malnutrition such as kwashiorkor and marasmus?
- 2. What is occurring more frequently: kwashiorkor (protein malnutrition) or marasmus (protein-calorie malnutrition)?
- 3. Which groups are most severely affected?
- 4. How often does it recur? i.e., how often is a child brought back after being treated?
- 5. Has nutrition education (or health education) ever been attempted in that community?
- 6. What food or other kinds of taboos do health workers have to face when dealing with the villagers?

To ask villagers/village leaders:

- 1. Are there problems of insufficient food, low calorie consumption, etc. due to insufficient income?
- 2. What crops are planted? Are they consumed by villagers themselves?
- 3. What other vegetables, fruits are usually planted in backyards, gardens?

To ask mothers:

- 1. Questions regarding family food consumption patterns.
- 2. Do you breast feed your infants? Until when?
- 3. What is your diet when you are expecting a child? Are there any taboos? Do you practice any restrictions?

Questions should, of course, be asked with sensitivity. They should allow the public health worker to judge what level of nutritional knowledge the worker has and what kinds of food practices are prevalent, whether they can/should be changed.

FORM 3: DESIRED JO	B AND STUDENT PERFORMANCE	
TASK DESCRIPTION: Investigates and assesses nutritional status of a community. (1)		
CONDITIONS	PERFORMANCE	
When given	The student will	
hospital records and charts, information regarding the disease patterns of a village community	have a rough idea of the general health problems in that community, identify those related to nutrition, and determine how serious they are.	
descriptions of a village community, village homes and the people and children there, as well as slides of the village	make a general assessment of the socio-economic and nutritional status of the village community, identify protein-caloric malnutrition in children from the slides, spot popular foods used and deduce the nutritional value of these, link cause and effect (if any) to nutri- tional problems.	
descriptions/slides/pictures of food available at the market place	know precise nutrient values of foods available, plan balanced meals from them and know which foods to be recommended to which particular group in the village (within the constraint of a tight budget).	

* In this example, the work on the job is identical to the desired student performance. The section on job performance has therefore been omitted.

TASK DESCRIPTION: Plans and teaches nutrition education sessions. (2)		
CONDITIONS	PERFORMANCE	
When given a variety of foods and their prices	The student will know the nutrient values of each food, (qu.litative and quantitative) and compare foods according to their prices, therefore knowing how to get the best value for the cost.	
an assignment to prepare a meal	prepare a balanced meal (knowing also how to express quantities used in colloquial terms as well as in the standard measuring terms and also knowing about local foods and local diet and food habits) as well as how to store left overs.	
assignments to prepare diet plans for various sectors of the popula- tion	<pre>draw up diet plans as well as know how to prepare such foods as recom- mended (according to local methods) for: a. infantschildren b. pregnant and lactating women c. others, in general d. the elderly</pre>	
simple nutritional problems with which a public health worker might be confronted by village people, particularly mothers	advise and consult, or refer to others who would be able to help.	
a child/infant	perform simple anthropometric measurements on the child, record them and know what they indicate.	

CONDITIONS	PERFORMANCE		
When given	The student will		
<pre>an assignment to give a lively presentation on nutrition to: a) a general audience b) school children c) mothers d) pregnant and lactating women</pre>	plan the presentation with specific forms on the issues related to the particular group in question, using as much as possible, real-life demonstrations, models, audio-visual aids, slide shows, etc.		
an unexpected situation such as a group of pregnant women in the waiting room of a clinic use his/her ingenuity and tiveness to carry out a sh tion education session usi ever resources happen to b available.			
an assignment to do a home visit	conduct nutrition education on a one-to-one basis, being sensitive to the particular needs of that individual.		
NOTE: The carrying out of Task #2 will be facilitated by an understanding of the nutritional status of the village community as obtained from Task #1.			
TASK DESCRIPTION: Evaluate nutrition education efforts and programs. (3)			
CONDITIONS	PERFORMANCE		
When given	The student will		
an assignment to assess the outcome of a particular nutrition education session	obtain feedback regarding the les- sons learned by knowing what ques- tions to ask and how to ask them at the beginning and end of the teaching session.		

Describe Student En	try Level Performance
CONDITIONS	PERFORMANCE
When given a set of multiple choice questions on general nutrition	The student will answer these with 80% accuracy

 Teach in a clear and concise manner. Communicate with another person with warmth and sensitivity, learning also from that other person. 	
TASK: Evaluate nutrition education efforts and	programs. (3)
SKILLS	KNOWLEDGE
 Design an evaluation plan. Design questionnaire to obtain feedback. Apply questionnaire. Make necessary changes. 	evaluation, feedback
 A high level of sensitivity is needed for the student to communicate well with the villagers so as to be able to obtain feedback. 	

FORM 4: TASK ANALYSIS		
TASK: Investigates and assesses nutritional status of a community. (1)		
SKILLS	KNOWLEDGE	
(Thinking, Doing, Communicating)		
 Interpreting (anthropometric measurements and charts), deducing disease patterns from statistics. 	anthropometric measurements, disease patterns nutrition	
- Evaluating and making judgments (of nutritional status)	protein calorie malnutrition	
- Assessing (nutrient values)	nutrient value, balanced meal	
TASK: Plan and teach nutrition education session	ons. (2)	
SKILLS	KNOWLEDGE	
- planning (nutrition education sessions)	nutrient values, prices; balanced meal, measures of food; diet plans, infants, pregnant and lactating women; nutri- tional problems; child and infant, anthropometric measurements.	
 Run a slide projector and other audio-visual aids Demonstrate preparation of a meal 	demonstrations, planning, slide shows	
- Talk to people and educate with a humble attitude so that the villagers would be more willing to accept what is being taught	nutrition education; sensitivity	

	FORM 5: COURSE EVALUATION PLAN		
	TESTING CONDITIONS	PERFORMANCE	
	When given	The student(s) will	
(PRE ENT)	 A set of written questions on general nutrition 	- write answers to them within an hour (PRE) (Entry Level).	
	NOTE: The pretest is given in this course solely for the purpose of getting a sense of the level of nutrition knowledge in the class; so as to know what lessons to emphasize/deemphasize, what remedial instruction is needed, if any.		
(PROG) Task #1	 A set of anthropometric records and growth charts and some statistics on disease patterns 	- write a 150-word preliminary assessment of what those data indicate and what he/she can infer about the nutritional status and problems in that community (PROG).	
(PROG) Task #1	 Slides of a village and its people and living conditions (including slides of mal- nourished children). 	- discuss orally with the instructor, the general socio-economic condi- tion of that community, probable nutritional problems and be able to identify the different stages/ forms of malnutrition and nutrition related diseases (PROG).	
(PROG) Task #1	4. A list of local foods avail- able and their prices and questions regarding their nutrient values	 answer questions with 80% accuracy as well as identify any tendency for any particular nutrient to be lacking from an average villager's diet (PROG). 	
	TASK #1		
(PROG) Task #1	5. When taken to a village com- munity and arrangements made for a one-day visit, and when given the assignment of evaluating the nutritional status of the community	- use their initiative in gathering nutritional information about that village, and write a comprehensive report on the nutritional status of that community, showing how conclusions were arrived at and how deductions were made (POST).	

