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A competency-based instructional approach for teachers in secondary schools in low-income urban areas.

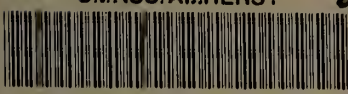
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A COMPETENCY-BASED INSTRUCTIONAL APPROACH FOR
TEACHERS IN SECONDARY SCHOOLS IN LOW-INCOME URBAN AREAS

A Dissertation Presented

by

Gwendolyn Hackley Austin

Submitted to the Graduate School of the
University of Massachusetts in partial
fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

September

1974

Urban Education

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TEACHERS IN SECONDARY SCHOOLS IN LOW-INCOME URBAN AREAS

A Dissertation

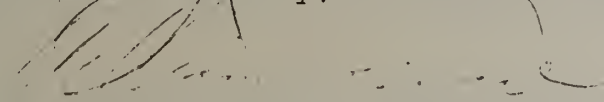
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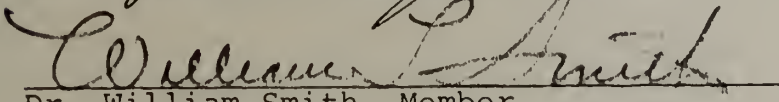
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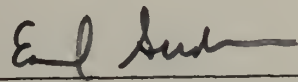
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September, 1974

A C K N O W L E D G E M E N T S

Many people gave generously of their time, assistance, and encouragement in the preparation of this project. To these individuals I am deeply grateful.

My parents, Mr. and Mrs. Russell Hackley, who made me appreciate the value and importance of an education.

My husband, Theodore, for his patience and understanding.

My son, Curtis, whose disenchantment with secondary education was one of the factors in the selection of this project.

My son, Brian, who kept everyone out of Mommy's way so that she could "work on her dissertation."

Dr. William Smith, whose guidance, knowledge, and insight will always be appreciated.

Dr. William Greene, who provided much assistance and encouragement.

Mr. Clarence Walker, who kept telling me I could do it.

Dr. Reginald Pearman, whose suggestions proved invaluable.

Dr. Cleo Abraham, for making everything possible.

Dr. Atron Gentry, who came to my aid when I needed it.

Dr. Byrd Jones, for his wisdom and valuable input.

Ms. Maxine Daly, for encouraging me to "keep on keeping on."

Ms. Betty Welch, for typing and proofing the drafts.

Dr. Haroldie Spriggs for her friendship and assistance.

Mrs. Eloise Peters for typing the drafts.

Mr. Leon White, a former student now deceased, whose faith in me as a teacher was a source of great inspiration.

A Competency-Based Instructional Approach for
Teachers in Secondary Schools in Low-Income Urban Areas
(September 1974)

Gwendolyn Hackley Austin, B.S., Howard University
M.S., Howard University

In spite of reform efforts during the past fifteen years, secondary schools in low-income urban areas are still in serious trouble. This dissertation attempts to interface theoretical and conceptual underpinnings of three reform movements: the curriculum reform movement, the Great Society Programs of the Kennedy and Johnson Administrations, and the current competency-based teacher education (CBTE) movement. Using the CBTE approach, this dissertation focuses on dimensions with which CBTE did not deal -- specifically, low-income populations and secondary schools.

This dissertation develops an instructional package for secondary teachers from low-income urban areas to enable them to construct competency-based instructional modules for their students. Defined as a self-contained and independent unit of instruction, a module has a primary focus on clearly defined objectives and specified criteria by which the attainment of the objectives will be determined. The module contains varied learning activities to assist the learner in attaining the stated objectives. This dissertation

is designed to train classroom teachers to construct instructional modules so as to actualize competency-based pupil education programs.

In order to determine whether the proposed instructional package would be beneficial to secondary teachers in low-income urban areas, a questionnaire was developed and sent to school officials in four large urban cities. Each official was asked to have thirty secondary teachers working in low-income areas respond to the questionnaires. Out of 120 questionnaires distributed, 105 (87.5%) were returned. Of those responding, 85 (81%) indicated that a package designed to train them to construct instructional modules would be beneficial. The package was subsequently designed.

The training package was used by twelve teachers in four secondary schools in low-income areas of a large urban city on the east coast. The teachers used the traditional approach during the first semester and the competency-based education approach during the second semester. Each teacher was then asked to respond to the following questions:

1. Which approach generated more student interest, the competency-based or the traditional as evidenced by more active participation in class activities?
2. Did the rate of absenteeism from class decrease, increase, or stay the same when using the competency-based approach?
3. Which approach to teaching do you prefer to use -- the traditional or the competency-based?

The objective of the dissertation was attained in that an instructional package was designed, and it was effective in training secondary teachers in low-income urban areas to construct modules for their students. Over thirty science modules were developed and implemented by the twelve participating teachers. All involved teachers preferred the competency-based instructional approach and indicated that it generated more student interest than did the traditional approach. Eight teachers reported a decrease in absenteeism while four teachers reported that the rate of absenteeism remained the same.

Wherein this approach may not be a panacea for all the ills besetting secondary schools in low-income urban areas, it was effective in reducing some of the apathy apparent in the participating inner-city secondary schools. In addition, the training package proved to be a useful tool for providing in-service training for the secondary teachers involved thereby adding to their skills and providing them with an alternative approach to instruction.

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C H A P T E R I

INTRODUCTION

General Problem

In the last 15 years, although American public schools have been a part of three major reform movements, the secondary schools in low-income urban areas are still in serious trouble. The first of these reform movements was the curriculum reform movement of the late 1950's and early 1960's. This movement resulted from the alarm generated by the Russian launching of Sputnik and the subsequent concern over the ability of our schools to meet the demands of modern technology. The attempts at curriculum reform during this period gave rise to new science and math courses. The focus, however, was upon the most talented students receiving more and better scientific knowledge in more and better ways.

The second reform movement was the Great Society Programs of the Kennedy and Johnson Administrations. Great emphasis was placed on education as a means of achieving equal opportunity. A main part of this effort was providing federal compensatory educational programs for urban inner-city students and rural students from low-income families who had been and are deprived of both experiential background and educational opportunity.¹

¹William L. Smith, "Social Change Interventions, Organizational Behavior, and Pupil Performance" (unpublished Ph.D. dissertation, Case Western Reserve University, 1970), p. 2.

The schools, reluctant to accept the blame for low achievement of these students, placed the blame on the parents and students. This attitude was reflected in the fact that the federal ESEA Title I legislation, the first educational prescription for change in this movement, was directed at compensating for parent failures. These efforts proved to be unsuccessful.²

Educators then began to look at the training of teachers as a new vehicle for reform, thus giving rise to the third movement, the current competency-based teacher education effort (CBTE). "The term competency-based has become a special designation for an educational approach, for a movement."³ It has been referred to as "the most significant lever for education reform since Sputnik."⁴ This approach places great emphasis on clearly defined objectives and assessment criteria. In a competency-based program, a teacher's portfolio would indicate what competencies he has demonstrated rather than what courses he has pursued and the grades he has received.

²Ibid., p. 3.

³W. Robert Houston and Robert B. Howsam, Competency-Based Teacher Education, Progress, Problems, and Prospects (Palo Alto, California: Science Research Associates, Inc., 1972), p. 3.

⁴Allen Schmeider, Competency-Based Education: The State of the Scene (Washington, D.C.: American Association of Colleges for Teacher Education, February, 1973), p. viii.

CBTE in the 1970's is primarily an outgrowth of the accountability movement in education.⁵ The move toward instructional accountability in education arose in response to public demand to know what educational results were being obtained from the expenditure of public funds. "The concept of educational accountability is concerned basically with techniques to guarantee a certain level of student performance relative to stated objectives and goals, and with an accompanying efficient use of resources."⁶ This same concept is reflected in the design of CBTE.

The design of CBTE evolved from the Elementary Teacher Training Models Project, funded in 1968 by the USOE Bureau of Research. Each selected institution was required to incorporate: (1) behavioral objectives and (2) a systems analysis approach in designing a model of elementary teacher education.⁷

Historically, CBTE was designed for undergraduate and in-service elementary teacher education programs. The literature does not show that low-income school population was ever seen as a special target for CBTE. In addition,

⁵Phyllis D. Hamilton, Competency-Based Teacher Education (Menlo Park, California: Stanford Research Institute, July, 1973), p. 5.

⁶Robert J. Garvue, "Accountability: Comments and Questions," Educational Technology, 11 (1971) p. 34.

⁷Hamilton, Competency-Based Teacher Education, p. 5.

the elementary, rather than the secondary schools were targets of the Models Projects.

Specific Problem

This dissertation attempts to interface theoretical and conceptual underpinnings of three reform movements: curriculum development from the curriculum reform movement, low-income populations from the Great Society Programs, and teacher training from the CBTE movement. In addition, it attempts to interface secondary students as another dimension. The specific problem is to train teachers to develop curriculum for secondary students in low-income urban areas.

Purpose and Significance of the Dissertation

The overall purpose of this doctoral dissertation was the development of an instructional package designed to train secondary teachers working in low-income urban areas to construct competency-based instructional modules for their students. A Module can be defined as a self-contained and independent unit of instruction which has a primary focus on clearly defined objectives and specified criteria by which the attainment of the objectives will be determined. In addition, basic to the module are varied learning activities specifically designed to assist the learner in attaining the stated objectives.

Many competency-based programs employ instructional modules to actualize competency-based teacher education

programs. This dissertation is significant in that teachers may use the modules they develop to actualize competency-based pupil education programs for secondary schools.

Richard Graham, former director of Teacher Corps, United State Office of Education, in an address to prospective 9th Cycle Teacher Corps applicants indicated that IGE (Individually Guided Education) represents the transportability of competency-based education into the elementary schools. He further indicated that there was no evidence of that kind of transportability into the secondary schools.⁸ This dissertation represents a move in that direction.

Organization of the Dissertation

The overall dissertation design consists of six chapters. Chapter I, the introductory chapter, gives the prospectus, purpose, and significance of the dissertation.

Chapter II provides a review of literature pertaining to the historical development of CBTE, the essence of the CBTE approach, and a discussion of the instructional module and its relationship to competency-based teacher education.

Chapter III is divided into two sections. The first section deals with the need for educational reform in secondary schools in low-income urban areas. The second

⁸Richard Graham, "Teacher Corps in Retrospect" (a speech to prospective Teacher Corps applicants, Washington, D.C., June, 1973).

section presents a rationale for the transportability of certain characteristics of CBTE into an instructional program for secondary schools in low-income urban areas.

Chapter IV presents a discussion of the procedure used in the planning and development of an instructional package designed to train secondary teachers in low-income areas to construct instructional modules for their students. It also discusses how the package was field tested, and describes the conditions under which it was tested.

Chapter V presents an instructional package designed to train secondary teachers in low-income urban areas to construct instructional modules for their students. The package contains information pertaining to the parts of a module and suggested steps in preparing a module. It also contains three modules designed to enable the teachers to attain and demonstrate competency in specifying objectives, developing criterion test items to measure the attainment of the objectives, and designing learning strategies to attain the stated objectives.

Chapter VI, the concluding chapter, presents the summary, and recommendations for further study.

C H A P T E R I I

COMPETENCY-BASED TEACHER EDUCATION

The Historical Development of CBTE

The major impetus for CBTE can be traced back to late 1967 when the Bureau of Research within the Office of Education issued a request for proposals which called for the design of models for the restructuring of elementary teacher education programs. A systems analysis approach was to be used in developing the specifications of the models. The request also indicated that the program design should be transportable to other institutions that train teachers. In addition, each model was to include a behavioral description of desired teaching competencies and the relationship of these competencies to the educational environs in which the teacher would perform. The design was also to include a systematic management plan for the development and implementation of the model within a school of education and cooperating local education agencies.¹

The Elementary Models, which are sets of specifications for comprehensive undergraduate and in-service teacher education programs for elementary teachers, resulted from this United States Office of Education effort. These models

¹United States Office of Education, Request for Proposals No. OE-68-4, October 16, 1967. (Mimeographed).

were developed by the Florida State University; Michigan State University; Northwest Regional Educational Laboratory; Syracuse University; Teachers College, Columbia University; the University of Georgia; the University of Massachusetts at Amherst; the University of Toledo; University of Pittsburgh; a tenth set was developed at the University of Wisconsin.

In the original specifications prepared by the model developers, the terms competency-based, performance criteria, teaching competencies, and similar terms are found throughout. These "Models" provided a conceptual base for competency-based teacher education.

H. Del Schalock in summarizing the conceptualization of CBTE within the framework of the "Models" indicated that the "Models" differ from traditional programs in the following ways:

1. A shift from an experience base to a performance based mode of operation.
2. A shift from a primary focus upon knowledge and skill mastery to a primary focus upon output.
3. A shift from an essentially data-free to an essentially data-dependent mode of operation.
4. A shift from an essentially training function to a research, development, and training function.
5. A shift from an essentially impersonal, instruction oriented learning environment to one that is personalized and student oriented.
6. A shift from an essentially college or university centered program to a field centered program.

7. A shift from a relatively narrow and essentially closed decision making base to one that is broad and essentially open.²

As a result of the initial research activities of the models developers and the subsequent efforts of dissemination of the products therefore by the Office of Education, CBTE became well known. In an interview, James Steffensen noted that,

At the time that the themes and specifications of the elementary models were being discussed throughout the Nation's teacher education community, they were being reviewed actively within the Office of Education. Teacher Corps particularly viewed the specifications as providing considerable assistance to its efforts to improve teacher education through a vigorous systematic data based effort. As a result, Teacher Corps pilot-tested the initiation in 1970, of competency-based components at six of its project sites. Since then, all Teacher Corps projects have a competency-based orientation to their intern training program.³

Additional impetus was given to the CBTE movement by The National Council for Accreditation of Teacher Education (NCATE) when it adopted its Standard for the Accreditation of Teacher Education, 1970.⁴

²H. Del Schaloc, "BPED, NCERD and Teacher Education That Makes a Difference" (a working paper prepared for Task Force '72, U.S.O.E., Washington, D.C. May 14, 1971).

³James Steffensen, private interview held in Washington, D.C. July 1, 1974. Dr. Steffensen was the project officer, Bureau of Research, Office of Education, who was responsible for the planning, development, and leadership of the models development within the Office of Education.

⁴Clifford, D. Foster, "Analyzing the PBTE Approach," Educational Leadership 31, No. 4 (January, 1974), p. 309.

The criteria adopted in the 1970 standards reflected a strong disposition toward a preparation program stressing performance. The fact that NCATE accredits approximately one-third of the teacher education institutions that produce 80% of the nation's teachers suggests that the CBTE approach will be an important factor in the accreditation of these institutions under the 1970 NCATE standards.⁵

There is considerable evidence on the state level that the CBTE approach to certification of teachers is gaining momentum. In such states as Alabama, Arizona, Georgia, Texas, and Vermont, State Boards have passed or are in the process of requiring that State Departments of Education take initial steps toward performance-based certification.

Several states such as Alabama, Arkansas and Indiana, to name a few, are studying the whole concept of CBTE.⁶ By fall, 1972, seventeen states had devised teacher certification procedures based on the CBTE concept.⁷

To lend even more credibility to this new educational approach, the American Association of Colleges for Teacher Education (AACTE) Committee on PBTE⁸ (CBTE) began

⁵Ibid., pp. 307-9.

⁶Allen Schmieder, Competency-Based Education: The State of the Scene (Washington, D.C.: AACTE, 1973), pp. 10-13.

⁷Ibid., pp. 10-13.

⁸PBTE stands for performance-based teacher education. PBTE is used synonymously with CBTE.

publishing a PBTE series to keep the education community abreast of happenings in that area.

The CBTE movement, though still in its infancy, is already controversial. Some question its philosophical basis. Some criticize its "mechanistic" characteristics and suggest that it is not humanistic. Others see it as a means of bringing about accountability and concomitantly merit rating for teachers.⁹ In spite of the controversy surrounding it, CBTE has created an impetus for change that is unprecedented in the history of teacher education.

The Essence of the CBTE Approach

Competency-based, often referred to as performance based, is a special designation for an educational approach which places greater emphasis on clearly defined objectives and assessment criteria for determining the attainment of the stated objectives. Such programs make explicit what the teacher or potential teacher should be able to do as a result of this training, i.e., with what competencies he should emerge. Competencies may be defined as

those attitudes, knowledges, skills, and behaviors of a teacher which enable him to facilitate the intellectual, social, emotional, and physical growth of children. Competencies are generally specified as objectives.¹⁰

⁹Foster, p. 306.

¹⁰James Steffensen, "Competency-Based Teacher Education Programs: Some Definitions" (paper distributed to Teacher Corps projects, Washington, D.C., 1971), p. 1.

Objectives in CBTE

In a CBTE program, the objectives are generally classified according to one of the five types of criteria that may be applied in assessing performance. The five types of objectives are: (1) cognitive, (2) performance, (3) consequence, (4) affective and (5) exploratory. The cognitive objectives are those which specify the knowledges and skills to be demonstrated by the learner.

Performance objectives require that the learner actually perform some activity. The learner, therefore, not only demonstrates his knowledge of what should be done, but also his ability to do it.

Consequence objectives are stated in terms of the results of the learner's actions. The focus is on the behavior of the students under the direction of the teacher.