		TESTING CONDITIONS	PERFORMANCE
(PROG) Task #2	6.	An assignment to buy food from a market and prepare a balanced meal	 prepare a balanced meal and prepare a chart showing the quantity of various nutrients present in the foods cooked and respective prices
(PROG) Task #2	7.	A specific population group, e.g. infants	 write a short paper discussing the nutrition of that specific group and whatever nutrition problems might be present in that group
(PROG) Task #2	8.	A model of an infant or child/or a real child, if possible	 take height, weight, arm circumference measurement and demonstrate the correct method of keeping records.
(POST) Task #2	9.	A set of conditions, i.e. what kind of audience, in what setting, number of people present, etc.	 prepare and deliver a 15 minute talk (maybe longer) with use of audio visual equipment for the purpose of nutrition education
(POST) Task #3	10.	A set of questions and answers, such as a short dialogue	 make some observations regarding what can be deduced from that dialogue and/or discuss some of the criteria he/she would use to judge student performance

FORM 6: ACTIVITIES PLAN			
EVALUATION (from Evaluation Plan) 1. <u>Pretest</u> : When given questions on general nutrition, the student will write answers to	ACTIVITIES		
them. 2. Prog. test for task #2: When given a practical assignment on preparing a balanced meal/planning a balanced diet, the student will demonstrate knowledge acquired in the form of charts and meal plans.	 <u>Content of Nutrition Education</u> A. Discussion of nutrients, nutrient values in various foods: quantitative and qualitative. B. Discussion of balanced diet and balanced meals. C. Measures of food, interconver- 		
	 sion, practical demonstration to show price for food value ratio, balanced diet and meal, preparation and storage. D. Discussion of local foods, diet, food habits and taboos. 		
3. <u>Prog. test for task #2</u> : When given a specific population group, the student will write a short paper on the nutrition issues relevant to that popula- tion group.	A. Discussion of nutrition problems specific to particular sectors of the population, identifica- tion of pregnant and lactating women and their infants as the target group. Reasons why.		
4. <u>Prog. test for task #1</u> : When given a model of an infant or child or a real child, if possible, the student will take anthropometric measurements and record them.	 A. Discussion of reasons for doing investigation and assessment. Different methods of doing it. What does each method achieve; limitations. 		

EVALUATION	ACTIVITIES
	B. Assessment of nutrient status of individualsdifferent methods.
	C. Anthropometric measurements as one of the methods. The different measurements and how to do them as well as keep a record.
 Prog. test for task #1: When given a set of statistics, the student will write a 150 word preliminary assessment. 	A. Nutrition assessment of a community: various ways of doing it. Discuss their limita- tions and note that assessment is just a rough indication within a certain specific context.
	B. Demonstration of what inferences to draw from anthropometric records and growth charts, medical (hospital) records and other disease/malnutrition statistics. Include pitfalls of misinterpretation of statistics.
 Prog. test for task #1: When shown slides of a community, foods available, and of malnourished children, the student will do a nutritional assessment. 	A. Discussion of how the socio- economic condition of a community is interrelated to health and nutritional status; also the interrelationship of agricultural activity to health and nutritional status.
	B. Malnutrition: causes and con- sequences. Interrelationships with other socio-economic variables, other nutrition related diseases, e.g., night blindness. How to identify the different stages of malnutrition.
	C. Local foods available and seasonal fluctuations. How these influence the nutritional status of a community. (Incor- poration of slides for A,B,C).

EVALUATION	ACTIVITIES
7. Post-test for task #1: When taken to a village community for one day, the student will make an evaluation of the nutritional status of that community in detail.	A. Discussion on techniques of information gathering, impor- tance of good interviewing techniques, general attitudes when dealing with village community, importance of cultivating a good impression.
8. Post-test for task #2: When given an assignment to carry out nutrition education in a specific context, the student will plan and deliver the assigned, using audio-visual aids if necessary.	A. How to plan presentations of various durations, objectives and how to achieve them. Different focus to achieve different aims.
	B. What issues to emphasize with respect to different groups (i) a general audience (ii) school children (iii) mothers (iv) pregnant and lactating women.
	C. Use of charts, models, slides, simple audio-visual aids, drawings, etc.
	D. How to make use of unexpected situations or "make do" situations, e.g., in a waiting room of a clinic, with mothers who are easily distracted because they have children with them, etc.
	E. Techniques of conducting nutri- tion education on a one-to-one basis. Attitudes and sensi- tivities. How to get your message across. Recorded interviews, maybe films.

	EVALUATION	ACTIVITIES
۹.	Post-test for task #3: When given specified conditions and audience, the student develops a set of questions to ask and carries out a dialogue with a group or an individual in order to obtain feedback regarding a nutrition education session which the student has carried out.	Obtaining Evaluation (Task #3) A. Discussion of the necessity of obtaining feedback, how to obtain it, how to use the feedback information to judge the student's own performance and how to adjust teaching activities according to feed- back obtained.
		B. A set of questions and answers such as a short dialogue, Make observations of what can be deduced from that dialogue and/or discuss some of the criteria he/she would use to judge student performance.

FORM 7 : COURSE SYLLABUS		
Course: Nutrition Education for Public Health Workers.		
SESSION	IN-CLASS ACTIVITIES (To be completed this session)	OUTSIDE ACTIVITIES (To be completed before next session)
<u>First week</u> #1 Time: 4 ¹ % hrs.	 Pretest, Entry Level Test: One hour test on basic nutrition. Introduction: Documentary film on Nutrition in Malaysia, health and nutrition problems of the different communi- ties, governmental program and its imple- mentation and effective- ness. Instructor led discus- 	 Read handouts on nutrients and balanced diet.
#2 Time: 2½ hrs.	 <u>Background information</u>: What is nutrition? Problem of malnutrition as it exists in Malaysia and hence the importance of nutrition education in dealing with this problem. The role of the public health worker in carrying out nutrition education. Course outline: Dis- cussion of objectives of course, outline, expectations. Go over pretest, entry level test. 	

SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES		
∦3 Time: 4½ hrs.	 <u>Lecture</u>: on nutrients and nutrient values in various foods. 	 Read handouts on measures of food, interconversions, 		
	2. <u>Lecture</u> : on physiologi- cal function of various nutrients.	and storage.		
	3. <u>Discussion</u> : on nutrient value of local foods.			
#4 Time: 2½ hrs.	 <u>Discussion</u> of balanced diet: how to plan, necessity for, conse- quences of not having a balanced diet. A balanced meal: what does it consist of? 			
#5 Time: 4½ hrs.	 Lecture: on measures of food (scientific measure and local measures) and how to do interconver- sions. Practical demonstration to show price for food value ration, balanced diet and balanced meal. (Demonstrations of cal- culations, chart-draw- ing as well as cutting up and weighing out of food portions.) 	1. Assignment: Problem set on interconversions of food measures and how to plan a balanced diet for a specified ind vidual.		
#6 Time: 2½ hrs.	 Lecture and demonstration: on food preparation and storage. 			

SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES
#7 Time: 4½ hrs.	1. <u>Panel Discussion</u> of local foods, diet, food habits, customs and taboos drawing very heavily upon the stu- dents' experiences. This session will stress students' participation. Questions such as what food taboos might be necessary to counter and how, etc. will be posed.	 Read handouts on nutrition problems specific to particular sectors and age groups of the population. Some clinical nutrition case studies.
#8 Time: 2½ hrs.	 <u>Discussion</u> of assignment on interconversions of food measures and plan- ning a balanced diet. 	
#9 Time: 3 hrs.	 Lecture and discussion of nutrition problems specific to particular sectors of the popula- tion, identification of pregnant and lactating women and their infants as the target group. Discussion of case studies. 	 Progress test: Take home assignment on balanced diet and nutrient values, (a specific problem) due on Monday (next). Read handouts on investigation and assessment of nutritional status.
#10 Time: 2½ hrs.	1. <u>Clinical (field trip)</u> <u>visit</u> to a general hos- pital or district clinic if possible and discus- sion/question-answer session with staff on nutritionally-related diseases and suscepti- bility to the different sectors and age groups of the population.	

SESSION	IN-CLASS ACTIVITIES	I OUTSIDE ACTIVITIES
<u>Week 2</u> #11 Time: 4 ¹ / ₂ hrs.	1. <u>Progress test</u> : on nutri- tion problems specific to a given group of people (eg. diabetics or the aged).	<pre>1. Read handout on anthropometric measurements.</pre>
	 <u>Discussion</u> of reasons for doing investigation and assessment. Dif- ferent methods and their limitations. 	
#12 Time: 2½ hrs.	 <u>Discussion and lecture</u> on the assessment of nutritional status of individuals. Different methods and their applicability. 	
#13 Time: 4½ hrs.	1. Lecture and practical <u>demonstration and lab</u> <u>exercise</u> on anthropo- metric measurements. How to take and record them.	 Read handout on nutritional assess- ment of a community.
#14 Time: 2 ¹ % hrs.	 <u>Discussion</u> of progress tests on balanced diet and on nutrition pro- blems. 	
#15 Time: 4½ hrs.	 Progress test: on an- thropometric measures (practical test where instructor has one-to- one sessions with each individual student). 	 Read handout on interrelationship of socio-economic conditions, agricultural activity, etc. to health and nutrition status of a community.

SESSIO	N	IN-	CLASS ACTIVITIES	<u>OUT</u>	SIDE ACTIVITIES
#16 Time:	2½ hrs.	1.	Lecture and dicussion of nutritional assess- ment of a community.		
#17 Time:	4½ hrs.	1.	Demonstration of what inferences to draw and how to use anthropome- tric records, growth charts, medical records, vital statistics and disease/malnutrition statistics. Discuss handling and use of statistics.	1.	Progress test (take home) on statistics and records. Due next Monday (Third week). Read assignments on malnutrition.
#18 Time:	2½ hrs.	1.	Lecture and discussion (guest speaker) on how socio-economic condi- tions, agricultural activity, etc. are interrelated to health and nutrition.		
#19 Time:	3 hrs.	1.	Lecture (guest speaker) malnutrition: cause and consequence, inter- relationship with other socio-economic vari- ables.	1.	Read handcuts and assignments on stages of malnutrition and other nutritional diseases.
#20 Time:	2½ hrs.	1.	Lecture on local foods available and seasonal fluctuations, how these influence the nutrition- al status of a community.		

SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES
Week 3		
#21 Time: 4½ hrs.	 Lecture and slide pre- sentation on different stages of malnutrition. How to identify. Other nutrition-related dis- eases eg. night blind- ness, diabetes, goitre. 	 Review all material on malnutrition.
#22 Time: 2½ hrs.	 <u>Discussion</u> of progress test (see Session #17). 	
#23 Time: 4 ¹ 2 hrs.	 Progress test on mal- nutrition. This in- volves an oral discus- sion with the instructor. 	
#24 Time: 2½ hrs.	 <u>Discussion</u> on techni- ques of interviewing, general attitudes when dealing with a village community. Briefing on field trip for next day. (Post-test incorporated into field trip.) 	
#25,26 Time: 8 hrs.	 Field trip to a nearby village (post-test). Session #25: Students are shown around and given information about the village. Session #26: Students are encouraged to make their own investigations in order to make an 	
	evaluation of the nutri- tional status of that community.	

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<u>SESSION</u>	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES
#27 Time: 4½ hrs.	 Oral presentations of findings and impres- sions of students from field trip. 	
#28 Time: 2½ hrs.	 Students are given time to write down detailed re- port of field trip, incorporating observa- tions of other students (learned from morning session) if necessary. 	
#29 Time: 3 hrs.	 <u>Discussion</u> of field trip reports. Indivi- dual cases and reports discussed. 	 Read assignments on "how to teach nutri- tion to different people".
#30 Time: 2½ hrs.	 Continuation of morning session with instructor bringing out problems and issues which may not have been noted by students. Discussion of possible government programs which cculd be implemented to alleviate problems. 	
<u>Week 4</u> #31 Time: 4 ¹ 2 hrs.	 Lecture with audio-visual aids (short film strips) on how to plan and give presentations of various lengths with different approaches to suit different objectives. 	

SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES
#32 Time: 2⅓ hrs.	1. Lecture and discussion on different aspects of nutrition education, as related to different groups (i) general audience (ii) school children (iii) mothers (iv) pregnant and lac- tating women.	
#33 Time: 4½ hrs.	 Lecture and demonstra- tions on the use of charts, models, slides, drawings. 	 Assignment: prepara- tion of charts, models, diagrams for a nutrition education session that is specified.
#34 Time: 2 hrs.	<pre>1. Lecture and demonstra- tion on the use of simple audio-visual aids. (slides, film projectors, tape recorders, etc.)</pre>	
#35 Time: 4½ hrs.	 <u>Laboratory</u> on audio- visual equipment. Practice by students. 	
#36 Time: 2½ hrs.	 <u>Discussion</u> of homework assignment on use of charts, etc. 	
#37 Time: 4½ hrs.	 Lecture, discussion and showing of short film- strips on: How to make use of unexpected sit- uations to carry out nutrition education. Improvisations. 	
SESSION	INCLASS ACTIVITIES	OUTSIDE ACTIVITIES
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#38 Time: 2½ hrs.	1. Filmstrips and recorded interviews and discus- sions on techniques of conducting nutrition education on a one-to- one basis. Attitudes and sensitivities. How to get your message across.	
∦39 Time: 3 hrs.	 <u>Guest speaker</u>: a pro- fessional person in- volved in nutrition education, speaking on his/her job experience. 	 Post-test: assign- ments to carry out nutrition education.
#40 Time: 2½ hrs.	 <u>Guest speaker</u>: Public health nurse who has rich experience in dealing with mothers in administering health care, speaking on her experiences with village women. 	
<u>Week 5</u> #41 Time: 4½ hrs.	 <u>Laboratory</u> in preparing audio-visual aids for presentations (post- test). 	
#42 Time: 2½ hrs.	1. <u>Laboratory</u> continued.	
#43 Time: 4½ hrs.	1. <u>Post-test</u> : Oral presen- tations by students.	

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SESSION	I	IN-	CLASS ACTIVITIES	<u>00</u> T	SIDE ACTIVITIES
#44		1.	Post-test continued.		
Time: 2½	hrs.				
#45 Time: 4 ¹ 2	hrs.	1.	Evaluation of oral presentations. Criticisms and suggestions for im- provement.		
#46 Time: 2½	hrs.	1.	Discussion of the neces- sity for obtaining feed- back, how to use it to judge students' perfor- mance and respond by adjustment of own teach- ing methods if necessary.	1.	Post-test: Students are given an assign- ment to develop a set of questions aimed at obtaining feedback.
#47 Time: 4 ¹ 2	hrs.	1.	<u>Simulation</u> : Student carries out dialogue in order to obtain feed- back (post-test).	1.	Evaluation questionnaire.
#48 Time: 2 ¹ 2	hrs.	1.	Continuation of Session #47.		
#49 Fime: 4½	hrs.	1.	Discussion of post-test. Evaluation of student's performance.		
#50 Time: 2½	hrs.	1.	Discussion: Evaluation of course objectives and achievements. Dis- cussion of question- naire.		

FORM 8: SESSION PLAN				
(Session 1)				
ACTIVITIES	APPROACH/CONTENT			
 Pretest/Entry Test on basic nutrition. 	60 minutes Explain reasons for giving a pretest/ Entry test, that is, that it is for getting a general feeling for the nutrition knowledge of the class. Students should give brief answers to questions.			
2. Documentary film on Nutrition in Malaysia.	<u>90 minutes</u> Introduce film by talking a little bit about its background and what it intends to show. <u>30 minutes</u> Break.			
3. Instructor led discussion on the movie.	<u>90 minutes</u> Point out important issues pertaining to health and nutrition in Malaysia. Note differences of problems in different groups of the population. General discussion on reasons why. Trace history of governmental health and nutrition programs, evaluation of their implementation and effectiveness. Ask questions which would generate discussion as to the importance of health and nutrition in the context of national development.			
<u>References and Resources</u>	film projector, documentary film, pretest, handouts on balanced diet and nutrients (for next session).			
<u>Reminders</u>	Reserve movie projector and check film. Prepare pretest. Prepare handouts.			

FORM 8: SESSION PLAN			
(Session #2)			
ACTIVITIES	APPROACH/CONTENT		
 Lecture on "What is Nutrition?" Problems of malnutrition, as it exists in Malaysia and hence the importance of nutrition education, amongst other things in dealing with this problem. 	60 minutes This should be a broad overview of the whole field and yet be a clear statement of the problem. This should also give a perspective within which to situate nutrition education.		
2. Discussion: The role of the public health worker in carrying out nutrition education.	60 minutes Encourage participation of students by asking for their opinions on specific issues, such as, what responsibility should a public health worker assume to carry out his/her activities. Bring in case-studies and examples of public health workers confronted with specific problems and discuss solving them in a general way, emphasizing attitudes of learning from others.		
 Brief overview of course; outline, objectives, expectations. Briefly review the pretest. 	<u>30 minutes</u> Stress objectives and give a clear sense of direction.		
<u>References and Resources</u> : <u>Reminders</u> :	Outline of course, pretest. Prepare lecture. Prepare case studies and examples for discussion. Evaluate pretests. Prepare course outlines.		

EXAMPLE D

SPUTUM TESTING TECHNIQUES FOR PARISH HEALTH WORKERS

- COURSE DESIGN CONTENTS -

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FORM 1:INSTRUCTIONAL SITUATION

	ASSIGNED	WOULD PREFER
COURSE TITLE:	Sputum testing techniques for Parish Level Health Workers.	
COURSE PURPOSE:	To equip health workers with skills in sputum testing tech- niques in order to increase case finding of tuberculosis cases.	
EXPECTED STUDENTS:	<u>Full Course</u> : Public Health Nurses, Public Health Inspec- tors. (21 students)	
	Half Course: District Midwives and Community Health Aides. (20 students)	
<u>SETTING</u> :	Methodist Church Hall, Port Antonio, Portland Parish, and Type III, Health Centres, Jamaica, West Indies.	
CONSTRAINTS:	The courses occur at the same time.	Sometime between courses to make nec- essary changes.
	Only one full time faculty.	Three full time fac- ulty including a laboratory technician.
RESOURCES:	Simple Laboratory Facilities.	A well equipped
	-3 microscopes slides	laboratory
. 1	-Reagents for planning and decorating sputum containers	
	-spatulas	
	-slide racks slide boxes	
	-3 Benzene Burners	
	-3 Safety Cabinets	
	-Overhead projector	
	-Flip charts	

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FORM 2: JOB DESCRIPTION

JOB TITLE: Sputum Testing Techniques for Parish Health Workers.

TASKS:	For Publi	c Health I	inspector	s, Publ	lic 1	Health Nu	rses, District
	Midwives,	Community	Health	Aides,	and	Assistan	t Entomologists.

- A. For Public Health Inspectors, Public Health Nurses, District Midwives, Community Health Aides, and Assistant Entomologists.
 - 1. Identifies persons with a persistent cough (lasting three weeks or more) or other symptoms suggestive of tuberculosis.
 - 2. Refers the above persons to Health Centres for sputum testing.
 - 3. Prepares area for sputum collection and smearing.
 - 4. Collects sputum.
 - 5. Prepares labels and smear slides.
 - 6. Fixes slides.
 - 7. Records slide number, name, address, sex and other data.
 - 8. Prepares slide for transport.
 - 9. Cleans work area including disposal of contamination of materials.
 - 10. Observes safety precautions.

B. For Public Health Inspectors and Public Health Nurses (only):

- 1. Organizes work area.
- 2. Stain slides by Ziehl-Neilson technique and cold staining technique (Kiniouns method).
- 3. Decolorizes and dries slide.
- 4. Examines slides under microscope.
- 5. Records findings.
- 6. Interpret findings.
- 7. Referral > treatment (patient) culture (slide)
- 8. Store slides.

	FORM 2: FIELD STUDY			
Procedu	Brocodumo			
11000040				
	The course writer attended a PAHO Conference on tuberculosis for the Caribbean region. She showed the Job Description to participants and sought their comments.			
	She also asked Ministry of Health officials in Kingston, Jamaica to read the Job Description and comment on the concept of decentralizing the sputum testing procedure.			
Finding	;s:			
	The necessity for decentralizing sputum testing procedures was stressed both by the PAHO Conference participants and by the MOH officials.			
	To underscore the importance of decentralizing sputum testing procedures, it was decided at the PAHO Conference to develop a demonstration project in Portland Parish, Jamaica, for pur- poses of taking and evaluating sputum samples locally.			

FORM 3: DESCRIBE JOB AND STUDENT PERFORMANCE				
TASK Al TASK DESCRIPTION: To identify persons with a persistent cough (lasting more than three weeks) or other symptoms suggestive of tuberculosis.				
CONDITIONS	PERFORMANCE			
When given	The worker will			
individual patients in the com- munity or Health Centres who are exhibiting signs and symptoms suggestive of tuberculosis	-Recognize the signs and symptoms, interpret them and take appropri- ate action.			
When given	The student will			
verbal description with aid of flip charts, lectures, role playing situations and film showing individual patients who are exhibiting signs and symp- toms of tuberculosis	-Recognize and list the signs and symptoms (interpret and record) and demonstrate appropriate actions using fellow students. Conduct interviews to elicit symptoms on persons for sputum testing.			
TASK A2. Refers the above persons for sputum testing to the Health Centre.				
When given	The worker will			
individuals needing referral for further examinations	-Counsel clients as to ease fear and gain confidence.			
	-Instruct clients to go to appro- priate clinic for test.			
	-Fill out referral card or write letter for clients to take to the clinic indicated.			
When given	The student will			
role playing situations individuals needing referral for further examination	-Demonstrate the forementioned procedure.			

Prepare area for sputum collection and smearing. TASK A3. The worker will... When given... -At the clinic organize the area patients presenting sputum for collecting sputum and for smearing... smearing slides. The student will... When given... -Recognize, assemble and organize an overhead projection with similar instruments in a similar work area and labeled area. apparatus... TASK A4. Collect sputum. The worker will... When given... -Give client specific instructions individuals needing to have on how to cough up sputum: sputum tested ... • obtain sputum jar with sputum from client • exercise safety procedures label sputum jar. The student will ... When given... -Demonstrate the ability to role playing situations of explain the process effectively. individuals needing sputum testing... TASK A5. Prepare, label and smear slides. The worker will... When given... -Produce a labeled, smeared slide. a sputum jar with sputum ... The student will... When given... -Label and smear slide in the a jar with actual sputum, a appropriate manner. slide and a pencil...

TASK A6. Fix slides. The worker will... When given... -Fix slides using standard fixing slides which have to be labeled procedure. and smeared with sputum... TASK A7. Record data relevant to each slide. The worker will... When given... -Note in a systematic manner, in a a fixed slide or slides... record book, slide number, patients' names, address, age, sex, date of labeling. The student will ... When given... -Note in his notebook the above a fixed slide or slides... data. TASK A8. Prepares slides for transport. The worker will... When given... -Verify that: slides for transport... • Slides are smeared, fixed, labeled and recorded. • Insert slides in space provided in box. • Exercise safety precautions as instructed. • Fill out transport sheet. The student will ... When given... -Demonstrate the above for class. above equipment

TASK A9. Clean work area including disposal of contaminated materials. The worker will ... When given... -Clear work area: work area and satisfaction that work area is ready for • replacing instruments in cleaning... correct place. • arranging all equipment which should be washed or sterilized. • arrange materials to be burned. throughout the procedures exercise safety measures. The student will ... When given... -Demonstrate the above procedure. same as above ... TASK AlO. Observes safety precautions. The worker will ... When given... -Observe maximum precaution for an assignment to collect and personal protection. fix slides in a multi-health centre... -Use checklists to insure noncontamination of the work area. The student will ... When given... a checklist of safety proce--List appropriate precautions dures to check at start or finish of certain procedures...

TASK B1. Organizes work area.

When given... a fixed slide for microscope testing... When given...

a work area for organization...

The worker will...

The student will:..

-Carry out the above.

clinic.

-Organize the work area at the

TASK B2. Stain slides by Ziehl-Neilson technique and cold staining techniques (Kiniouns method)			
When given	The worker will		
correctly fix slides and stain	-Carry out standard staining procedures.		
When slides have been correctly	The student will		
explained (overhead, handout)	-Same as above.		
TASK B3. Decolorizes and dries slide	25.		
When given	The worker will		
a fixed slide	-Decolorize and dry slides using standard procedures.		
When given	The student will		
a fixed slide and instruction on the standrad decolorizing and drying procedure	-Demonstrate the above.		
TASK B4. Examine under microscope sputum samples of persons with persis- tent cough or other symptoms suggestive of tuberculosis.			
When given	The worker will		
a correctly stained decolori- zed restained slide	-Examine it under a microscope.		
When shown	The student will		
(handout) explaining now a slide is filtered and examined	-Read about technique and take turns at the microscope.		
TASK B5. Records findings.			
When given	The worker will		
thorough complete examination of a slide	-Record his findings (whether or not any tubercle bacilli are found).		

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When given	The student will	
a slide to examine (with aid of instructor)	-Record his findings.	
TASK B6. Interprets findings.		
When given	The worker will	
results from a slide	-Interpret the slide as smear positive, smear negative, or doubtful.	
When given	The student will	
a series of results and criteria	-Interprets results according to given criteria.	
TASK B7. Refers: > treatment (patients) culture (slide)		
When given	The worker will	
interpretation (analysis) of slide	-Take appropriate actions.	
When given	The student will	
analysis of slide	-Make recommendations as to action which should be taken.	
TASK B8. Stores slides.		
When given	The worker will	
fully processed slides	-Store slides as serially labeled in boxes.	