Affective objectives are those which focus on attitudes, values, beliefs, and relationships. Although the CBTE approach seeks precise definition and assessments, affective objectives tend to resist this precision. These objectives must be dealt with, however, for they are an integral part of the entire CBTE approach.

Exploratory objectives, sometimes referred to as expressive or experience objectives, are those which require the learner to experience a specific activity without any regard to any specific learning or behavioral change. The actual undertaking by the learner of the required activity

is the basis for assessment. A visit to a ghetto or a barrio is an example of an exploratory objective. Once the experience has been undertaken, other objectives may be identified as necessary.¹¹

While all of these objectives are used in CBTE programs, the ultimate objective is the maximal employment of consequence objectives, i.e., the primary focus is effective change in student behavior.

Characteristics of CBTE

Houston and Howsam, who are among the leaders in the area of CBTE, give the following central characteristics for competency-based instruction:

1. specification of learner objectives in behavioral terms
2. specification of the means for determining whether performance meets the indicated criterion levels
3. provision for one or more modes of instruction pertinent to the objectives through which the learning activities may take place
4. public sharing of the objectives, criteria, means of assessment, and alternative activities
5. assessment of the learning experience in terms of competency criteria
6. placement on the learner of the accountability for meeting the criteria¹²

¹¹W. Robert Houston and Robert R. Howsam, CBTE, Progress, Problems and Prospects (Chicago: Science Research Associates, Inc., 1972), pp. 6, 7.

¹²Ibid., pp. 5-6.

Some of the other implied and related characteristics are: (1) Instruction is individualized and personalized. (2) The emphasis is on exist, rather than on entrance requirements. (3) Modules are used as one of the vehicles for implementation of the approach. (Modules are units of learning that include a set of activities intended to facilitate the learner's attainment of previously specified objectives.) (4) Emphasis is on criterion-referenced assessment rather than on norm-referenced. (Norm-referenced assessment is generally used in traditional programs. An individual receives a grade based on the performance of others in his class or by a pre-determined standard.)

In criterion-referenced assessment, each student is judged by his own ability to achieve the stated objectives.

Houston points out that even among the disciples of the movement, much confusion still exists about the further characteristics -- such as objectives and accountability -- and the closely related concepts or implementation modes that are so commonly associated with it as to seem characteristics of the approach.¹³

CBTE vs. Traditional Teacher Education

CBTE programs differ greatly from the traditional programs. In CBTE programs the total program is considered prior to specifying instructional parts. In many traditional

¹³Ibid., p. 5.

teacher education programs, each instructor develops his own course with little regard to how it fits with other learning experiences.

In a CBTE program the competencies to be achieved are specified and the student moves through the program at his own rate of progress. In a traditional undergraduate teacher education program, the program duration is set within certain limits - usually four years, and students go through an established number of courses. Emphasis is on the completion of a certain number of courses regardless of whether the student has acquired mastery in all areas of study. CBTE programs place emphasis on exit requirements. Traditional teacher education programs place a heavy emphasis on program entrance requirements.

CBTE programs have students spending more of their time in school in interaction with children. In addition, students spend more of their time in independent study. In traditional teacher education programs, students spend the majority of their time on campus in class. Opportunities for individual study are generally of the homework assignment type. Contact with children in the school is usually limited to the senior year student teaching experience.

CBTE programs focus first on objectives then on activities. In traditional teacher education programs, the activities are often the primary focal point.

CBTE emphasizes the learner rather than the instructor. In traditional teacher education programs, the instructor is usually the center of instruction.

CBTE programs include a variety of instructional modes. Traditional teacher education programs usually utilize a limited number of instructional modes.

In CBTE programs, students are not compared with each other but are compared with pre-determined objectives. In traditional teacher education programs, students are compared with each other or with pre-determined standards.

In CBTE programs there is a demand for explicitness of objectives and assessment criteria which are made public in advance. In traditional teacher education programs assessment of teachers is often through nebulous observations without previous establishment of criteria.

In CBTE programs, personalization of instruction is an important feature. In the traditional teacher education program, personalization of the training program is limited.

In a CBTE program the major criterion for assessment of a good teacher is effective and efficient classroom performance. In the traditional teacher education program, the major criterion for defining a good teacher is often the acquisition of knowledge.

Very few universities can lay claim to a completely CBTE program, but the prospects of a new approach to teacher education has certainly shaken the complacency of many "status quo" teacher education strongholds.

The Instructional Module

Basic to many competency-based teacher education programs is the instructional module, sometimes referred to as learning modules, performance modules, educational specifications, or task units. Cooper and Weber define instructional modules as a set of learning activities intended to facilitate the learner's acquisition and demonstration of a particular competency or particular competencies.¹⁴

Modules may vary in form or format, but basically all are comprised of five essential elements:

1. Rationale: This is a statement explaining the importance and relevance of the objectives to be attained.
2. Objectives: Stated in specific, concise, criterion-referenced terms.
3. Pre-assessment tests: which determine whether or not the students possess the necessary skills and knowledges to undertake the attainment of the module objectives, and which also measure the degree to which the students can already achieve the objectives of the module. On the basis of this pre-assessment, it is possible for a student to "test out" of a module and receive credit without further activities, or to focus his efforts on areas of greater need.
4. Enabling activities: (referred to also as learning strategies or instructional activities) specifically designed to enable the student to attain the module objectives. The activities are quite varied as to type, setting, and duration. They also provide adequately for individual abilities and learning styles. The instructional activities may range from large group lectures on campus, to independent study in a resource center.

¹⁴James Cooper and Wilford Weber, Competency-Based Teacher Education: A Systems Approach to Program Design (Berkeley, California: McCutchan Publishing Corporation, 1973), p. 7.

5. Post-assessment tests: which like the pre-assessment measures the student's level of mastery relevant to the objectives of the module. If a student does not perform at an acceptable level, he is recycled through the optional activities or repeats some of the previously executed one.¹⁵

The modular approach increases possibilities for self-pacing, individualization, personalization, independent study, and alternative means of instruction. The utilization of modules permits self-pacing and alternative routes not only within modules, however, but also within programs.

The instructional module has emerged as a very effective vehicle for implementing a CBTE program. CBTE program designs usually begin with the specification of objectives focusing on particular competencies. A group of related objectives can then be clustered into modules, and a group of related modules are brought together to form a module cluster or component which might be given a course label such as "Teaching Theories and Practices." This procedure avoids both overlaps and gaps.

It must be pointed out, however, that although the module can be an effective vehicle for effecting a CBTE program, some universities are construing CBTE as being synonymous with modular development and consequently are passing out modules which are tantamount to "busy work" and which are completely unrelated to any desired teacher competencies.¹⁶

¹⁵Houston and Howsam, p. 10. An elaboration of the description of the parts of the module was provided by this writer.

¹⁶Personal observations by the writer who is responsible for monitoring Teacher Corps projects for the U.S. Office of Education, Washington, D.C.

C H A P T E R I I I

THE TRANSPORTABILITY OF THE CBTE CONCEPT INTO AN INSTRUCTIONAL PROGRAM FOR SECONDARY STUDENTS IN LOW-INCOME URBAN AREAS

Introduction

The traditional approach to instruction in secondary schools in low-income urban areas is not meeting the needs of the population being served. The CBTE approach, however, embodies characteristics which, if transported to an instructional approach for secondary students in low-income urban areas, can help decrease some of the apparent frustration and apathy inherent in these schools and can help develop in these students a more positive self-image.

This chapter will focus on the need for educational reform in secondary schools in low-income urban areas. In addition, a rationale for the transportability of some of the essential characteristics of CBTE into an instructional program for secondary students in low-income areas will be presented.

The Need for Educational Reform In Secondary Schools in Low-income Urban Areas

In spite of the so-called reform movements in American education, a dismaying number of students - particularly those in secondary schools in low-income urban areas - are still not receiving an adequate education. In big cities

across the country, one out of every three high school students drops out of school, and the ones that come to school attend only 70 percent of the time. Worse yet, the average inner city high school student reads two years or more behind national norms.¹ Many elementary schools in low income areas have begun varied innovative techniques and programs such as IGE (Individually Guided Education), PLAN (Programmed Learning According to Needs), or MES (More Effective Schools), to name a few. Open-space elementary buildings are cropping up all over the United States, but the majority of the high schools in low-income urban areas still appear to be vestiges from decades gone by.

Traditionally, classes for secondary students are conducted with the teacher as the center of instruction. The instruction, for the most part, is a large group with the teacher as the official dispenser of information. The teacher is often required to adhere to an already prescribed curriculum. "Covering the year's worth of current content remains a gatekeeper of the present system and is to all intents and purposes the primary objective of urban education."² At the announced time, an examination is usually given to determine how much knowledge has been absorbed. If a student is

¹Mark Shedd, "The Kinds of Educational Programs We Need for the Later Adolescent Years," in The School of the Future Now, ed. by J. Galen Saylor (Washington, D.C.: Association for Supervision and Curriculum Development, 1972), p. 54.

²Mario Fantini and Gerald Weinstein, Making Urban Schools Work: Social Realities and the Urban School (New York: Holt, Rinehart and Winston, Inc., 1968), p. 13.

absent on examination day, often teachers will refuse to give make-up exams; consequently, increasing the student's chances of failure. Since the urban high schools have 30 percent daily absenteeism rate, this examination practice with provisions for built-in failure also tends to increase the drop-out rate.

The physical atmosphere in secondary schools is often not conducive to learning. The teacher's desk is usually at the front of the room and the students' desks are arranged in neat rows facing it. Bulletin board displays or attractive rooms are the exception rather than the rule.

"Crime and violence in central city schools are growing at unprecedented rates. In the high schools of some cities, there are literally thousands of students who have no interest in education, who roam the corridors, disrupt the classes, constantly look for trouble or foment it."³ Teachers are often afraid of the students. William Smith, Director of Teacher Corps, United States Office of Education said:

Basically as you look at what is going on in American Education today, specifically as it addresses itself to problems of learning and behavior in schools that have a predominance of low-income families, you find that teachers tend to have greater fear as the grade level of the child increases. My assumption then is that by the time you get to high school, folks are awfully frightened in some places with the behavior of kids.⁴

³James A. Harris, "Education Too Little, Too Late" (a speech to the South Carolina Education Association in Columbia, June, 1974).

⁴William L. Smith, "Retraining of Educational Personnel" (a speech delivered to Dunbar High School Faculty, Washington, D.C., December, 1973).

Although over a century has lapsed and social conditions have changed dramatically, the schools have been slow to adapt to these societal changes. The description of a typical high school in a low-income urban area today still resembles closely the Common School of the mid 19th century which sought to standardize curriculum, to classify students, to train teachers in approved methods, and to improve regulations and supervision of schools in order to assure common standards of literacy, morality, and good citizenship.⁵

What has gone wrong with the secondary schools in low-income urban areas? The core of the problem begins to emerge when one takes a look at the dramatic changes that have occurred in city populations. For years the large urban cities were predominantly white and the schools in them were separate and supposedly "equal." Poor people, especially Blacks, in search of a better life, have poured from rural areas, mostly in the South, into the large cities while white families have left the central cities for the suburbs.⁶ Typical of this changing pattern in city populations is New Haven, Connecticut. "New Haven has experienced the problems of inner-city mobility and southern in-migration as any other large urban city of America. The schools have undergone major changes as a result of demographic shifts. The result

⁵B. Othaniel Smith, "An Outline for School Reform" (unpublished manuscript, Washington, D.C., 1974), pp. 3-22.

⁶"What's Gone Wrong in Our Big-City Schools?" Changing Times, July, 1969, p. 29.

has been that inner-city school populations have increasingly become non-white."⁷

New Havens are in existence all over America. The big cities are rapidly being left to the poor and untrained, and what they consequently inherit as they take over the city schools are almost total segregation, severe overcrowding, old buildings, obsolete equipment, inexperienced teachers, scanty materials, and irrelevant courses. In the majority of secondary schools today, despite advances in theory, technique, and program designs, curricula remain fixed and circumscribed by traditions rooted in an era which no longer exists.

There is an additional problem in the secondary schools of the typical middle class teacher trying to relate to the inner-city students whose cultural backgrounds differ greatly from those of the teachers.

There is also a paucity of teachers in the secondary schools who can and will diagnose students in order to place them on a realistic level for instruction. There is further the absence of a systematic program of evaluation to see if the students have attained a level of competence acceptable for placement at another level.

Inner-city students in secondary schools are painfully aware that they are being short-changed and that there is a pressing need for educational reform in their schools.

⁷Cleo Abraham, Urban City (New York: Carlton Press, 1972), p. 7.

The Transportable Characteristics of CBTE

Houston and Howsam have described six characteristics as being essential to competency-based education. These characteristics are quite applicable for an instructional approach for secondary students in low-income urban areas. The transportability of these characteristics into an instructional approach can occur through the development and implementation of instructional modules for the students.

These Characteristics are:

1. Specification of learner objectives in behavioral and assessable terms.
2. Specification of the means for determining whether the objectives have been met.
3. Provision for one or more modes of instruction pertinent to the objectives through which the learning activities may take place.
4. Public sharing of the objectives, criteria, means of assessment, and alternative activities.
5. Assessment of the learning experience in terms of competency criteria.
6. Placement on the learner the accountability for meeting the criteria.⁸

The following section discusses reasons why the transportability of these characteristics into an instructional approach for secondary students in low-income urban areas can be beneficial.

Reasons proposed for the transportability of any of the stated characteristics may apply equally to the other

⁸Houston and Howsam, pp. 5-6.

characteristics. This is due to the fact that the characteristics involve objectives, criteria, assessment procedures, and modes of instruction - all of which are interrelated.

Characteristic 1: Specification of learner objectives in behavioral and assessable terms.

One of the problems besetting high school youth in low-income urban areas is not knowing what is expected of them. Since the objectives are usually not stated in advance, the success of a student is often determined by his ability to guess what the teacher is going to ask on an examination. "There are far too many children in urban schools today who do not learn as they might because they simply are not clear about what their lives are for, and what is worth working for."⁹

The specification of learner objectives in behavioral and assessable terms makes it possible from the beginning for the students to know exactly what is expected of them. This knowledge provides for the students a better learning climate and makes it easier for them to perceive school as a fair rather than an unfair place.

In addition, it is easier to have teacher accountability if the objectives are clearly specified.

Characteristic 2: Specification of the means for determining whether the objectives have been met.

⁹William L. Smith, "Cleveland's Experiment in Mutual Respect," The School and the Democratic Environment (New York: Columbia University Press, 1970), p. 91.

Not knowing how or on what basis his success or failure will be determined, or whether or not he is being judged fairly can cause a student great anxiety. Advance specification of the means for determining whether the objectives have been met can help reduce anxiety on the part of the learner and can make it possible for him to feel that he has an equal chance just like anyone else.

Advance specification of the means of assessment can also help curb arbitrary teacher behavior and prejudgment about a student's capability. Machinery is not always applied in the same way for students in low-income areas. Teachers are sometimes guilty of prejudices toward and stereotyping of students from low-socioeconomic areas. A study by Howard Becker on analysis of social-class variations in teacher-pupil relationships pointed out that by reacting to cultural differences, teachers perpetuate the discrimination of the educational system against the lower-class child. The study also indicated that the amount of work and effort the teacher requires varies inversely with the pupil's social class.¹⁰ By having on them the onus of advance specification of the means of assessment, teachers are able to curb their sometimes unconscious prejudices deriving from stereotyping. Specification of assessment means helps serve as a checkpoint on the teachers to recognize when they have gone beyond the bounds of the criteria that have been specified.

¹⁰Howard Becker, "Social-Class Variations in Teacher-Pupil Relationships," Journal of Educational Sociology, XXV (April, 1952), p. 452.

Characteristic 3: Provision for one or more modes of instruction pertinent to the objectives through which the learning activities may take place.

Traditionally in programs for secondary students, the teacher and the textbook play a major role. All students are usually required to learn material the same way and at the same time without allowances for individual tastes or abilities.

In the urban milieu, because there is a facade of homogeneity deriving from a common level of poverty, teachers tend to overlook the existence of heterogeneity among the low-income urban youth. One can find a wide variety of learning styles, levels of intelligence, life styles, and experiential backgrounds in low-income urban areas.

Students should not be viewed as some homogeneous, monolithic group that can be fitted into a rigid educational machine designed to service yesterday's model of a white middle-class child....variations in experiences and life-styles mean that different people need different things at any given time. No single approach or method works effectively with everybody. Schools should have the flexibility of styles and approaches to work with a variety of classes of youth.¹¹

Provision for varied modes of instruction therefore, is needed in order to accommodate the heterogeneity existing among low-income urban youth.

¹¹Alvin F. Poussaint, "The Black Child's Image of the Future," in Learning for Tomorrow, ed. by Alvin Toffler (New York: Vintage Books, 1974), p. 71.

By being provided with varied modes of instruction by which they may attain the stated objectives, students become active partners in the learning process - in making decisions. They may decide what instructional materials to use or how to evaluate their progress. This partnership in the decision-making process helps develop self-concept. Helen Davidson and Judith Greenberg in their studies of motivation found that higher levels of self-concept were associated with higher levels of achievement.¹² "The development of the self must no longer be left to chance or to peripheral activities in the inner-city school, the central activity of the school, namely the academic program, should be examined for opportunities to improve self-concepts of children."¹³

Provision of varied modes of instruction is one way of providing such an opportunity.

Characteristic 4: Public sharing of the objectives, criteria, means of assessment, and alternative activities.