FORM 4: TASK ANALYSIS Identifies persons with a persistent cough or other symptoms TASK Al. suggestive of tuberculosis. KNOWLEDGE SKILLS (Thinking, Doing, Communicating) - Tuberculosis cases finding - Thinks of tuberculosis when hearing about a prolonged programme. cough/symptoms in any member of the community. - Symptoms of tuberculosis, in-- Specifically seeks symptoms cluding fever, coughing, blood, in patients presenting at a prolonged coughing. clinic. - Observes members of household - As above. - Takes patient history and examines patient. - Questions to ask and not to ask. - Explains program to community members. - Chain of transmission of tuberculosis. - Signs and symptoms. Refer the above persons to Health Centres for sputum testing. TASK A2. - Tuberculosis referral system. - Plans whether or not to complete referral slip. - Explanation of referral forms. - Classifies patients. - Nearest health centre identi-- Sends patient with referral fied. card.

- Recall to check patient referral.
- Follow up (outcome)

- Checks on referral feedback.

<u>SKILLS</u>	KNOWLEDGE	
- Advises, counsels, persuades patients to cooperate	- Communication skills,	
TASK A3. Prepares area for sputum sme	aring and collection.	
- Plans method of preparation for efficient operations, and for prevention of contamination.	 Systematic stepschecklist for efficacy, speed. Danger of personal contamina-tion. 	
- Arranges instruments and sputum jars in work area.	- The procedures and instruments and equipment needed for each procedure of smearing, fixing, labeling.	
TASK A4. Collects sputum.		
- Gives instructions to patients.	- Instructions on safety pre- caution procedures.	
- Collects sputum in jar and labels.	 How sputum is produced. Distinguish saliva from sputum. Labeling instructions. 	
TASK A5. Prepares label and smears slide.		
- Follows procedures for label- ing, smearing.	 Detection of tuberculosis patient depends on smear test. Labeling of slide important to ensure right person is treated (not treated). How to select part of sputum where bacilli likely to be if present. Where to label. 	

TASK A6. Fixes slide.		
SKILLS	KNOWLEDGE	
- Fixes slide.	- Slide fixing technique.	
	- List of reagents	
TASK A7. Records slide number, name,	address, sex.	
- Notes all required appropriate information in the appropriate record book.	 Importance of record keeping for feedback, for recall. The recording system. 	
TASK A8. Prepares slide for transport		
 Stores slides. Verifies that preparation process has been correctly completed. Reassembles slides in an appropriate box. Fills out transport sheet. Plans and maintains card file system for slides 	 Transport procedure explained. What happens to slide when it leaves health centres. Safety precautions (checklist). Filing methods. 	
TASK A9. Cleans work area; disposal of contaminated materials.		
- Cleans work area of contamin- ated material.	 Safety precautions as related to contamination. Principles of the individual, the Centre, the slides them- selves, contamination/ decontamination. Cleaning process. Storage. Disposal of contaminated material. 	

TASK AlC. Observes safety precautions.		
SKILLS	KNOWLEDGE	
 Develops mental checklist of safety procedures. 	- Contamination mechanisms and possibilities.	
- Carries out safety procedures	- Understands checklist provided with procedure steps.	
TASK Bl. Preparation of work area for examination.	staining and direct microscopic	
- Plans method of preparation for streamlined operations,	- The reagents and equipment necessary.	
for prevention of contamination and of poorly prepared slides.	- Systematic checklist.	
	- Importance of the staining operation.	
 Arranges equipment and slides in work area. 	- The <u>order</u> of procedure and in- struments/reagents <u>needed</u> for each phase of staining.	
TASK B2. Stain slides by Ziehl-Neilson and/or Kiniouns Method.		
- Plans procedure. - Recalls problem of overstaining.	- Instructions given concerning sequence of stepspitfalls stressed.	
	- Chemicals in reagents used in both methods.	
- Stains slide using Ziehl-Neilson or Kiniouns Method.	- Procedures involved in Ziehl- Neilson and Kiniouns Method.	
TASK B3. Decolorizes and dries slides and restain.		
- Decolorizes and dries	- Chemicals and proportions.	
	- Procedure - potency - quantity of decolorizing agent.	

TASK B4. Examines stained slide under a microscope.		
SKILLS	KNOWLEDGE	
- Operates a microscope	- Operation and care of the microscope.	
	- The morphology of the tubercle bacilli.	
	- Notion of fields.	
	- Concept of bacilli counted by fields.	
- Detects tubercle bacilli if present	- Shape of bacilli (number of artifacts).	
TASK B5. Records findings Slides read by direct microscopy.		
- Translates visual interpre- tation of slide to records	- Importance of accurate record keeping	
- Perfect correspondence of data recorded to microscopic data for a given slide.	- Recording systems.	
TASK B6. Interpret findings.		
 Interprets concentration of bacilli and determines if sputum smears are positive or negative. Makes a final written report of results 	- The pathology of tuberculosis, significance of bacilli concen- tration, to the presence or absence of the disease.	

TASK B7. Refers patient for trearment and/or slide culture.		
<u>SKILLS</u>	KNOWLEDGE	
- Exercises responsibility with respect to referral for treat- ment to stop disease, stop the contagious process.	- Chemotherapy breaks chain of transmission; cures patient.	
- Fills out referral cards appointment.	- Referral procedure: • treatment • culture	
- Arranges patient transport, if necessary.		
TASK B8. Stores slides - transports slides.		
- Stores slides and cards; transports slides.	 Card system for each positive slide; corresponding serial storage of slides. Positives separated from nega- tives, doubtful cultures sent to Central Laboratory for independent culture. 	

FORM 5: COURSE EVALUATION PLAN			
	TESTING CONDITIONS PERFORMANCE		
	When given	The students will	
(ENT)	1. Paper and pencil tests	 correctly list signs and symptoms relating to tuberculosis 	
		- list conditions which contribute to its spread	
		 explain procedure of referring pa- tients for sputum testing and treatment. 	
(PROG)	2. a. Directions in class	Recalls:	
		 main symptoms of tuberculosis 	
		• chain of transmission	
		 importance of sputum examin- ation. 	
(PROG)	b. Fellow students	 Conduct interviews with patients presenting or suspected of having above symptoms. 	
		- Perform referral procedure.	
(PROG)	3. A work area	Request necessary equipment and	
		 prepare work area, i.e., collection - fixing - staining - microscope examination. 	
(PROG)	4. Instructions	- list labeling and safety routines	
	Fellow students	- give instructions to patients for sputum collection.	
	5. A slide and sputim	 describe the steps in making, fixing and storing sputum smear. 	
	 A work area at end of fixing/staining oper- ations. 	 clean and store equipment dispose of and list disposal routine for contaminated materials. 	

	TE	STING CONDITIONS	PERFORMANCE
	Whe	n given	The students will
	7.	A multiple choice check- list.	- Choose the correct safety proce- dures
(POST)	8.	A fixed sputum smear.	- Stain the sputum by Kiniouns (or Ziehl-Neilson) method under super- vision of instructor.
			- Examine the sputum under the micro- scope and detect tubercle bacilli if present.
(POST)	9.	Two prepared smears (known to be + or -)	- Recognize presence or absence of tubercule bacilli.
			- Interpret findings.
			- Decide on referral.