Public sharing of the objectives, criteria, means of assessment, and alternative activities provides wider visibility of the entire learning process and renders greater

¹²Helen Davidson and Judith Greenberg, Traits of School Achievers from a Deprived Background (New York: City College of the City University of New York, May, 1967), pp. 133-4.

¹³Paul H. Bowman, "Improving the Pupil Self-Concept," in The Inner-City Classroom: Teacher Behaviors, ed. by Robert D. Strom (Columbus, Ohio: Charles E. Merrill Publishing Co., 1966), p. 85.

accountability both for the learner and the teacher. It can also help create for the students a less threatened, fairer, and more purposeful learning atmosphere since everyone knows in advance the rules of the game. The element of trust is essential in a low-income urban area where many people because of their own lot in life have come to distrust society as a whole.

Characteristic 5: Assessment of the learning experience in terms of competency criteria.

Traditionally, in secondary schools a student is judged by his standing in relationship to a pre-determined standard. The approach is characterized by grades and competition for them. As stated by John Holt, "Set into mean-spirited competition against other children, he learns that every man is the natural enemy of every other man."¹⁴

There is a tremendous pressure for grades by parents and by teachers. For secondary youth, this is perhaps the time in their life when the need to be free of pressure is greatest for it is during this period that they are seeking their "identity." An adolescent needs time to do this kind of seeking, tasting, selecting, and rejecting. Pressure for grades and competition for them direct the adolescent's attention away from what he wants to be and makes him focus instead on what the parents and teachers want him to be. Youth ought

¹⁴John Holt, The Underachieving School (New York: Dell Publishing Co., Inc., 1969), p. 19.

to be a time to acquire a sense of one's worth.¹⁵ Identity is even more important in low-income areas for youth who already have been made to feel inferior and deprived.

Traditional testing has other shortcomings. It often penalizes students who work slowly or those who like to be thorough and sure of themselves. The competition it fosters often forces students to cheat, thereby corrupting the act of learning itself. Traditional testing doesn't give much information about the learner. It summarizes the learner in global terms. Not to be overlooked is the uniformity of the testing procedure - the same test to everybody at the same time. For the student from the low-income area who for many varied reasons may have to be absent on test days, this testing procedure often spells failure.

If a student is assessed in terms of competency criteria, his achievement is compared only with the stated objectives and the specified criteria. The achievements of other students are not relevant to the evaluation. Pressure and competition for grades is therefore eliminated. In addition if a student does not achieve an objective the first time, he may try again until he succeeds. Success experiences become inevitable when measured in terms of one's own base. If a student feels he has a chance to succeed, he may strive harder. "Striving, as a motive, cannot be separated

¹⁵Holt, p. 39.

from the issue of self-image.....there is much growth that takes place only with the aid of and because of a self-image."¹⁶

Assessment in terms of competency criteria gives a much clearer picture of the learner and provides both him and the teacher with useful information. This testing procedure provides for self-pacing, so a learner is not penalized for working slowly. He may also take the test when he feels he is ready, thus eliminating the problem of being absent on test days.

Characteristic 6: Placement on the learner the accountability for meeting the criteria.

Placement on the learner the accountability for meeting the criteria can develop a sense of independence and a feeling of responsibility. It can help provide preparation for the decision-making process in society by encouraging autonomy, self-reliance, and self-satisfaction all of which can enhance the student's self-concept. Accountability, however, is a two-way process. By placing accountability on the learner, the teacher in turn becomes accountable for facilitating the student's attainment of the objectives.

¹⁶Benjamin D. Singer, "The Future-Focused Role-Image," in Learning for Tomorrow, ed. by Alvin Toffler (New York: Vintage Books, 1974), p. 23.

C H A P T E R I V

PROCEDURE

Introduction

This chapter describes the procedure used in the planning and development of an instructional package designed to train secondary teachers in low-income areas to construct instructional modules for their students. It also discusses how the package was field tested, and describes the conditions under which it was tested.

Phase I

In order to determine whether an instructional package designed to train teachers in secondary schools in low-income urban areas to construct instructional modules would be beneficial, a questionnaire was developed and sent to school officials in four large urban areas. The geographic location of the urban areas sampled was one city in each of the following sections of the country: Northeast, Southeast, Midwest, and Southwest. Each school official was asked to have 30 secondary teachers working in low-income areas respond to this questionnaire. The questionnaire was designed to ascertain the following:

1. Whether or not the teachers are required to follow a specified curriculum guide.
2. Whether or not the teachers are required to use a standard text.

3. Whether the teachers have received training in curriculum development in the last four years.
4. Whether a manual designed to train secondary teachers in low-income urban areas to construct modules would be beneficial.

The first three questions were designed to explore the milieu in which the teachers were working. Question #4 addressed itself to whether or not the training package would be beneficial. (The answers to questions 1-3 will be addressed in Chapter VI.)

Out of 120 questionnaires distributed 105 or 87.5% were returned. Of those teachers responding, 85 or 81% indicated that a package designed to train them to construct instructional modules would be beneficial.

Phase II

Since there were indications that an instructional package designed to train secondary teachers in low-income urban areas to construct instructional modules would be beneficial, the package was developed. The package follows this general design:

- 1.0 The Instructional Module: This section gives a brief overview of what a module is, the parts of a module, and how utilization of the modular approach may be beneficial to secondary youth in low-income urban areas.
- 2.0 Suggested Steps in Preparing an Instructional Module: This section lists the steps involved in constructing a module and contains a brief discussion about each part of the module.
- 3.0 A Module on "Behavioral Objectives": Specification of learner objectives in behavioral and assessable terms is basic to the development of

modules. This section contains a self-pacing module designed to enable the teachers to gain competence in specifying objectives in behavioral and assessable terms.

- 4.0 A Module on "Student Assessment": Assessment of the learner is a necessary step in the development of a module. It provides information on his level of attainment of the specified objectives. This section contains a module designed to enable the teachers to specify means for determining whether the objectives of the module have been met.
- 5.0 A Module on "Designing Learning Strategies": The designing of learning strategies to achieve the specified objectives is also basic to the construction of modules. This section contains a module designed to enable the teachers to develop learning strategies to assist the students in attaining the stated objective.
- 6.0 A Module Critique Check List: A check list has been designed to assist the teachers in critiquing the modules that they develop. This check list is presented in section 6.0.
- 7.0 A Sample Module Constructed for Secondary Students in Low-Income Urban Areas: In order for the teachers to see a module, this section contains a module which was developed for and used by students in a biology class in an inner-city high school.
- 8.0 Appendix: The appendix contains a bibliography for those who wish to do a more in-depth study of the topics presented in the package. It also contains a list of supplemental materials to accompany the package.

Phase III

Four secondary schools in low-income areas of a large urban city on the east coast were used for the field testing of the training package. Three science teachers from each of the four schools participated in the field testing. (The area of science was selected because it is the

writer's area of specialty.) All of the participating teachers had previously leaned rather heavily on specific curriculum guides, but none were specifically required to follow them. In addition none were required to use a standard text. In short, the teachers were relatively free to select curriculum materials and to explore different instructional approaches.

The teachers were asked to use the traditional approach during the first semester. They were asked to use the instructional package during the second semester to learn how to develop modules. They were then asked to develop instructional modules and to implement them with one of their classes during the second semester. We shall refer to this implementation as the competency-based approach.

Each teacher was subsequently asked to respond to the following questions:

1. Which approach generated more student interest, the competency-based or the traditional as evidenced by more active participation in class activities?
2. Did the rate of absenteeism from class decrease, increase, or stay the same when using the competency-based approach?
3. Which method of teaching do you prefer to use - the competency-based or the traditional?

No effort was made to look at the relationship between the training package and student achievement since the focus of the dissertation was on the development of the training package for teachers rather than upon student outcomes.

The results of the questionnaire as well as a discussion of the modules developed will be presented in Chapter VI.

C H A P T E R V

THE PRODUCT: A CLASSROOM TEACHER'S GUIDE TO THE CONSTRUCTION OF INSTRUCTIONAL MODULES FOR URBAN YOUTH IN SECONDARY SCHOOLS

Introduction

This chapter presents an instructional package designed to train secondary teachers in low-income urban areas to construct instructional modules for their students. By using the package, teachers should be able to develop instructional modules which will provide for their students increased opportunities for self-pacing, individualization, personalization, and alternative means of instruction in keeping with their varied learning styles, life styles, and experiential backgrounds. More student interest should be generated and more active participation in class activities should occur by the teacher's utilization of these modules.

The package contains information pertaining to the parts of a module and suggested steps in preparing a module. It also contains three modules designed to enable the teachers to attain and demonstrate competency in specifying objectives, developing criterion test items to measure the attainment of the objectives, and designing learning strategies to attain the stated objectives.

The package was not intended to give an in-depth treatise on objectives, assessment, and learning strategies, but was intended to deal with them only operationally and provide bibliography for those who care to delve more deeply into the topics.

Teachers are asked to read through the introductory materials, work through the modules according to the directions given in each one, and subsequently develop a module. A critique sheet for modules is included in the package. This enables each teacher to critique his developed module.

The package is not completely self-contained. It does, however, contain a list of materials suggested to supplement the package.

Houston¹ and others have designed materials for developing instructional modules to assist university personnel in the construction of modules. This package, however, has been designed specifically for the classroom teacher. The instructional package is presented in this paper exactly as it would be used by any teacher

¹Robert Houston, et al., Developing Instructional Modules (Houston, Texas, 1972).

A CLASSROOM TEACHER'S GUIDE
TO THE
CONSTRUCTION OF INSTRUCTIONAL MODULES
FOR
URBAN YOUTH IN SECONDARY SCHOOLS
by Gwendolyn H. Austin



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Preface

The purpose of this training package is to assist you, the classroom teacher, in constructing self-pacing, relevant, instructional modules for students in secondary schools in low-income urban areas. Hopefully by using this package, you will be able to develop instructional modules which will provide for your students increased opportunities for self-pacing individualization, personalization, and alternative means of instruction in keeping with their varied learning styles, life styles, and experiential backgrounds. In addition, it is hoped that by the utilization of these modules, more student interest will be generated as will be evidenced by more active participation in class activities.

This training package contains information pertaining to the parts of a module and suggested steps in preparing a module. It also contains three modules designed to enable you to attain and demonstrate competence in:

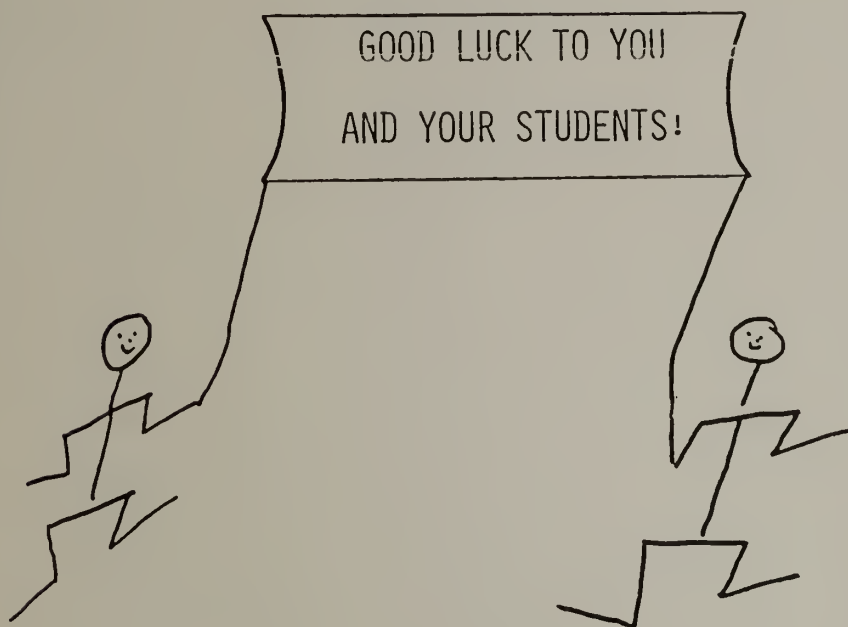
1. Specifying objectives.
2. Developing criterion test items to measure the attainment of the objectives.
3. Designing learning strategies to attain the stated objectives.

This package is not intended to provide an in-depth treatise on objectives, assessment, and learning strategies, but is intended to deal with them only operationally. A bibliography is provided for those of you who care to delve more deeply into the topics.

It is suggested that you read thoroughly the introductory materials, work through the modules according to the directions given in each one, and subsequently develop a module of your own.

In order for you to see a constructed module, included is a module which was developed for and used by students in a biology class in an inner-city high school.

This training package is not completely self-contained. In the appendix is a list of materials suggested to supplement this package.



SECTION 1.0

THE INSTRUCTIONAL MODULE

Introduction

The use of instructional modules, (sometimes referred to as learning modules, performance modules, educational specifications, or task units), is emerging as an effective means of improving instruction in inner-city schools by increasing opportunities for self-pacing, individualization, personalization, and alternative means of instruction in keeping with the students' varied learning styles, life styles, and experiential backgrounds.

A module can be defined as an independent unit of instruction which has a primary focus on clearly defined objectives and specified criteria by which the attainment of the objectives will be determined.

Parts of a Module

Modules generally include five major parts:

1. The rationale
2. Objectives
3. Pre-assessment tests
4. Enabling activities or learning strategies
5. Post-assessment tests

Rationale: The rationale presents a clear statement of the importance and relevance of the objectives to be

attained. It includes the major assumptions upon which the module is based. If the importance and relevance of the objectives cannot be determined, perhaps second thought should be given about proceeding with the module. A major complaint about inner-city teaching today is the irrelevance of instruction.

Objectives: The objectives stated in clear, concise terms specify what the learner should be able to do upon successful completion of the module.

One of the problems besetting high school youth in low-income urban areas is not knowing what is expected of them by their teachers. The specification of learner objectives in behavioral and assessable terms makes it possible from the beginning for the students to know exactly what is expected of them. This knowledge provides for the students a better learning climate and makes it easier for them to perceive school as a fair rather than an unfair place.

In addition, it provides you, the teacher, an opportunity to determine the effectiveness of your learning strategies if the objectives are clearly specified.

Pre-assessment tests: Pre-assessment tests are designed to determine whether or not the students possess the necessary skills and knowledge to undertake the attainment of the module objectives. Often students are expected to perform when they do not possess the pre-requisite skills

or knowledges needed for that performance. Pre-assessment is necessary, therefore, to determine the entering behavior of the students and can be used to determine when remedial activities are needed.

Pre-assessment tests are also used to measure the degree to which students can already achieve the objectives of the module. Students become bored when they have to perform activities in which they are already competent. On the basis of pre-assessment tests, it is possible for a student to "test out" of a module and receive credit without further activities or to focus his efforts on areas of greater need.

Enabling activities: (Referred to also as learning strategies or instructional activities): Enabling activities are specifically designed to enable the student to attain the module objectives. The activities should be varied as to type, setting and duration, and should provide adequately for individual abilities and learning styles.

Traditionally, in programs for secondary students, the teacher and the textbook play a major role. Students are often required to learn material the same way and at the same time without allowances for individual tastes or abilities.

In the urban milieu, because there is a facade of homogeneity deriving from a common level of poverty, teachers tend to overlook the existence of heterogeneity among the

low-income urban youth. One can find a wide variety of learning styles, levels of intelligence, life styles and experiential backgrounds in low-income urban areas.

Students should not be viewed as some homogeneous, monolithic group that can be fitted into a rigid educational machine designed to service yesterday's model of a white middle-class child.Variations in experiences and life-styles mean that different people need different things at any given time. No single approach or method works effectively with everybody. Schools should have the flexibility of styles and approaches to work with a variety of classes of youth.²

Provision for varied modes of instruction, therefore, is needed in order to accommodate the heterogeneity existing among low-income urban youth.

By being provided with varied modes of instruction by which they may attain the stated objectives, students become active partners in the learning process - in making decisions. They may decide what instructional materials to use or how to evaluate their progress. This partnership in the decision-making process helps develop self-concept. Helen Davidson and Judith Greenberg, in their studies of motivation found that higher levels of self-concept were associated with higher levels of achievement.³ "The

²Alvin F. Poussaint, "The Black Child's Image of the Future," in Learning for Tomorrow, ed. by Alvin Toffler (New York: Vintage Books, 1974), p. 71.

³Helen Davidson and Judith Greenberg, Traits of School Achievers from a Deprived Background (New York: City College, C.U.N.Y., May, 1967), pp. 133-4.

development of the self must no longer be left to chance or to peripheral activities in the inner-city school; the central activity of the school namely the academic program should be examined for opportunities to improve self-concepts of children."⁴

Provision of varied modes of instruction is one way of providing such an opportunity.

Post-assessment: Post-assessment, as in pre-assessment, measures the extent to which the objectives of the module have been attained.

Traditionally, in secondary schools a student is judged by his standing in relationship to the other students in the class or in relationship to a pre-determined standard. This approach is characterized by grades and competition for them. There is a tremendous pressure on the students to "get good grades." For secondary youth, this is perhaps the time in their life when the need to be free of pressure is greatest, for it is during this period that they are seeking their "identity." An adolescent needs time to do this kind of seeking, tasting, selecting, and rejecting. Pressure for grades and competition for them direct the adolescent's attention away from what he wants to be and makes him focus instead on what his parents and teachers want him to be.