	FORM 6: ACTIVITIES PLAN			
	EVALUATION ACTIVITIES (from Evaluation Plan)			
1.	When given a pencil and paper test, the student will	A. Entry Level Test		
	 correctly list the main signs and symptoms of tuberculosis 			
	 describes chain of transmis- sion and referral procedure 			
2.	When given directions in class, the student will recall the main symptoms of tuberculosis.	 A. Lecture/discussion Tuberculosis in Jamaica at the Parish level Pilot area B. Epidemiology of tuberculosis - definition chain of transmission symptoms (film, flip chart) C. Handouts (tuberculosis 20 questions) 		
3.	When given fellow participants, the student will carry out in- terviews (demonstrating communi- cation skills, (identify patients at risk, motivate, and refer them to health centre for sputum test or treatment (program)	A. Role play patient interviews B. Demonstrate referral procedure		
4.	 When given a classroom area, e.g., desk for sputum collection, smearing, and staining, the student will be able to obtain sputum from a patient. request necessary equipment and arrange instruments and materials list reagents needed to fix and stain slides 	 A. Lecture on collection, fixing and staining B. Demonstration of work area preparation C. Handouts listing instruments, reagents 		

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FORM GACTIVITIES PLAN			
EVALUATION ACTIVITIES			ACTIVITIES
5.	When given slides and sputum, the student will demonstrate ability to fix and stain slides, then store and/or arrange for trans- port.	A. Der sta B. Gro	monstration of fixing and aining technique oup practice
6.	<pre>When given a work area at the end of a fixstaining operation, the student will - clean and store equipment - dispose of contaminated materials.</pre>	A. Leo i.o B. Dis C. Har	cture on safety precautions, e., contaminated materials scussion ndout (checklist)
7.	When given a multiple choice checklist on sputum testing, the student will choose correct safety procedures	A. Pro	ogress Test
8.	When given a smeared sputum stained slide, the student will examine it under a micro- scope and interpret it correctly by defining positive, negative or doubtful slides.	A. Tai mic B. Har C. Exq bac und D. Der by E. Der sl: F. Gro	lk/Demonstrate (explain croscope) ndout on microscope plain morphology of tubercle cilli and how it presents der the microscope monstrate counting bacilli fields monstrate how to interpret ides oup Practice
9.	When given a patient with symptoms of tuberculosis, the student will take a smear, fix, stain, examine under microscope, interpret correctly, and recommend course of action.	A. Pra Dev stu	actical Post Test velop checklist to score idents performance.

FORM 7 :COURSE SYLLABUS			
Course: Sputum 1	Course: Sputum Testing Techniques for Parish Health Workers		
SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES	
Day I	 Lecture/discussion Incidence of tuber- 		
Session 1 Time: 1 ¹ / ₂ hrs.	culosis in Jamaica and Parish in particular (overhead projector).		
	- Development of pilot sputum testing pro- gramme in the Parish.		
	 Brief overview of course, outline objectives. 		
	 Entry Level Testmultiple choice questions. 		
Session 2 Time: l ¹ 2 hrs.	l. Lecture/Discussion: Epidemiology of tubercu- losis (flip chart)		
	- definition		
	 transmission signs/symptoms (impor- tance of cough). 		
	2. Film: Tuberculosis		
	3. Question and answer period.	Handout (1) "Tubercu - losis 20 Questions Answered"	
Session 3 Time: l ¹ 2 hrs.	 Instructor's briefing on role playing expec- tations. 		
	2. Role playing		
	 Critique, discussions, and summary. 		

SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES
Session 4 Time: l ¹ 2 hrs.	 Sputum collection how to instruct patient to produce sputum from lungs. 	
	 Basic notions of safety precautions. 	
	3. Evaluation.	
Day II Session l	l. Talk: preparation of work table for collec- tion, fixing and staining.	
Time: 1½ hrs.	2. Knowing - equipment - reagents.	
	 Handout (1) listing equip- ment and reagents (see manual). 	
	 Demonstration by one group of students in organizing work area. 	
	5. Critique.	
	 Practice: students in groups of two prepare their work area for next session. 	
	 Safety precaution exercise (test). 	
Session 2	l. Talk/Demonstration	
Time: l ¹ 5 hrs.	- smear slide - fix slide.	
	2. Student practice	
	 smearing and fixing slides under instruc- tor(s) supervision. 	
	3. Demonstrate by best team.	
	4. Clean-up and decontamina- tion procedures (checklist).	

SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES
Session 3 Time: 1 ¹ 5 hrs.	 Evaluation a. list reagents, instruments used in fixing and staining slides b. individual ability to correctly smear, fix, stain slides c. record and clean-up. 	
Day III Sessions 1 and 2 Time: 3 hrs.		 Visit to Health Centre collect sputum and prepare slides
Session 3 Time: 1 hr.	 Field visit report discussion of strength and weaknesses of students 	
Day IV Session l Time: l ¹ 2 hrs.	 Review preparation of work area staining procedure reagents used for staining. Demonstration staining and decolor- izing procedures. 	
Session 2 Time: 3/4 hr.	1. Students practice.	

SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES
Session 3 Time: 1 hr.	 Introduction to micro- scope (overhead projec- tor). Demonstration on use. 	
Session 4 Time: (See modifi- cations, Appendix N)	 Explain morphology of tubercle bacilli. Demonstration - counting of bacilli by fields Explain how to interpret. Evaluation complete labeling drawing of microscope list reagents in Kiniouns method. 	
Day V Sessions 1, 2, and 3 Time:	 Review. Student practice prepared slides are given to students to distinguise negative and positive slides (post test). Final Evaluation, Discussion 	Visit to Health Centre to collect sputum (full course only).

FORM 3: SESSION PLAN				
(Session 1)				
ACTIVITIES	APPROACH/CONTENT			
 Brief overview; outline objectives. At the end of the course the students will be able to fix, stain and examine sputum smears by direct microscope and so diagnose bacillary cases of tuberculosis at the parish level. 	<u>15 minutes</u> Welcome and introduction. Stress objectives of course and give clear sense of direction.			
	30 minutes State problem of tuberculosis in parish and island. Information on recent findings and developments in tuberculosis control. Mention first Caribbean Workshop on tuberculosisOctober 1979.			
 Lecture/Discussion on the incidence of tuberculosis in the island of Portland Parish in particular, the development of a sputum testing pro- gramme in the parish. 	<pre>Identification for need of tuberculosis control programme in Jamaica with decen- tralized sputum testing as major compo- nent. Portland designated as pilot area. Explain: what is meant by pilot area the responsibility of participants as pilot workers.</pre>			
3 Entry Level Test	5 minutes Entertain questions and comments. 20 minutes			
J. BULLY DEVEL LESL	administer mutcipie choice cest.			