⁴Paul H. Bowman, "Improving the Pupil Self-Concept," in The Inner-City Classroom: Teacher Behaviors, ed. by Robert Strom (Columbus, Ohio: Charles E. Merrill Publishing Co., 1966), p. 85.

Youth ought to be a time to acquire a sense of one's worth.⁵ Identity is even more important in low-income areas for youth who already have been made to feel inferior and deprived.

Traditional testing has other shortcomings. It often penalizes students who work slowly or those who like to be thorough and sure of themselves. It does not give much information about the learner. Not to be overlooked is the uniformity of the testing procedure - the same test to everybody at the same time. For the student from the low-income area who for many varied reasons may have to be absent on test days, this testing procedure often spells failure.

Inasmuch as post-assessment tests measure the extent to which a student has achieved the objectives of the module, his achievement is compared only with the stated objectives and the specified criteria. The achievements of other students are not relevant to the evaluation. Pressure and competition for grades are therefore eliminated.

In addition, if a student does not achieve an objective the first time, he may try again until he succeeds. Completion of a module is signaled by successful performance on the post-test. Unsuccessful performance usually leads to recycling through the same or optional activities until performance is successful.

⁵John Holt, The Underachieving School (New York: Dell Publishing Co., Inc., 1969), p. 39.

SECTION 2.0
SUGGESTED STEPS IN PREPARING AN
INSTRUCTIONAL MODULE

Introduction

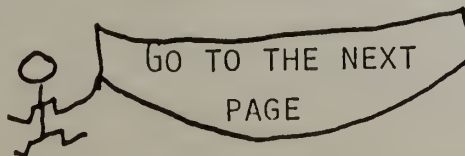
You are about to begin the exciting task of developing an instructional module. You may use the format below as you proceed through the various steps.

Suggested Format:

Module Title: _____

Rationale: _____

Objectives	Criterion Test Items	Learner Activities
1	1	1
2	2	2
3	3	3



Step 1.0 Select title of module

In selecting a title for urban areas,
"catchy" titles seem to interest the students.

Examples of such titles are:

"The Secret Plague" - A Module on Venereal Disease

"The Magic Carpet" - A Module on the Atmosphere

"Dig Those Crazy Vibrations" - A Module on Sound

"The Endless War" - A Module on Erosion



Now you try one. Fill in your module title
on the format sheet. Think your students will like
it? Let's hope so.

Step 2.0 Write the rationale:

The rationale should include a statement of the importance and relevance of the objectives to be achieved. In addition it is extremely important to include in the rationale the needs and/or interests of the students who will receive the instruction.

Here is a sample rationale.

Module Title THE SECRET PLAGUE: VENEREAL DISEASE

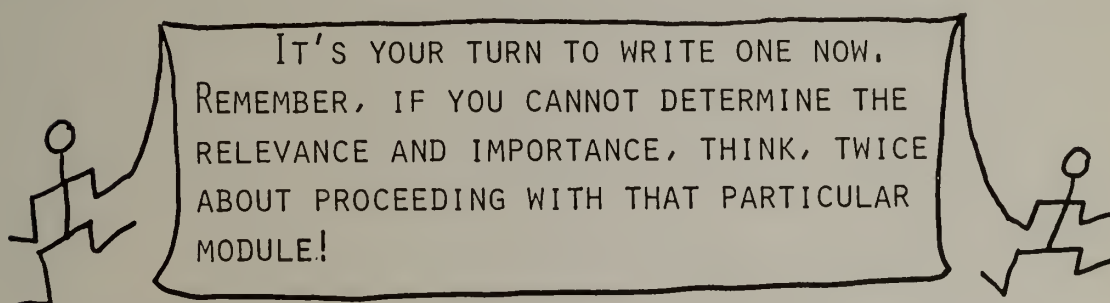
1.0 Rationale

In this age of newly acquired sexual freedom, venereal disease is prevalent among teenagers as well as the general population. Currently, the incidence of venereal disease throughout the United States has increased alarmingly so

that there is a definite need for enlightenment on the subject of gonorrhoea and syphilis.

This need is especially urgent for our inner-city youth as their parents often turn thumbs down on any mention of these dreaded diseases in the home. When they turn to their peers, what they frequently get is a mixture of myths and old wives tales rather than facts.

This module is designed to alert students to the dangers of these diseases, to assist them in identifying the sources, and to make them aware of the relatively simple methods of treatment.



Step 3.0 Construct the Objectives (Details will be supplied as you go through the module on "Behavioral Objectives").

3.1 Construct terminal objectives: note: A terminal objective is a statement of the behavior you would like your student to be able to demonstrate at the end of instruction.

3.2 Construct enabling objectives: note: Enabling objectives are objectives which your students must be able to attain in order to attain the terminal objective.

3.3 Sequence the objectives.

3.4 Include objectives from each domain.

note: Domain refers to the class of objectives.

See p. 70. Step three is writing the terminal objectives. It is sometimes necessary to construct a learning hierarchy for the objectives. The hierarchy helps the developer to construct more effective instruments for assessing the students' prerequisite skills and knowledges and mastery of objectives.

Constructing a learning hierarchy involves four steps:

1. Analyzing the task, which involves separating a task into its component elements. (In this case, the task is writing the terminal objective.)
2. Writing the enabling objectives necessary for attaining the terminal behaviors.
3. Sequencing the enabling objectives.
4. Identifying the entering behaviors or prerequisites.

An example of a terminal objective is the objective of this training package.

Terminal Objective of Package: After completing this training package, you should be able to construct an instructional module for your students.

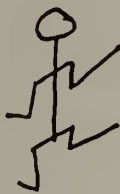
In order to attain the terminal objective, there are several enabling objectives which you must attain, for example:

-You must be able to construct objectives for your modules.



If you cannot write behavioral objectives, you should leave us at this point and proceed to Section 3: "A Module on Behavioral Objectives." You may return to step three after completing

Section 3:



SEE YOU LATER WHEN YOU CAN WRITE OBJECTIVES -- PROCEED TO SECTION 3.0



GLAD YOU'RE BACK! NOW WRITE OBJECTIVES FOR THE MODULE YOU ARE CONSTRUCTING,

Step 4.0 Develop pre-assessment tests.

4.0 Pre-assessment: (Diagnostic Tests)

Note: These diagnostic tests do not have to be pencil and paper tests. Observations of student behaviors and/or analyses of other data may produce the desired information.

4.1 Pre-test:

This should measure the degree to which the student can already achieve the objectives of the module. Included in this section should be the desired responses to the pre-test. It should be identical to the post-test in content, and may be the same as the post-test.

4.2 Entry-level tests:

4.2.1 Pre-requisite skills and knowledge test:

This test should be designed to determine whether or not the student possesses the necessary skills or knowledges needed to undertake the attainment of the module objectives.

4.2.2 Learner characteristics test:

This test should explore the learning style, attitude, and background of the learner. It should attempt to explore what "turns him off" - what "turns him on." Does he prefer media to reading? The information gathered from this test should be used to provide a large range of options in materials and/or activities geared to meeting the varied learning styles of the students.



SECTION 4.0, "A MODULE ON STUDENT ASSESSMENT" WILL HELP YOU WITH STEP 4.0. SEE YOU LATER.

Develop the pre-test: Be sure to test for each objective. The complete pre-test may be a composite of the individual test items.

Develop the entry-level tests: You may list those skills, concepts and attitudes which the learner should possess upon entering the learning system. Use this list to structure the entry-level test.

Step 5.0 Develop Learning Strategies or Activities:

These should provide adequately for individual abilities and learning styles. They should also be directly related to the attainment of the module objectives. They should also embrace such learning principles as perceived purpose, knowledge of results, and appropriate practice. For assistance, proceed to Section 5.0.



WELCOME BACK! YOU'RE READY NOW TO DEVELOP LEARNING STRATEGIES FOR EACH OBJECTIVE.

Step 6.0 Develop post-assessment tests:

Post-Assessment:

Criterion test (Post-test)

This test should measure the degree to which the student has achieved the objectives of the module.

It should be identical to the pre-test in content, but may be different in form or examples used. It is an operational definition of the objectives and should reflect the goals and objectives of the module.

Write Criterion test items: For each objective, list the criterion test item which will enable you to measure attainment of the objective. Your Post-test can be a composite of these items.



You may need to go back to Section 4.0

Step 7.0 Validate the Module

7.0 Validation

The results of validation should indicate that the strategies used are producing the desired terminal behaviors. If this is not the case, then revisions need to be made in the system until the desired results are obtained.

This section should include results of pre-test and post-test, and the gain scores of students involved.

$$\text{gain score} = (\text{post-test score}) - (\text{pre-test score})$$

Student and Teacher Reactions to Module

7.1 Teacher reaction to module:

This part of the module will include your overall reaction to the teaching of the module. You are

urged to make specific comments - not comments such as "good," "bad," "flop," etc., which words may be meaningful to you, but will be of little value to anyone else who may want to use the module. In addition, you should give suggestions as to new strategies which might be used in place of unsuccessful ones. For strategies that succeed, you should give a brief analysis of the factors contributing to their success.

7.2 Student reaction to module:

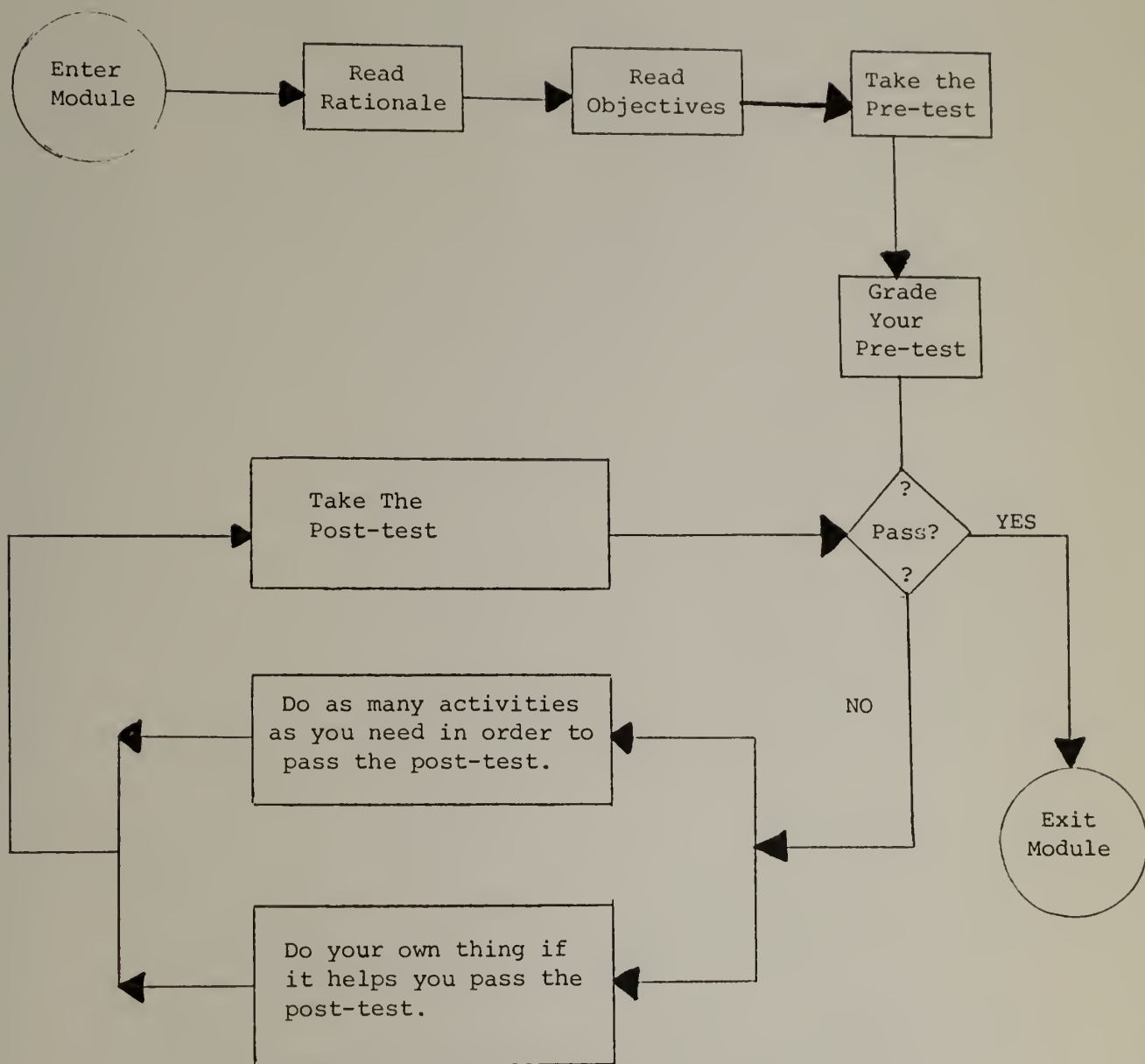
A section on student reactions should be included. Students should evaluate the module in terms of interest, relevance, and what they think they learned. Their reactions to particular activities, discussions of different materials and techniques, and their suggestions for revision and use with other students provide us a broader base of opinion concerning the value of the module.

At the secondary level there should be extreme interest in the reactions of the students. They should be encouraged to discuss ways of improving the module. They may add helpful hints that will be valuable in further planning and teaching.

SECTION 3.0

A MODULE ON BEHAVIORAL OBJECTIVES

Flowchart of Procedure



SECTION 3.0

MODULE ON BEHAVIORAL OBJECTIVES

1.0 Rationale: Before beginning any instruction, one should develop a clearly stated set of objectives. These objectives should describe a desired behavior in the learner, communicate to the learner the instructional intent, and state the minimum acceptable behavior. The value of specifying objectives lies in the fact that it allows the learner to know in advance what he is expected to be able to do. In addition, it provides the teacher an opportunity to determine the effectiveness of his learning strategies. The purpose of this module is to enable you to develop skill in writing behavioral objectives.

2.0 Objectives:

2.1 Terminal Objective: You will be able to construct instructional objectives which specify the expected student behavior, the acceptable performance level, and any significant conditions under which performance will be evaluated.

2.2 Enabling Objectives:

2.2.1 You will be able to tell what a behavioral objective is.

2.2.2 You will be able to state the difference between an educational goal and a behavioral objective in terms of the relative precision with which each is stated.

- 2.2.3 Given a list of ten statements, you will be able to select with at least 80% accuracy those which are stated in terms of measurable student behavior.
- 2.2.4 You will be able to select from sets of educational objectives those which specify a minimally acceptable level of measurable performance with an 80% accuracy.
- 2.2.5 Given a list of statements, you will be able to indicate with 80% accuracy whether the statements have a student, class, or no minimal level.
- 2.2.6 You will be able to list correctly the three classes of objectives and tell with what each class deals.
- 2.2.7 Given a list of ten objectives, you will be able to identify, with at least 90% accuracy which ones are cognitive, affective, or psychomotor.

3.0 Pre-assessment:

3.1 Prerequisites - none.

3.2 Pre-test: Before beginning this module, complete and grade the pre-test contained in this module.

4.0 Learning Strategies: Do as many of the activities you feel you need to do in order to achieve the objectives. If there are other activities not listed that you know of and would like to try, feel free to do so.

4.1 Read:

- 4.1.1 "Info-booklet on Behavioral Objectives" contained in this module
- 4.1.2 Massey and Miller, How to Write Job Corps Performance Objectives
- 4.1.3 Robert Mager, Preparing Instructional Objectives
- 4.1.4 Benjamin Bloom, Taxonomy of Educational Objectives, Handbook I
- 4.1.5 David Krathwohl, Taxonomy of Educational Objectives, Handbook II
- 4.1.6 Albert Eiss and Mary Harbeck, Behavioral Objectives in the Affective Domain
- 4.1.7 Bela Banathy, Instructional Systems
- 4.1.8 Robert Kibler, Larry Barker and David Miles, Behavioral Objectives and Instruction
- 4.1.9 W. James Popham and Eva Baker, Establishing Instructional Goals

4.2 View these Filmstrips and Listen to the Tapes

- 4.2.1 "Educational Objectives" from the Vimcet Associates, P.O. Box 24714, Los Angeles, California, 90024. This set deals with what objectives are and how to write them.
- 4.2.2 "Establishing Performance Standards," (Vimcet Associates), deals with specifying minimal levels for objectives.

4.2.3 "Selecting Appropriate Educational Objectives," (Vimcet Associates), deals with the classification of objectives.

4.3 Work on the practice sheets contained in this module.

4.4 Do your own thing.

5.0 Post-assessment: Successful completion of the following enables you to exit this module:

5.1 Given a written test on the enabling objectives of this module, you will score 90% or above.

5.2 Construct objectives for a concept in your subject area. The objectives must specify the expected student behavior, the acceptable performance level, and any significant conditions under which performance will be evaluated.

Part I.

PRE-TEST BEHAVIORAL OBJECTIVES

(Put your answers on a separate sheet.)

No. of correct responses _____ $44/49 = 90\%$ Achievement level = _____ %

1. What is a behavioral objective?
2. How does a behavioral objective differ from an educational goal?
3. List the three classes of objectives and tell with what each class deals.
4. If a statement is stated in behavioral terms, put a B in the blank. Use NB for non-behavioral.
 - ___ a. The student will have an attitude favorable to English grammar.
 - ___ b. The student will prefer cooking to sewing.
 - ___ c. The student will be able to thread correctly a sewing machine.
 - ___ d. The student will develop a sense of the cultural unity of man.
 - ___ e. The student will list and describe the themes of four poems by Shelley.
 - ___ f. The student will appreciate the key importance of algebraic approaches.
 - ___ g. The student will be able to list correctly the parts of a microscope.
 - ___ h. The student will describe correctly 4 out of 5 concepts treated in the text.
 - ___ i. The student will become familiar with how to write an essay.
 - ___ j. The student will spell correctly all the words indicated by the teacher.

5. Place an M before any objective which has a minimally acceptable standard of observable student behavior. Use NM for no minimal level.
- a. The student will understand thoroughly the second law of Thermodynamics.
 - b. The student will solve all story problems presented.
 - c. 80% of the class will be able to recite names of the eight parts of speech without error.
 - d. The students will list the 5 best works of Keats.
 - e. The student teacher will write a lesson plan.
 - f. The student will be able to run the 100 yard dash within a time not to exceed 12 seconds.
 - g. The student will comprehend the meaning of 45 vocabulary words.
 - h. The student will be able to prove six theorems using the statement-reason method.
 - i. The teacher will help 90% of the class solve problems correctly.
 - j. The student will understand 75% of the content dealt with in class.

6. For the above examples, indicate which have a student (S), class (C), or no (M) minimal level.

a. ___	d. ___	g. ___	i. ___
b. ___	e. ___	h. ___	j. ___
c. ___	f. ___		

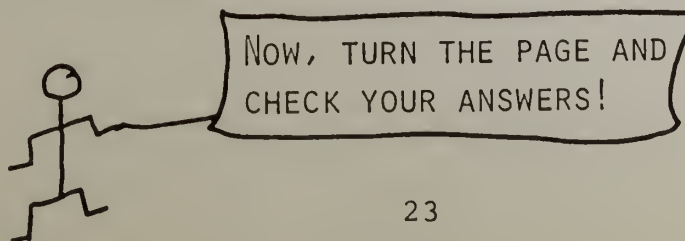
7. Use C if the objectives are cognitive; A if affective; and P if pschomotor.

- a. The student will be able to print his name correctly.
- b. The student will be able to recite a poem from memory.
- c. The student will demonstrate an appreciation for the interaction of science and technology by joining one of the school's science clubs.

- ___ d. The student will be able to recall the names of the first ten presidents of the U.S.
 - ___ e. After ten Driver Education classes, the student will be able to pass the practical driving test.
 - ___ f. The student will indicate an appreciation for art by attending voluntarily at least two local exhibits.
 - ___ g. The students will be able to solve ten out of 15 geometry problems correctly.
 - ___ h. The student will be able to type at least 40 words per minute.
 - ___ i. The student will be able to list correctly all the parts of the microscope.
 - ___ j. The student will be able to jog one mile in 60 minutes.
8. If the following statements are not written in behavioral terms, rewrite the statement in behavioral terms.
- ___ a. The student will know Newton's three laws of motion.
 - ___ b. The student will list the five principal parts of speech.
 - ___ c. Given an inadequate objective, the student will realize that it is not stated in behavioral terms.
 - ___ d. The student will understand the difference between a chemical and physical change.

Part II.

Construct objectives for a concept in your subject area. The objectives must specify the expected student behavior, the acceptable performance level, and any significant conditions under which performance will be evaluated.



8. a. non-behavioral

The student will be able to state, write, or illustrate Newton's three laws of motion.

b. behavioral

c. non-behavioral

Given an inadequate objective, the student will tell whether or not it is stated in behavioral terms.

d. non-behavioral

The student will be able to distinguish between a chemical and a physical change.

Part II.

The response to this section is to be evaluated by the instructor.

How are
you doing?



BEHAVIORAL OBJECTIVES

Information Booklet

Info sheet #1Behavioral Objectives

Behavioral objectives should have the following characteristics:

- a. be specific
- b. describe a desired behavior state in the learner
- c. communicate to the reader the writer's instructional intent
- d. exclude the greatest number of possible alternatives to the writer's goal
- e. state the minimum acceptable behavior

In short, behavioral objectives are specific, unambiguous statements of desired learner performance.

They specify what the learner is to say or do.

These objectives are not teacher centered. They do not state what the teacher is to do, but rather what the teacher expects the student to be able to do.

A single lesson may contain a single objective or several objectives.

It is hoped that at the end of the session, you will be able to construct behavioral objectives and be able to distinguish between objectives that are behavioral and those that are non-behavioral.

Info sheet #2Writing Instructional Objectives

Three terms used in writing behavioral objectives are defined:

- (1) Behavior: refers to any visible activity displayed by a learner
- (2) Terminal behavior: refers to the behavior you would like your student to be able to demonstrate at the end of the lesson.
- (3) Criterion: is a standard or test by which terminal behavior is evaluated.

An objective is an intent communicated by a statement describing a proposed change in a learner. It is a description of a pattern of behavior we want the learner to be able to demonstrate. The statement of objectives must denote measurable attributes observable in the learner.

A meaningfully stated objective then is one that states what the learner will be doing, i.e.

to write	to construct
to recite	to list
to identify	to compare
to differentiate	to contrast
to solve	

In writing an objective:

- (1) Identify the terminal behavior by name; specify the kind of behavior that will be accepted as evidence that the learner has achieved the objective.
- (2) Describe the important conditions under which the behavior will be expected to occur.
- (3) Specify the criteria of acceptable performance by describing how well the learner must perform. (Minimal level)

Ways of specifying criterion are:

- (1) time limit
- (2) minimum number of correct responses
- (3) define important characteristics of performance accuracy.

Info sheet #3Taxonomic Analysis of Objective's Behavior

- I. Taxonomy of Objectives
 - A. Cognitive Domain - Intellectual Behaviors
 - B. Affective Domain - Feeling/Valuing Behaviors
 - C. Psychomotor Domain - Physical/Motor Behaviors
(e.g., typing)
- II. Divisions of Cognitive Domain

HIGHER		6. Evaluation - <u>Student makes value judgment</u>
THAN		5. Synthesis - <u>Student combines elements into a new whole</u>
LOWEST		4. Analysis - <u>Student separates complex whole into its parts</u>
		3. Application - <u>Student uses abstractions in particular situations</u>
		2. Comprehension - <u>Student makes elementary use of material</u>
LOWEST		1. Knowledge - Student recalls behavior

Info sheet #4ACTION WORDS

Useful Words for Expressing Objectives in Behavioral Terms

- | | |
|--|-------------------------|
| 1. find | 22. estimate |
| 2. gather data | 23. construct |
| 3. describe | 24. devise a method |
| 4. investigate | 25. plot a graph |
| 5. make | 26. state a problem |
| 6. do | 27. contrast |
| 7. measure | 28. compare |
| 8. compute | 29. suggest |
| 9. prepare | 30. differentiate |
| 10. use | 31. relate |
| 11. recognize | 32. discriminate |
| 12. identify | 33. justify |
| 13. examine | 34. infer |
| 14. recognize and cite
evidence for | 35. discuss critically |
| 15. classify | 36. predict |
| 16. illustrate | 37. deduce |
| 17. prove | 38. propose reasons for |
| 18. analyze | 39. reorganize |
| 19. apply | 40. discover |
| 20. interpret | |
| 21. distinguish between | |

There may be some activities involving memorization of certain key definitions and facts. Some useful words for this activity are:

recall	state	list reasons for
duplicate	define	explain
repeat	tell	imitate

Some verbs should be avoided because, by their very nature, they are so vague they give neither teachers nor pupil a clear idea of what is meant.

Some are:

appreciate	develop an understanding
deal more effectively with	develop an appreciation of
understand	become aware of
have a feeling for	create an awareness of
comprehend	

There is no way to test for "appreciation," understanding, etc. These words are not "honest" words because they do not clearly specify to the teacher or student what is expected. In order to be completely honest, include within your objectives a statement describing the conditions under which you will test for achievement of the objectives.⁶

⁶William Romey, Inquiry Techniques for Teaching Science (New Jersey: Prentice-Hall, Inc., 1968), pp. 7-8.

Info sheet #5EDUCATIONAL GOALS and INSTRUCTIONAL OBJECTIVES

An educational goal is a broad, general statement of instructional intent. Educational goals are usually stated with verbs such as understand, appreciate, know, or realize.

These are five words and quite useful when we want to indicate a general teaching goal, but what is our criterion for understanding?

Do we ask the student "Do you understand?" - and if he says "yes," accept his response as evidence of understanding? Of course not. We need something more tangible than that.

When we design instruction, we must go beyond our educational goal to precise descriptions that specify exactly what the student must be able to do to show that he understands.

We should aim our instruction at behavioral objectives. A behavioral objective is a description of performance the instruction is to produce, stated in terms of what the student is to be able to do.

It may be noted here, however, that Popham and Baker in "Systematic Instruction" use terms such as goals, objectives, aims, and intents interchangeably, but they do point out that some writers draw a distinction among the terms. They mention also that in some discussion it may be necessary to draw these distinctions.

In this learning package, a distinction is made between the two terms.

Practice Sheet #1Behavioral Statements:

Directions: Place a check (x) before any objective which is stated in terms of observable student behavior. Check your responses with the answers at the bottom of the page.

1. The student will be able to develop an understanding of the operation of a tape recorder.
2. The student will develop an appreciation for music.
3. The student will be able to solve quadratic equations.
4. The student will know how an amplifier works.
5. Given a broken radio, the student will be able to repair it.
6. The student will be able to write a summary of the factors leading to the depression of 1929.
7. The student will know the rules of football.
8. Given a meter with several scales and a range switch, the learner will be able to identify the scale corresponding to each setting of the range switch.
9. Given a list of 20 chemical elements, the student should be able to recall and write the symbols of at least 15.
10. The student will develop a knowledge of American History.

3,5,6,8,9. If you did not get these correct, perhaps you should try another activity listed in your learning package.

Practice Sheet #2Minimal Levels:

Directions: Place a check (x) before any objective which has a minimally acceptable standard of observable student behavior. Check your responses with the answers at the bottom of the page.

1. The student should be able to run the 100 yard dash within a period of 14 seconds.
2. The student will list the best works of Milton.
3. The student must be able to spell correctly at least 80% of the words called out to him during an examination period.
4. The student will answer 8 out of 10 items correctly on a multiple choice test.
5. The student will enjoy four out of seven poems by Swinburne.
6. The student must be able to use the chemical balance well enough to weigh materials accurately to the nearest milligram.
7. The student must really understand the law of magnetism.
8. Given a list of objectives, the learner should be able to evaluate each.
9. Given ten addition problems, the student should be able to work at least 9 correctly.
10. The student should understand behavioral objectives.

1, 3, 4, 6, 9.
Correct Answers

Practice Sheet #3Taxonomy of Objectives:

Directions: Classify the following as cognitive (C), affective (A), or psychomotor (P).

Check your responses with the answers at the bottom of the page.

1. The student will voluntarily read at least ten of the twenty books on political theory suggested for "outside reading."
2. The student will conjugate the verb "aller" in the past tense.
3. Each student will be able to swim two lengths of the pool using the breast stroke and in less than 60 seconds.
4. The students will be able to list correctly three advantages of interactive instruction.
5. When hitting a tennis ball, the student will be able to hit the ball without letting the racquet head drop below the handle.
6. The student will demonstrate an appreciation for the interaction of science and the arts by designing and carrying out a science project which relates science to music or art.
7. The student will demonstrate his rejection of myths and superstitions as explanations of natural phenomena by analyzing superstitions to see if they have scientific relevancy.
8. Each student in the karate class should be able to execute an upper frame block.
9. Each student should be able to list correctly 5 uses for oxygen.
10. Corpsmen should be able to distinguish between cognitive, psychomotor, and affective objectives.

Correct Answers
 1. A, 2. C, 3. P,
 4. C, 5. P, 6. A, 7. A,
 8. P, 9. C, 10. C

Practice Sheet #4

Directions: Do the following exercises. The correct responses are at the bottom of the page.

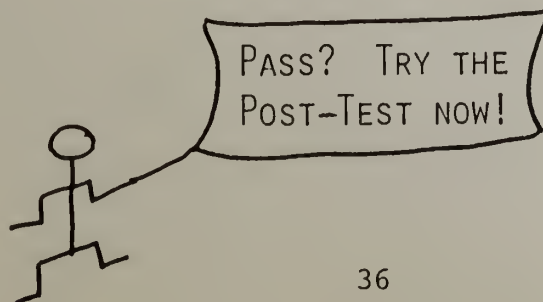
1. What is the difference between educational goals and behavioral objectives? (check your answer)
 - _____ A. Educational goals are stated in more general terms than behavioral objectives.
 - _____ B. Educational goals are more precisely defined than behavioral objectives.
 - _____ C. There is no difference.

2. Why do we write behavioral objectives?
 - _____ A. To prepare the ground work for writing educational goals.
 - _____ B. To describe behavior in terms of student performance.
 - _____ C. To describe behavior in terms of teacher performance.

3. Label each of the following students:

E = educational goal B = behavioral objective

 - _____ A. The student will know the principles of economics.
 - _____ B. The student will explain the difference between kinetic energy and potential energy.
 - _____ C. The student will construct an isosceles triangle.
 - _____ D. The student will learn to use a slide rule.
 - _____ E. The student will recite the Gettysburg Address.



E. B
 D. E
 C. B
 B. B
 3. A. E
 1. A 2. B

 Correct Answers

POST TEST

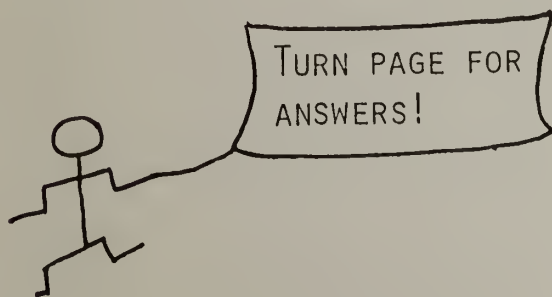
44/49 = 90%

Your achievement level _____%

1. What is a behavioral objective?
2. How does a behavioral objective differ from an educational goal?
3. List the three classes of objectives and tell with what each class deals.
4. If a statement is stated in behavioral terms, put a B in the blank. Use NB for non-behavioral.
 - a. The student will gain an appreciation of English literature.
 - b. The student will know the meaning of per cents.
 - c. Given twenty definitions the student will learn all of them.
 - d. Given two psychomotor objectives, corpsmen shall correctly select the one which is highest in complexity.
 - e. The student can apply a band-aid without impairing the sterility of the pad.
 - f. The student will become aware of the safety rules of the science laboratory.
 - g. The student will develop scientific attitudes.
 - h. The student will be able to fill the hypodermic syringe without admitting air bubbles into the syringe.
 - i. The student will define orally the term "social system."
 - j. The student will be able to operate a tape recorder.
5. Place an M before any object which has a minimally acceptable standard of observable student behavior. Use NM for no minimal level.
 - a. 75% of the students will be able to swim 50 yards using the breast stroke.

- b. The students will be able to locate small objects on the bottom of the pool.
 - c. Students should be able to tread water for 15 seconds.
 - d. At least 20 students in the class will be able to draw an inked line with no discernible deviation in width.
 - e. 80% of the class will understand the law of conservation of energy.
 - f. All students in the class will show an appreciation for art.
 - g. Given ten problems to solve using the slide rule, the student will be able to solve at least eight.
 - h. The student will be able to spell correctly all the words on the study guide given them by the teacher.
 - i. Given ten sentences 80% of the students will be able to punctuate them correctly.
 - j. Students will be able to jog one mile without stopping to rest.
6. For the above examples indicate which have a student (S), class (C), or no (N) minimal level.
7. Use (C) if the objectives are cognitive, (A) if affective, and (P) if psychomotor.
- a. 80% of the students will be able to swim 50 yards using the back stroke.
 - b. Students will demonstrate a scientific attitude by collecting data to determine the degree of reliability of common superstitions.
 - c. Given the symbols of thirty elements, the student will be able to give the names of those elements.
 - d. Students should be able to demonstrate an appreciation of the interaction of science and technology by attempting to build equipment based on a learned concept.
 - e. Students will be able to coordinate breathing and arm strokes while swimming.

- f. Students will be able to list the four main components of a learning system.
 - g. Corpsmen will be able to construct and administer entry-level tests.
 - h. Students should be able to tread water for 15 seconds.
 - i. 25% of the students in the class will demonstrate an appreciation of art by volitionally attending the local art show.
 - j. Corpsmen will be able to identify at least 5 local resources for science instructional materials and state the locations of these resources.
8. If the statements are not written in behavioral terms, rewrite the statement in behavioral terms.
- a. The student will know the definition of matter.
 - b. The student will know the five principal parts of speech.
 - c. The student will be able to solve ten out of fifteen algebra problems correctly.
 - d. The student will know how to play a flute.