(Session 2)				
	ACTIVITIES	APPROACH/CONTENT		
1.	Introduction	5 minutes		
		State objectives		
		At the end of the session, the students will recall facts on:		
		what is tuberculosis		
		cause and transmission		
		signs and symptoms and prevention therapy		
		40 minutes		
		Using flip chart, describe tubercle bacilli.		
		Chain of transmission - infected human or animal to man.		
1		Predisposing conditions.		
		Symptoms - Productive cough for more than 3 weeks (cardinal symptom).		
2.	Lecture on epidemiology of tuberculosis:	Diagnosis		
		manteaux		
	oasic notions of tuberculosis	X-ray		
	coughers suffering from tuberculosis: key link in trans- mission chain.	clinic		
		laboratory		
		Prevention		
		Therapy		
		Contact tracing		
		Follow-up patients at parish level.		
3.	Film on tuberculosis.	15 minutes		
		Incroduce and project film.		

ACTIVITIES	APPROACH/CONTENT
	<u>10 minutes</u> Question and answer period. Distribute Handouts.
((Session 3)
 Role play - identifi- cation and referral of persons with symptoms suggestive of tuber- culosis. 	 <u>10 minutes</u> State objectives of session. Briefings on expectations of role play Explain characters. <u>20 minutes</u> Class Activity. Arrange class into groups of four and have each group role play an interview- counseling-referral situation in a clinic. At the same time, nonpartici- pating members observe and record behavior-skills, etc., displayed (noting strong-week desirable or undesirable as the case may be). Nonparticipating members critique - discussion. <u>45 minutes</u> Regroup class, each group role play for benefit of entire class. Reporters give critique. Discussion.
 Objectives: At the end of each session, partici- pants will display skills in interviewing counsel- ing and referring patients for sputum testing or treatment. 	<u>15 minutes</u> Session leader gives summary and conclu- sions.

ACTIVITIES	APPROACH/CONTENT
	(Session 4)
1. Introduction	15 minutes
•	State objectives of session.
	Objective - at the end of session, the student will be equipped with techniques for selecting a valid sample for sputum examination.
	Briefing on role play expectations.
	Patient to produce sputum at Health Centre.
	Patients should produce another sputum first thing in the morning at home; therefore, instructions on how to produce from lungs as distinct from saliva.
	Patient to be instructed to cough.
	How to induce cough if necessary.
	Techniques - spatula - chemical
2. Role play - sputum testing.	35 minutes
	Role play.
	Gritique and discussions.
3. Lecture/Discussion	40 minutes
	Point out safety precautions related to above operations.
	Basic notions of safety precaution techniques:
	recall chain of transmission containing bacilli
	exposure of worker.
	Handout safety precautions:
	read section relating to sputum collection.
	1

GLOSSARY

Some of the terms used in the book may not be familiar to you. This glossary briefly defines key words and terms.

<u>activities</u>	things which are done.
analyze	to break down into simpler parts.
assess	to evaluate, find out, to determine.
<u>consider</u>	to think about.
<u>conditions</u>	what is given related to the job or classroom activities.
<u>constraints</u>	issues or problems which limit or control a course of studies.
competencies	skill, knowledge or attitudes to be acquired.
demonstrate	to show how something is done.
design	to develop a plan for doing something.
desired	what you would like to see occur.
<u>discuss</u>	to talk about something.
duplicate	to copy exactly.
estimate	to approximate.
event	an activity which occurs in a course.
feasible	something which is possible to accomplish.
feedback	information provided by students or instructor indicating extent of progress.
format	a way of presenting information.
frame of reference	a way to relate one thing to another.
framework	a way of organizing things.
guidelines	a description of how to develop or produce a course activity.

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identify to establish proof or existence.

indicate to signify, point out or reveal.

interact to do something with other people.

master to acquire knowledge, skills or attitudes and to be able to do something well.

match to bring close to something.

<u>model</u> to teach by showing an example.

motivate to make people interested in something.

objective what you are trying to get accomplished.

overview to look at something without looking at details.

participation taking part in something.

performance what someone does.

practice to learn how to do something by doing it many times.

prerequisites what students need to know before starting a course.

provide to give.

relate to bring together.

resources things to use to teach your course.

respond to show that you know what is happening.

<u>revise</u> to change.

rung or steps one of the steps of a ladder.

segment a part of something larger.

sequence to put in the right order.

session a segment of a course given in a certain time period.

specify to tell or give details about something.

successive next to each other.

supplement to add to something.

task a part of a larger job.

"tone" a mood or atmosphere.

verify to find out if what you think is correct.

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14	ame	٠

Date:

Project:

FORM 1: INSTRUCTIONAL SITUATION

ASSIGNED

COURSE TITLE:

COURSE PURPOSE:

EXPECTED STUDENTS:

Number of Students

Educational Background

SETTING:

CONSTRAINTS:

Such as... No time to prepare Large number of students

RESOURCES:

Such as... Funds: Personnel: Laboratory facilities: etc. WOULD PREFER
Name:

Date:

Project:

FORM 2: JOB DESCRIPTION

JOB TITLE:

TASKS:

FORM 2: FIELD STUDY (Verify Job Description)

PROCEDURE:

FINDINGS:

N	ame	:
	uno	

Date:

Project:

FORM 3: DESIRED JOB AND STUDENT PERFORMANCE

TASK:

CONDITIONS		PERFORMANCE	1
*****	On-The-Job	Performance	
When given		The worker will	
	Desired Stud	 ent Performance	
When given		The student will	
			• .
•	Entry Leve	1 Performance	
∜hen given		The student will	ан сайтаан ал сайтаан ал сайтаан ал сайтаан ал сайтаан ал сайтаан ал сайтаан ал сайтаан ал сайтаан ал сайтаан а Сайтаан ал сайтаан ал с
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Name :	Date: Project:
FORM 4: 7	TASK ANALYSIS
TASK DESCRIPTION:	
<u>SKILLS</u> (Thinking, Doing, Communicating)	KNOWLEDGE
	134

Name:	Name: Project:
FORM 5: COU	IRSE EVALUATION PLAN
	REDEODUANCE
	PERFORMANCE
When given	The student will
mien given	ine Student will,
	1/

Name:

Date:

Project: _____

FORM 6: ACTIVITIES PLAN

EVALUATION ACTIVITIES (from Evaluation Plan) 1/ 23/

Name :		Date: Project:
	FORM 7: SYLLABUS	
Course Title: Instructor:		
SESSION	IN-CLASS ACTIVITIES	OUTSIDE ACTIVITIES

Mama		
name	÷	

Date: _____ Project: _____

FORM 8: SESSION PLAN

Session #

ACTIVITIES	APPROACH/CONTENT
	·
References and Resources: Reminders:	
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