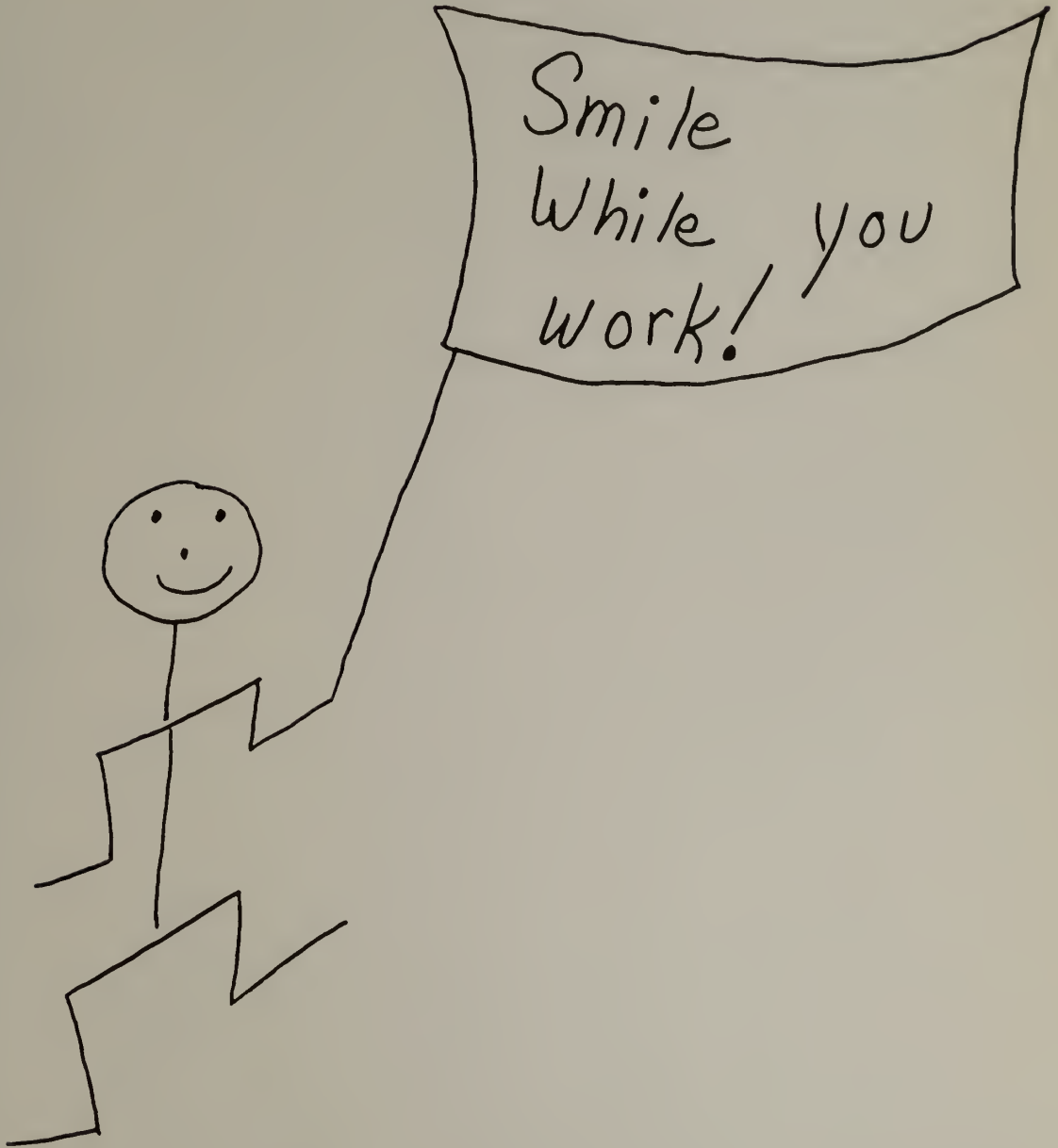


ANSWERS FOR POST-TEST-BEHAVIORAL OBJECTIVES

1. A behavioral objective is a clear, specific, unambiguous statement of desired learned performance. (1 point)
2. Educational goals are stated in general terms, whereas behavioral objectives are stated in specific terms. (1 point)
3. Cognitive domain - knowledge or intellectual behaviors - affective domain - feeling/valuing behaviors - psychomotor domain - physical motor behaviors. (3 points)
4.
 - a. NB
 - b. NB
 - c. NB
 - d. B
 - e. B
 - f. NB
 - g. NB
 - h. B
 - i. B
 - j. B
5.
 - a. M
 - b. NM
 - c. M
 - d. M
 - e. NM
 - f. NM
 - g. M
 - h. M
 - i. M
 - j. M
6.
 - a. C
 - b. NM
 - c. S
 - d. C
 - e. NM
 - f. NM
 - g. S
 - h. S
 - i. C
 - j. S
7.
 - a. P
 - b. A
 - c. C
 - d. A
 - e. P
 - f. C
 - g. C
 - h. P
 - i. A
 - j. C
8. Some possibilities are:
 - a. The student will write, state, or tell the definition of motor.
 - b. The student will list the five principal parts of speech.
 - c. Behavioral already.
 - d. The student will be able to play a flute.

SECTION 4.0

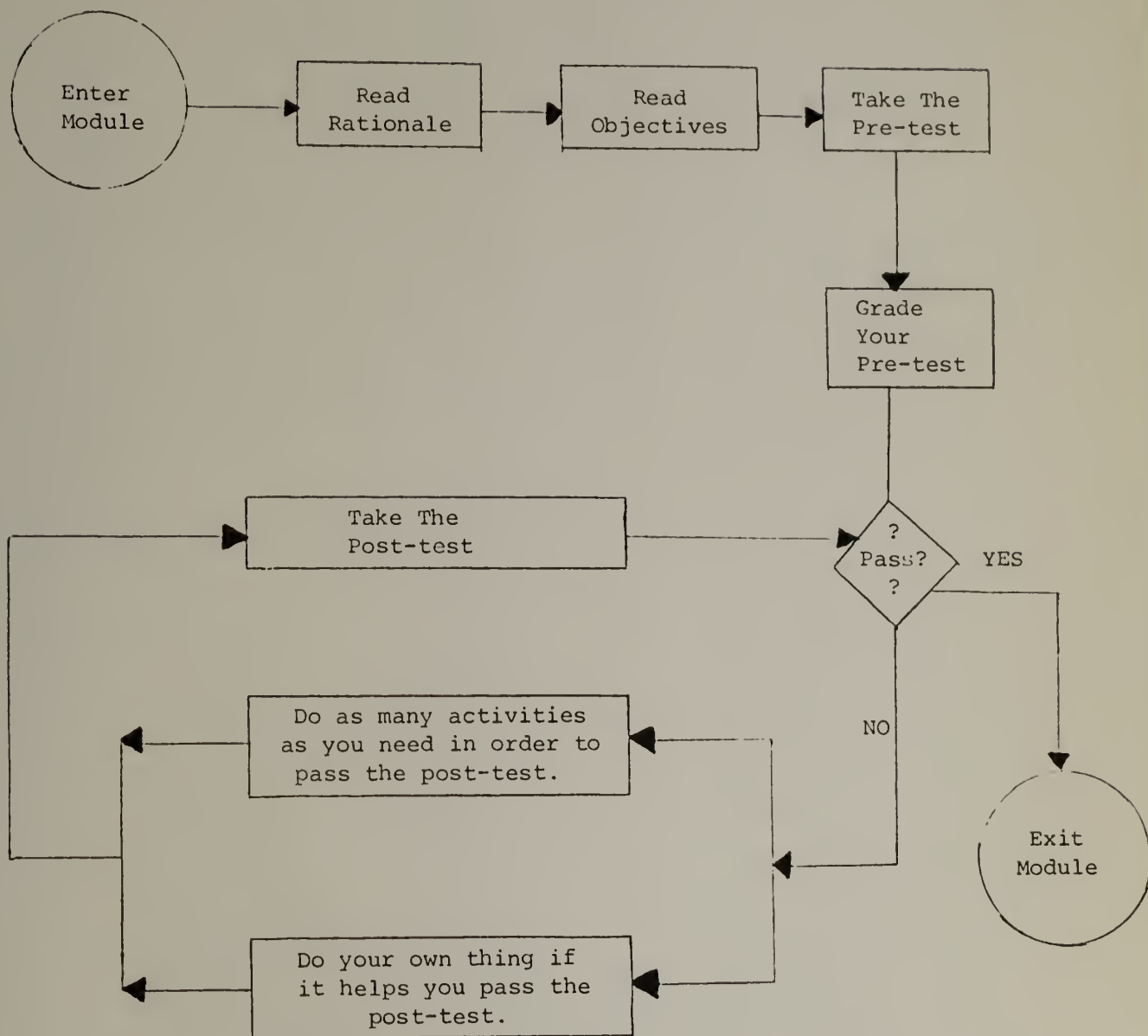
A MODULE ON STUDENT ASSESSMENT



SECTION 4.0

A MODULE ON STUDENT ASSESSMENT

Flowchart of Procedure



SECTION 4.0

A MODULE ON STUDENT ASSESSMENT

- 1.0 Rationale: Assessment is a very necessary step in developing an instructional system. There are several questions about a learner that should be answered before instruction begins. How much of what you are about to teach him does he already know? Is the learner at the required entry level? What are his learning characteristics?
- After instruction, assessment is necessary to find out if the learner can attain the specified objectives. The purpose of this module is to enable you to develop skill in developing student assessment instruments related to the stated objectives.
- 2.0 Objectives:
- 2.1 You will be able to construct criterion test items to measure given objectives.
- 2.2 You will be able to construct entry-level test items.
- 3.0 Pre-Assessment:
- 3.1 Prerequisites
- 3.1.1 A score of at least 80% on the entry-level test.
- 3.1.2 Completion of module on "Behavioral Objectives."

- 3.2 Pre-test: Before beginning this module, complete and grade the pre-test contained in this module.
- 4.0 Learning Strategies: Do as many of the activities you feel you need to do in order to achieve the objectives. If there are other activities not listed that you know of and would like to try, feel free to do so.
- 4.1 Read:
- 4.1.1 Systematic Instruction by James Popham and Eva Baker, pp. 72-5.
- 4.1.2 Planning An Instructional Sequence by James Popham and Eva Baker, pp. 87-108.
- 4.2 View and listen to:
- 4.2.1 "Evaluation" from Vimcet Associates series.
- 4.2.2 "Criterion Test," "Determining Entry Level," and "Entry Level Tests" by General Programmed Teaching.
- 4.3 Study sample learner characteristics test.
- 4.4 Do your own thing.
- 5.0 Post-Assessment: Successful completion of the following enables you to exit this module. (to be determined by the instructor)
- 5.1 Construct criterion: Test items to measure the objectives you wrote for your module.
- 5.2 Construct at least two prerequisite skills and knowledge test items for the module you are developing.

Entry-level Test:

ON "Student Assessment"

10 Responses

8/10 = 80%

1. The three forms of criterion tests are the
 - a) _____
 - b) _____
 - c) _____
2. The two kinds of entry-level tests are:
 - a) _____
 - b) _____
3. The _____ test states exactly what we want the student to be able to do to demonstrate mastery of the desired learning. It is the operational definition of our statement of objectives.
4. The _____ test is given before the learner goes through the learning system to determine to what degree if any, he has mastered the objectives.
5. The _____ test is given to determine if the learner is at the required entry level in terms of prerequisite knowledge and skills.
6. The _____ test is given after the learner has gone through the learning activity to determine the degree of mastery of the objectives.
7. The _____ test is used to measure retention of the learning.

ANSWER SHEET FOR ENTRY-LEVEL TEST ON "STUDENT ASSESSMENT"

1. a) pre-test
b) post-test
c) retention test
2. a) prerequisite skills and knowledge test
b) learning characteristics test
3. criterion
4. pre-test
5. prerequisite skills and knowledge
6. post-test
7. retention

Pre-test

"Student Assessment"

100% signals success

- 50% 1. Construct a criterion test item for the following objective.

Given five words, the student should be able to arrange them alphabetically without error.

Criterion test item:

- 50% 2. Construct a prerequisite skills and knowledge test item for the above objective.

ANSWER SHEET FOR PRE-TEST ON "STUDENT ASSESSMENT"

50% 1. Arrange the following words alphabetically:

tree

house

shoe

church

animal

50% 2. Write the alphabet in order.

Any other skill or knowledge that the student must possess before he can alphabetize words could also be tested for.

CRITERION TESTS

Practice Sheet #1

The criterion test measures the behavior specified in the _____ (1).

A well written objective is necessary in order to write a good _____ (2) test.

A well written objective specifies _____ (3), _____ (4), and _____ (5) and therefore gives all of the _____ (6) necessary to write a good test.

Write a criterion test for the following objective:

Given five sentences each containing one or more errors in punctuation, the student will circle and correct the error by putting the proper mark of punctuation above the circle or not as appropriate. 90% accuracy will be required.

(7)

Given five sticks from 2" to 10" in length, no two being the same length, the student will order the sticks from left to right, shortest to longest without error.

(8)

ANSWERS TO PRACTICE SHEET #1

1. Objective
2. Criterion
3. Performance
4. Condition
5. Level of proficiency
6. Information
7. Instructions to student: Circle all errors in punctuation in the sentences below. If a mark is missing, write it above the circle. If a mark has been incorrectly placed, circle it but write nothing above it.
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____
8. Instructions to student: Put the five sticks that are on the table in front of you in order with the shortest on your left and the longest on your right.

CRITERION TEST ITEMS

Practice Sheet #2

Directions: Write criterion test items for the following objectives.

- A. Given four sentences, the student will correctly punctuate them using the colon, semicolon and quotation mark.
- B. Given four sentences, the student will punctuate those that should be punctuated with a colon and those that should be punctuated with a semicolon. This should be done without error.
- C. The student will be able to write a paragraph correctly illustrating at least five uses of the comma.
- D. The student will be able to write the rule for use of the exclamation point.

Check your answers. Turn the page for the correct answers.

ANSWERS TO PRACTICE SHEET #2

- A. Punctuate these four sentences using the colon, semi-colon, and the quotation mark as required.
- B. Punctuate these four sentences using the colon and semicolon as required.
- C. Write a brief paragraph illustrating at least five uses of the comma.
- D. Write the rule for use of the exclamation point.

Module Title: Nutrition: Photosynthesis
 Sample Learning Characteristics Test

Part I. (answer Yes or No)

1. Do you have plants-such as flowers-at home?-----
2. Have you ever attempted to grow anything?-----
3. Have you visited a park or zoo lately?-----
4. Do you like to take nature walks?-----
5. Have you spent anytime on a farm?-----
6. Do you like to read?-----
7. Do you go to the movies often?-----
8. Do you like school?-----
9. Do you study over 2 hours a day?-----
10. Do you go to the library often?-----
11. On tests, do you do poorly even though you have studied
the material?-----
12. Do you prefer others solving your problems?-----
13. Do you work either part-time or full-time?-----
14. Do you spend over 4 hours a day watching television?-----
15. Would you like to know more about plants?-----

Part II. (answer the following questions on the second
page)

1. What is your favorite subject(s) in school? Explain.
2. What activities do you participate in-either in school
or out?
3. Do you like working with your hands? If so, what are
some of the things you like doing.

4. What type of test do you prefer-essay or objective?
5. Have you ever written a term paper or research paper?
If so, what was the subject matter?
6. In class, do you prefer working alone or in groups?
If so, how many students per group?
7. When studying, do you listen to music? Explain.
8. What are your favorite television programs?
9. What books or magazine articles have you read lately?
10. What place would you like to visit in Washington?

SECTION 5.0
A MODULE ON
DEVELOPING LEARNING STRATEGIES



SECTION 5.0

A MODULE ON DEVELOPING LEARNING STRATEGIES

- 1.0 Rationale: Traditionally, activities have come first in planning instruction and have often been completely unrelated to any specified objectives. The major function of learning strategies should be to enable the learner to achieve the stated objectives. The purpose of this module is to enable you to develop skill in planning instructional activities designed to attain specified objectives.

- 2.0 Objectives: You will be able to design instructional strategies to enable your students to attain the objectives of the module you are developing.

- 3.0 Pre-assessment:
 - 3.1 Prerequisites: Successful completion of the modules, "Behavioral Objectives" and "Student Assessment" are required before entering this module.

 - 3.2 Pre-test: Design instructional activities to enable your students to attain the objectives of the module you are developing. Your success is dependent upon the success of your students.

4.0 Learning Strategies

4.1 Read:

4.1.1 "Info Booklet on Learning Strategies" included in this module.

4.1.2 Systematic Instruction by James Popham and Eva Baker, Chapter 6.

4.1.3 Educational Psychology, Chapter 3, by C. M. Charles.

4.1.4 Models of Teaching by Bruce Joyce.

4.2 View and listen to:

"Appropriate Practice," "Perceived Purpose," and "Knowledge of Results" from the Vimcet Associates series.

4.3 Try your own thing.

4.4 Develop a few strategies and try them out on a target population. Use student feedback to assist in revising your strategies.

5.0 Post-assessment: Design instructional activities to enable your students to attain the objectives of the module you are developing. Your success is dependent upon the success of your students.

INFO BOOKLET ON LEARNING STRATEGIES

In developing learning strategies for attaining the specified objectives, one should be constantly aware of the data obtained from the learner characteristic tests. This data should enable the developer to select learning activities that will suit the needs of the students.

Learning activities have proved very effective when developed with regard to the instructional principles proposed by James Popham. The principles are: (1) Revealing objectives--communicating to the student the nature of the behavior changes expected of him as a result of his involvement in the module activities. (2) Perceived purpose--communicating to the student the value of what he is studying, that is, why the objectives are worthwhile. (3) Appropriate practice--providing opportunities for the learner to behave in a fashion consistent with the instructional objectives. One type of appropriate practice may be equivalent. This is practice of behavior that is exactly like the behavior described in the objective. Another type of appropriate practice is analogous, that is practice of behavior described in the objective. (4) Knowledge of results--providing the student with a means to determine the adequacy of his responses or behavior shortly after he makes them.¹

¹W. James Popham and Eva L. Baker, Systematic Instruction (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1970), pp. 77-89.

One of the most effective ways to reveal objectives and promote perceived purpose is in a group discussion followed by individual conferences with each student. The conferences allow the student to express his ideas about the module. Often as a result of such conferences, some activities are modified, some deleted and/or some added that are deemed of value and interest to the student.

Appropriate practice can be achieved by selecting or designing learning strategies which require the learner to perform the exact or similar behavior specified in the objective. It is important that the students' practice behavior be evaluated so that any adjustments, if needed, can be made to eliminate any incorrect behaviors demonstrated by the student.

Knowledge of results is a principle which is sometimes difficult to achieve, because immediacy is required. Generally, a learner should know the results of his performance immediately after completing the task. Immediacy can be achieved through self and peer evaluation which is based upon explicit criteria. When the evaluation of a behavior is through observation, an immediate conference with the student should follow. Thus, those behaviors that need changing or reinforcing can be identified and dealt with accordingly.

SECTION 6.0

Module Critique Check List

Title of Module: _____

Directions: Place a check in the proper column. If the response is no, re-examine that component of your module.

Item	YES	NO
1.0 <u>Rationale:</u> 1.1 statement of educational goals is included. 1.2 gives a reason why the module should be taught.		
2.0 <u>Objectives:</u> 2.1 are clear, concise, and measurable. 2.2 reflect the educational goals. 2.3 are in terms of desired student outcome. 2.4 include more than one domain (cognitive, psychomotor, affective) 2.5 coincide with criterion tests.		
3.0 <u>Pre-assessment:</u> <u>Pre-requisites</u> 3.1 are included. 3.2 measure or state the knowledge, skills, or attitudes that the student must have before entering your learning system.		

Item	YES	NO
3.3 explores the style and background of the learner.		
<u>Pre-test</u>		
3.4 measures what the student already knows of what you intend to teach.		
3.5 includes a test item to cover each objective.		
3.6 is included.		
4.0 <u>Learning Strategies:</u>		
4.1 are included.		
4.2 provide adequately for individual learning abilities and styles.		
4.3 are student-centered.		
4.4 are directly related to the objectives.		
4.5 are varied.		
4.6 lead to mastery of the objectives.		
5.0 <u>Post-assessment:</u>		
5.1 is included.		
5.2 measures the student's attainment of the objectives.		
5.3 includes a test item to cover each objective		

SECTION 7.0
A SAMPLE MODULE

"The Secret Plague":

A Module on Venereal Disease

Rationale

In this age of newly acquired sexual freedom, venereal disease is prevalent among teenagers as well as the general population. Currently, the incidence of venereal disease throughout the United States has increased alarmingly so that there is a definite need for enlightenment on the subject of gonorrhea and syphilis.

This need is especially urgent for our inner-city youth as their parents often turn thumbs down on any mention of these dreaded diseases in the home. When they turn to their peers, what they frequently get is a mixture of myths and old wives' tales rather than facts.

This module is designed to alert students to the dangers of these diseases, to assist them in identifying the sources, and to make them aware of the relatively simple methods of treatment.

Module Objectives

1. Students will be able to explain what venereal disease is.
2. Students will be able to list the two most common types of venereal disease.
3. Students will be able to give a slang or common name for each of the two most common types of venereal disease.
4. Students will be able to cite the incidence of venereal disease among teenagers in their city.
5. Students will be able to name and describe or draw the germs that cause each of the two most common types of venereal diseases.
6. Students will be able to describe how venereal diseases are spread (transmitted) from person to person.
7. Students will be able to describe how venereal diseases are spread throughout the body.
8. Students will be able to distinguish between the symptoms of gonorrhoea in the male and the symptoms in the female.
9. Students will be able to name at least three conditions or consequences that can result from untreated gonorrhoea.
10. Students will be able to describe the symptoms of primary syphilis in both male and female individuals.
11. Students will be able to distinguish between the first, second, and third stages of syphilis, giving the location of the lesions in each stage.
12. Students will be able to name at least three consequences of untreated syphilis.
13. Students will be able to explain how syphilis is detected in a laboratory.
14. Students will be able to explain how a diagnosis of gonorrhoea is confirmed in a laboratory.
15. Students will be able to describe the treatment in order to obtain a cure for syphilis and gonorrhoea.

16. Students will be able to choose the correct course of action from a list of possibilities, for what is to be done if venereal disease is detected.
17. Students will be able to list at least three dangers of self-treatment of venereal diseases.

List of Objectives for Each Module

Module 1.0

1. Students will be able to define venereal disease.
2. Students should be able to list the two most common types of venereal disease and give one slang or common name for each.
3. Students will be able to describe how venereal disease is passed from person to person.

Module 2.0

Students will be able to:

1. explain how venereal disease is spread throughout the body.
2. distinguish between the symptoms of gonorrhoea in the male and those in the female.
3. describe the symptoms of primary syphilis in both the male and female.
4. list three diseases or conditions which can result from untreated gonorrhoea.
5. list at least three consequences of untreated syphilis.

Module 3.0

Using Programmed Instruction worksheets and without error,

1. Students will be able to name three dangers of self-treatment of venereal disease.
2. Students will be able to cite the incidence of VD among teenagers as compared with the rest of the general population of Washington, D. C.
3. Students will be able to define venereal disease.
4. Students will be able to list the two most common types of venereal disease and give one slang or common name for each.

5. Students will be able to describe how venereal disease is spread from person to person.
6. Given a set of five alternatives, students will be able to select the correct response for what is to be done if venereal disease is detected.

Module 4.0

Using Programmed Instruction worksheets and without error:

1. Students will be able to name, describe, and draw the bacterial agent which causes gonorrhea.
2. Students will be able to distinguish between the symptoms of gonorrhea in the male and those in the female.
3. Students will be able to list three diseases or conditions which can result from untreated gonorrhea.
4. Students will be able to describe the treatment for gonorrhea.
5. Students will be able to make a Cram stain of and identify the type of bacteria which causes gonorrhea.

Module 5.0

1. Students will be able to listen to and observe a lecture and photographic slide presentation on venereal disease by a guest speaker.
2. Students will be able to orally participate in a discussion regarding how syphilis and gonorrhea are transmitted, detected and treated, the symptoms of gonorrhea in the male and the female, and symptoms of syphilis in the primary, secondary, and tertiary stages.

Module 6.0

Using a tape recorder and taped lesson:

1. Students will be able to explain how syphilis is spread throughout the body.

2. Students will be able to describe the symptoms of primary syphilis in both the male and the female.
3. Students will be able to name at least three consequences of untreated syphilis.
4. Students will be able to distinguish between the first, second and third stages of syphilis, giving the location of the lesions in each stage.
5. Students will be able to describe the treatment for syphilis.

Module 7.0

1. Students will be able to explain in writing how syphilis is diagnosed in the laboratory.
2. Students will be able to explain a method of detecting or diagnosing gonorrhea using laboratory techniques.

Module 8.0

90% of these students taking the post-test on venereal disease should be able to answer the questions with 70% accuracy.

VD
Entry Level Test
Prerequisite Knowledge

Stimulus	Response
<p>1. Designate whether the following organs are of the male or female reproductive system and give the function of each:</p> <p>a) urethra b) uterus c) testis d) fallopian tube e) vagina f) penis g) ovary h) spermatic chord</p>	<p>1. urethra - male, located in penis, the tube through which sperm cells and urine pass.</p> <p>uterus - female, organ which holds fertilized ova until they develop into mature baby.</p> <p>testis - male, sacs which produce sperm cells.</p> <p>fallopian tubes - female, tube which mature ova pass from ovary to the uterus.</p> <p>vagina - female, birth canal and sexual reproductive organ.</p> <p>penis - male, sexual reproductive organ in which is located the urethra.</p> <p>ovary - female, organ which produces ova or eggs, female sex cells.</p> <p>spermatic chord - male, tube through which pass sperm cells from the testes to the urethra.</p>
<p>2. The transportation of blood through the body is made possible by the system we refer to as the _____ system.</p>	<p>2. Circulatory.</p>
<p>3. Name 3 parts of the circulatory system.</p>	<p>3. Hearts, veins, arteries, arterioles, venules. (Specific names of veins etc. are acceptable.)</p>

- | | |
|--|--|
| 4. List the three main components of the nervous system. | 4. The brain, spinal chord, and nerve cells or neurons. |
| 5. What are bacteria? | 5. What we commonly refer to as "germs." Microscopic plant-like organisms, some of which can cause disease. |
| 6. What are mucous membranes? | 6. The tissues which cover the insides of those openings which lead to the insides of our bodies, i.e., in the mouth, throat, nose, etc. |
| 7. What is a smear? | 7. A small amount of material usually placed on a microscopic slide for examination. |
| 8. List eight parts of the microscope and their functions. | 8. Mirror - reflects light through the optical parts of the scope. |

Diaphragm - controls the amount of light the mirror reflects to another part of the microscope.

High power objective - contains lens which enlarge image of specimen examined.

Low power objective - same as high power objective but doesn't magnify as greatly.

Revolving nosepiece - enables one to change the objectives from one power to the other.

Body tube - keeps eyepiece and objective the proper distance from each other.

8. Eyepiece - where one places his eye for viewing specimen under the microscope.

Coarse adjustment - permits movement of the body tube toward and away from the stage.

Fine adjustment - same as coarse, but in smaller increments.

Arm - supports body of microscope.

Stage - platform which holds slides and other things to be observed.

Base - supports entire microscope.

Stage clips - holds microscope slide in place.

VD
Relevant Learner Characteristics

Stimulus	Response
1. How do you feel about school?	1. Student will answer in words of his own choosing.
2. List in order the subjects you like in school, starting with the one you like the most and ending with the one you like least.	2. Student will list his school subjects.
3. Do you like to read books?	3. Student will answer yes or no.
4. Do you like to look at transparencies?	4. Student will answer yes or no.
5. Do you like to listen to a tape recorder?	5. Student will answer yes or no.
6. Do you like listening to the teacher talk?	6. Student will answer yes or no.
7. Do you like to look at movies?	7. Student will answer yes or no.
8. Do you like to look at film strips?	8. Student will answer yes or no.
9. Do you like to listen to records?	9. Student will answer yes or no.
10. Do you like to play games?	10. Student will answer yes or no.
11. Do you like group discussions?	11. Student will answer yes or no.
12. Do you like experiments?	12. Student will answer yes or no.
13. Do you like demonstrations?	13. Student will answer yes or no.
14. Do you like pupils talking in class?	14. Student will answer yes or no.

- | | |
|---|--|
| 15. List any other activity you would enjoy participating in. | 15. Student will list activities. |
| 16. How do you work best?
Alone _____
In a group _____
With one other person _____ | 16. Student will choose one. |
| 17. Name some contagious diseases you have had. | 17. Student will list the diseases. |
| 18. Has anyone in your family had a venereal disease? | 18. Student will answer yes or no. |
| 19. Have you or any of your friends had VD? | 19. The student will answer yes or no. |

VD
PRE-TEST

Stimulus	Response
1. What is venereal disease?	1. An infectious disease starting usually in the genital area, transmitted by close body contact (or sexual intercourse).
2. What are the two most common types of venereal disease?	2. Syphilis and gonorrhea.
3. Give a slang or common name for each disease you listed above.	3. Syphilis - Old Joe, bad blood, siff, or syph Gonorrhea - claps, morning drip, or a dose.
4. What is the incidence of venereal disease among teenagers in the District of Columbia?	4. About 1/4 of all teenagers in D. C. have or have had some form of VD. (or 25%, 20 - 30%).
5. Name and describe or draw the germs which cause each of the diseases you listed.	5. Gonorrhea - The gonococcus or <u>Neisseria gonorrhoeae</u> , diplococci or round bacteria arranged in pairs. Syphilis - The syphilis spirochete, or <u>Trepomena pallidum</u> and corkscrew or spiral shaped, or a coiled bacterium.
6. How are venereal disease spread (transmitted) from person to person?	6. By close body contact, usually sexual intercourse. (Specific instances of close body contact and passage congenitally from mother to child are acceptable.)
7. How are venereal diseases spread throughout the body?	7. Through the bloodstream or circulatory system.

- | | |
|---|--|
| 8. Distinguish between the symptoms of gonorrhoea in the male and the symptoms in the female. | 8. Discharge and burning sensation during urination in the male; discharge and discomfort in the female. The difference is that the symptoms in the male are very definite, while in the female they may be slight or completely unnoticeable. |
| 9. Name at least 3 diseases or conditions that can result from untreated gonorrhoea. | 9. Arthritis, sterility, heart disease, blindness in newborns, crippling. |
| 10. Describe the symptoms of primary syphilis in both male and female individuals. | 10. A chancre or painless sore. |
| 11. Distinguish between the first, second and third stages of syphilis, giving the location of the lesions in each stage. | <p>11. First stage - Chancre, usually in the genital area, but may be on the finger, mouth, or other part of the body.</p> <p>Second stage - Rash, all over or on any part of the body, hair may fall out in patches.</p> <p>Third stage - lesions in the central nervous system or other parts or organs of the body.</p> |
| 12. Name three consequences of untreated syphilis. | 12. Death, insanity, crippling, heart disease, deformed babies. |
| 13. Explain how syphilis is detected in a laboratory. | 13. A smear is taken from the chancre in the primary stage and a blood test is made in the other stages. |
| 14. How is a diagnosis of gonorrhoea confirmed in a laboratory? | 14. (1) A smear is made from the discharge a patient has, or
(2) Discharge is spread on special plates and allowed to grow for 24-28 hours. In both cases, Gram stains are made to look for diplococci. |

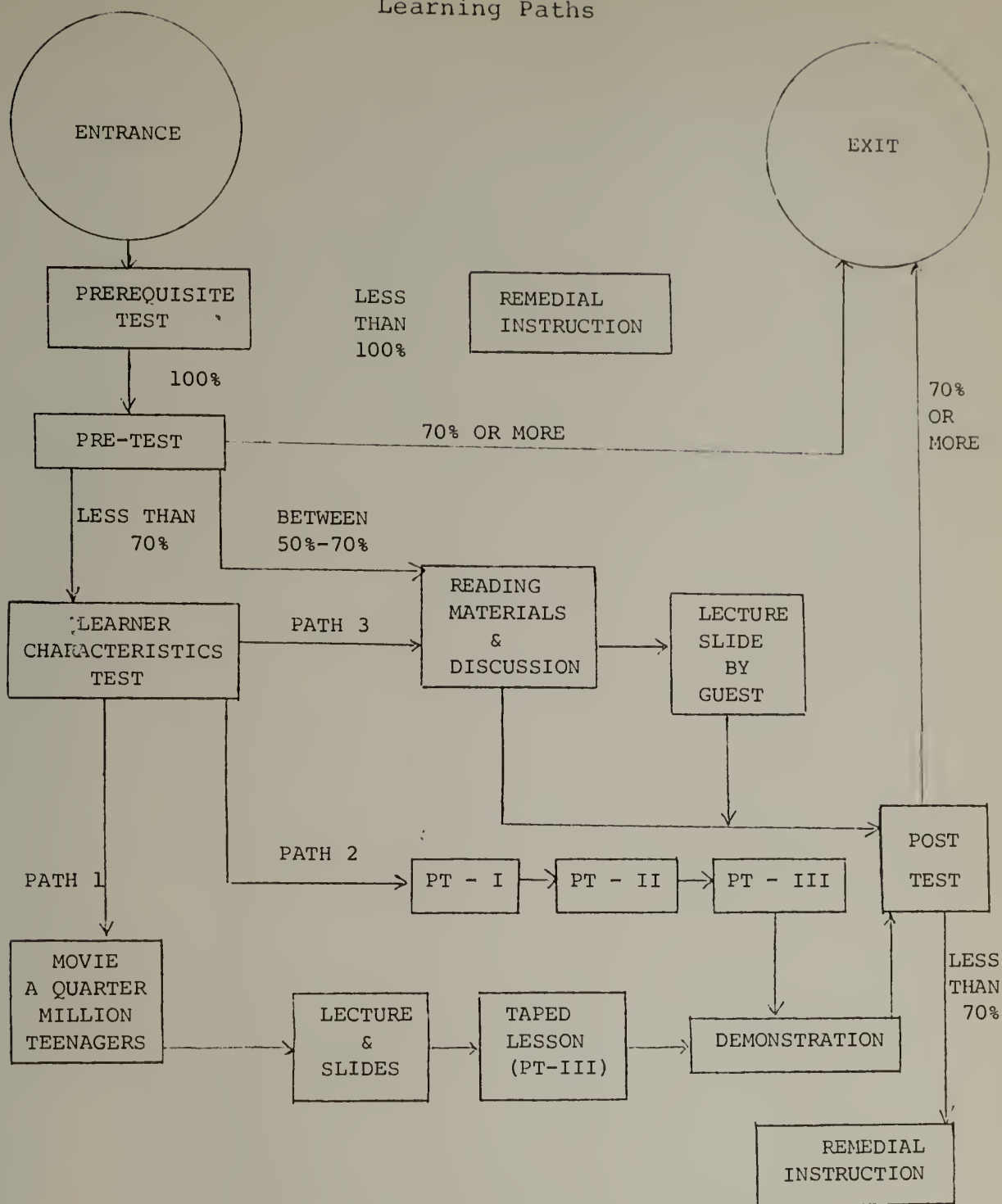
15. What is the correct treatment for gonorrhoea and syphilis?
15. Penicillin.
16. If venereal disease is detected the patient should:
16. c) Contact a physician or VD clinic and the health department.
- a) Go to the nearest drugstore and seek the advice of the druggist.
- b) Purchase a good ointment from the drugstore and apply it to the lesions.
- c) Contact a physician or VD clinic and health department.
- d) Take a bath in disinfectant.
- e) Wait for it to go away.
17. List three dangers of self-treatment of venereal disease.
17. Infected persons might (1) pass diseases on to other people, 2) cause irreparable damage to his own body (these conditions may be listed), 3) causative germs may become resistant to treatment.

Learning Strategies

A Note

These learning strategies are designed to provide for maximum use of individual learning styles and abilities. There are included a variety of experiences and modes of communication which should lead to effective learning. They do not have to be given in any particular order, but it is advisable for the learner to complete one strategy satisfactorily before progressing to the next. The learner should be free to choose which activities he feels will lead him most effectively to the terminal objectives. These activities can be participated in either alone or in groups. The learner should follow his path at his own rate and take the mastery test (post-test) when he has learned sufficient information.

Learning Paths



Note - These learning paths are just some of the combinations which may be used effectively. Actually, one could use a combination of all of these strategies, if desired.

Learning Strategy IIA

A general discussion of venereal disease with the teacher and classmates. Reading of pamphlets and comic books, provided by the District of Columbia Public Health Department on venereal diseases.

A student with some previous knowledge of venereal diseases can obtain enough knowledge (if so inclined) from the above activities (or perhaps with the addition of a few of the following learning strategies) to master the terminal objectives and proceed directly to the post-test.

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Lesson Plan

Module Title: VD

Today's Lesson: Lesson IIA. Individual Reading and Discussion

Objectives:

Those students who answered the questions on the pre-test with 50% or more accuracy (but less than 70%):

1. Will be able to read pamphlets and other materials on VD.
2. Will be able to discuss with each other and the teacher facts pertaining to the transmission, detection, laboratory diagnosis and cure of venereal diseases.

Procedure:

1. Take attendance.
2. Allow those students who already have some knowledge of venereal disease, as indicated by their performance on the pre-test, to read materials pertaining to VD.
3. Have discussion with them about the facts they have ascertained.
4. Answer questions as necessary in order to help them attain the objectives for this unit.

Materials:

Reading materials from the Department of Public Health, obtainable from any P. B. H. Venereal Disease Clinic.

1. The A.B.C.'s of VD. - Pamphlets.
2. Johnny Gets the Word - Comic Booklet
3. Homosexuality and Venereal Diseases. - Pamphlets.

Learning Strategy II

View the movie, A Quarter Million Teenagers and answer the questions on the worksheet provided. Participating in this activity will enable the student to answer seven items on the criterion test (post-test).

VD

Lesson Plan

Title of Module: VD

Today's Lesson: Lesson II. Movie, "A Quarter Million Teenagers."

Objectives:

1. Describe how venereal disease is spread from person to person.
2. Explain how venereal disease is spread throughout the body.
3. Distinguish between the symptoms of gonorrhoea in the male and those in the female.
4. List three diseases or conditions which can result from untreated gonorrhoea.
5. Describe the symptoms of primary syphilis in both the male and the female.
6. List at least three consequences of untreated syphilis.

Procedure:

1. Take attendance.
2. Review previous day's lesson.

-Key Questions-

- a) What subject did we begin discussing on yesterday?
 - b) What is venereal disease?
 - c) How did we say VD was caught?
 - d) Why is it possible to catch it only these ways?
3. Pass out movie worksheets.
 4. Begin the movie.
 5. Allow the students to view the movie and answer the questions on the worksheets.
 6. Collect the worksheets.

Materials:

1. Pens, pencils.
2. Movie - A Quarter Million Teenagers (English Version) #1788 Churchhill Films. Source - Department of Health, Education and Welfare, V.D. Control.
3. Movie Worksheets.

VENEREAL DISEASE

Movie Worksheet

1. Explain how venereal disease is spread from person to person.
2. Explain how gonorrhea is spread throughout the body.
3. Explain how syphilis is spread throughout the body.
4. What are the symptoms of gonorrhea in the male?
5. What are the symptoms of gonorrhea in the female?
6. What are three diseases or conditions which can result from untreated gonorrhea?
7. What are the symptoms of primary syphilis in both male and female?
8. List at least three consequences of untreated syphilis.

Learning Strategy III.

Learning system designer developed Programmed Instruction Part I, a general overview of venereal disease, which should lead to mastery of six items on the criterion test.

Lesson Plan

Module Title: VD

Today's Lesson: Lesson III. P.I., Part I - An Overview of Venereal Disease.

Objectives:

Using Programmed Instruction Worksheet and without error,

1. Students will be able to name three dangers of self-treatment of venereal disease.
2. Students should be able to cite the incidence of VD among teenagers as compared with the rest of the general population of Washington, D. C.
3. Students will be able to define venereal disease.
4. Students will be able to list the two most common types of venereal disease and give one slang or common name for each.
5. Students will be able to describe how venereal disease is spread from person to person.
6. Given a set of five alternatives, students will be able to select the correct response for what is to be done if venereal disease is detected.

Procedure:

1. Take attendance.
2. Pass out worksheets, VD, Part I, a unit designer developed, Programmed Instruction sequence, and venereal disease fact sheet.
3. Allow the students to progress through the program at their own pace.
4. Check each student's worksheet as he completes it and answer questions as necessary.

Materials:

1. Venereal Disease Worksheet, Part I.
2. Venereal Disease Fact Sheet, with statistics obtained from the D. C. Department of Health.
3. Pens, pencils.

VD
Part I

FRAME 1

VD is a short way of referring to _____
_____.

These diseases are infectious or contagious. You can catch them. They are spread from one person to another by _____, usually during _____.

The answers to frame 1 are found in frame 4. Check your answers. If they are correct, go on to frame 2.

FRAME 2

Venereal disease is spread from person to person by _____
_____ an infected area, _____
_____ or when a mother who has VD gives birth to her _____. It can also be spread by homosexual activity.

(Answers for frame 1 are: Pass, people
Conditions or death, resis-
tant.)

See frame 3 for the correct answers for this frame. Then go on to frame 3.

FRAME 3

Two common venereal diseases are _____
and _____. One slang name for

FRAME 3 continued

gonorrhoea is _____ . Two common names for syphilis are _____ and _____ .

(The correct answers for frame 2 are: sexual intercourse, kissing or touching. heavy petting, baby.)

See frame 5 for the correct words to place in the blanks. When they are filled in correctly, go on to frame 4.

FRAME 4

(The answers to frame 1 are: Venereal disease, sexual or reproductive. close body contact, sexual intercourse.)

Read on:

Venereal disease has been known for many years. Gonorrhoea is one of the World's oldest diseases. It was familiar to the Chinese more than 5,000 years ago. VD is nothing new. Syphilis has been known since 1495.

Go on to frame 5.

FRAME 5

Recently there has been a very large rise in the number of young people who have VD. More and more teenagers are coming down with _____ and _____. Today, at least half of the reported cases are persons under the age of 24. One out of every five cases is under _____ years old.

FRAME 5 continued

In Washington, D. C., it is estimated that _____ of all teenagers have some form of VD.

See frame 6 for the correct answers.

(The answers for frame 3 are: gonorrhea, syphilis: calps or strain: Old Joe, siff or bad blood.)

Exercise 1.

USE YOUR VENEREAL DISEASE FACT SHEET

1. Find the column of figures which shows the percentage, (%) of people who have syphilis in D. C.
2. Compare the percentage in each group: 10 and under, 10-14, 15-19, etc.
3. Now add up the figures for the people 24 years old and younger.
4. Write this number in the blank. _____
5. This % number shows how many people 24 years and younger, have syphilis in comparison with the rest of the people in the District of Columbia.
6. Repeat steps one through three, this time using the percentage numbers for gonorrhea.
7. Write the number you calculate in this blank.
_____.
8. Allow your teacher to check your figures.
Go on to frame 6.

FRAME 6

Gonorrhea and syphilis can be carried by the same person at the same time. Because of this, if a person finds that he has gonorrhea, he should also be tested for _____.

FRAME 6 continued

If you have a venereal disease, and are cured, you can still catch it _____.

See frame 7 for the correct answers.

(The correct answers for frame 5 are: gonorrhoea, syphilis, twenty, one-fourth.)

Go on to frame 7.

FRAME 7

If a person has any symptoms of venereal disease or suspects he has it, he (or she) should contact his _____ or the _____.

(The answers for frame 6 are: syphilis, again.)

Go to frame 9 for the words which correctly fill these blanks.

Proceed to frame 8.

FRAME 8

Most venereal disease can usually be cured easily and quickly. But they must be treated by a medical _____, not by a quack. There is no home remedy or drugstore salve for _____.

These answers are in frame 10.

Go on to frame 9.

FRAME 9

If you find you have VD, you should

- a) Go to the local druggist and seek his advice as to what to do.
- b) Purchase a good ointment to apply to the sore.
- c) Contact your friends who have had VD.
- d) Contact your physician or VD clinic and the health department.
- e) Wait for it to go away.

Circle the correct answer.

If you circled d) - contact your physician or VD clinic and Department of Public Health, go on to frame 10. If you chose a, b, c, or e, go back to frame 7.

FRAME 10

(The words for frame 8 are: doctor and VD or venereal disease.)

Even a witch doctor could seem to cure VD, because the first signs will _____ by themselves. Disappearance of symptoms, however, is not a _____. The disease has just gone inside the body. _____ will stop the progress of even the last stages of the disease, but the damage already done to the tissues cannot be _____.

You may find the answers for this frame in frame 11.

(The answers for frame 8 are: doctor, VD or venereal disease.)

Go on to frame 11.

FRAME 11

If a person has venereal disease, he should not try to treat himself because this is very dangerous. Many things could happen which are not good. He might not cure himself and because of this he might _____ the disease to other _____.

He might also think that he is cured because the symptoms disappeared but the disease might finally cause other _____ or _____.

Another thing that can happen is that self-treatment might make the germs which cause the disease to change so that it can't be cured. They become _____ to the drug used for treatment.

The correct answers can be found in frame 2.

(The answers for frame 10 are: go away, cure, treatment, repaired.)

VENEREAL DISEASE FACT SHEET

REPORTED INFECTIOUS SYPHILIS BY AGE GROUP IN
THE DISTRICT OF COLUMBIA, FISCAL YEAR 1968

Age Group	% By Age	Male	Female	Total
10 and under	0	0	0	0
10-14	1.3	2	8	10
15-19	14.2	56	53	109
20-24	30.2	38	95	223
25-29	20.3	101	59	160
30-34	15.5	63	56	119
35-39	6.8	35	18	53
40-44	5.5	34	9	43
45-49	3.4	21	6	27
50 and over	2.3	11	7	18
TOTAL	100%	461	311	772

REPORTED CASES BY AGE AND SEX - GONORRHEA
IN DISTRICT OF COLUMBIA, FISCAL YEAR 1968

Age Group	% By Age	Male	Female	Total
10 and under	.2	7	18	25
10-14	.6	33	45	78
15-19	25.3	1,852	998	2,850
20-24	37.2	3,409	1,132	4,541
25-29	20.4	2,088	404	2,492
30-34	9.0	893	162	1,055
35-39	4.4	461	74	535
40-44	2.5	265	40	305
45-49	1.4	153	24	177
50 and over	1.0	108	21	129
Not tested				44
TOTAL	100%	9,269	2,918	12,231

Percentages do not include cases where age not known.

Learning Strategy IV

Learning systems designer developed Programmed Instruction, Part II, a discussion of gonorrhoea, including a laboratory activity using the microscope. This should lead to the mastery of five items on the criterion test.

VD
Part II Gonorrhoea

FRAME 1

Gonorrhoea has been called the "sterilizer of nations." It is called this because so many people who have had this disease are unable to

_____.

See frame 3 for the answers to the blanks. When they have been correctly filled in, go on to frame 2.

FRAME 2

The name of the germ which causes gonorrhoea is Neiesaria gonorrhoeae or the gonococcus. These germs are very tiny and can only be seen with a microscope. They belong to a group of bacteria which are generally called cocci.

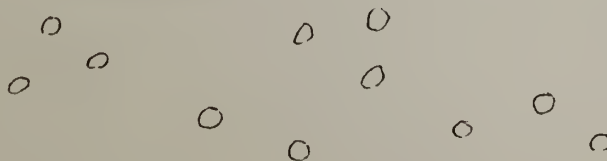
Go on to frame 3.

FRAME 3

Cocci is the form of the word which is plural or which means more than one. _____

is the form of the word which means one.

Cocci are a type of bacteria which are round in shape. In general they look like this.



FRAME 3 continued

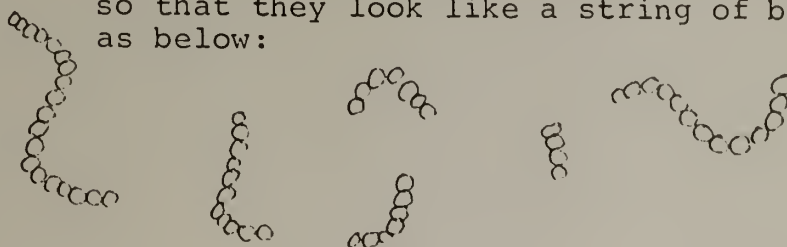
See frame 4 for the correct answers for this frame.

(The acceptable answers for frame 1 are have children.)

FRAME 4

Different types of cocci are attached to each other in different groups.

Some cocci are hooked together in chains so that they look like a string of beads as below:



These are called streptococci.

Go on to frame 5.

FRAME 5

Other cocci are hooked together like bunches of grapes as below:



These are called staphylococci.

Go on to frame 6.

FRAME 6

1. Draw a picture of a streptococcus.

2. Draw a picture of a staphylococcus.

Check your pictures with the illustrations in frame 4 and 5. If they are similar, go on to frame 7. If not, go back to frame 3.

FRAME 7

Still other cocci are hooked together 2 by 2.

These are called diplococci. The coccus which causes gonorrhoea is a diplococcus.

Draw what you think a diplococcus would look like:

See frame 8 for the correct drawing. Compare yours with it and make corrections where necessary.

Now go to laboratory activity I.
Read the directions first.

Obtain your necessary equipment.

Follow the directions.

LABORATORY ACTIVITY I

Objectives:

1. Everyone will be able to make a smear of Gram stain and identify a streptococcus, a staphylococcus, and a diplococcus.
2. Observe a prepared stain of N. gonorrhoeae and T. pallidum.

Materials:

1. A clean, dry microscope slide.
2. Unmarked cultures of a streptococcus, a staphylococcus and a diplococcus.
3. Reagents for making Gram stains.
4. Microscopes.
5. Bunsen burner
6. Microbiological loop.

Procedure:

1. Obtain a microscope.
2. Obtain a clean dry slide and divide it into equal sections with a waxed pencil.
3. Obtain smears of 3 organisms from the teacher.
4. Do a Gram's stain on the three organisms.

Procedure for Gram's Stain

- a. Allow the smear of the culture to air dry.
- b. Heat fix the smear by passing it quickly through the flame several times.
- c. Carefully apply crystal violet to the smears.
- d. Allow this to stand for 1 minute.
- e. Rinse the slide briefly under a small stream of running water.
- f. Apply iodine for 1 minute.
- g. Rinse the slide briefly under a small stream of running water.

- h. Tilt your slide at an angle so that water may run off and hold it that way until the next step is completed.
 - i. Drop by drop, drip 3 drops of alcohol on the slide and let them run off.
 - j. Quickly rinse the slide under a small stream of running water.
 - k. Apply safranin for 20 seconds.
 - l. Rinse with water.
 - m. Gently blot dry with tissues.
5. Observe each stain under the microscope.
 6. Make drawings of what you see on each section of your slide.
 7. From your drawings, identify which one is a streptococcus, a staphylococcus and a diplococcus.

FOR DRAWINGS

FRAME 8

Some of these gonorrhoea germs leave the body of an infected person during _____ and are deposited in or on the body of the sex partner. This applies in _____ relations also.

When a mother is infected, the _____ of her baby can become infected as the baby passes through the _____ in the process of being born.

The answers are in frame 10.

For frame 7, the correct drawings would be as follows:

FRAME 9

The symptoms of gonorrhoea in the _____ are much more pronounced than those in the _____. Most girls and women who have it do not suspect any illness. If there are any symptoms, they are slight and include some smarting or _____ in the genital area and also _____ from the vaginal area.

FRAME 9 continued

These symptoms will disappear even if not treated, after a few weeks.

The answers for this frame are found in frame 11.

FRAME 10

(The answers to frame 8 are: sexual relations, homosexual, eyes, birth canal.)

The symptoms in a man or boy include _____ when he _____ and a _____ of pus or a drip.

As in the female these symptoms _____ after a few weeks.

Look at frame 12 for the answers for this frame.

(The answers for frame 11 are: reproductive, blood, organs or parts.)

FRAME 11

If a person is not treated for gonorrhoea before the symptoms disappear, the gonococci will go deeper into the body. They infect the male and female _____ organs and cause damage which cannot be repaired. They can also spread by the _____ stream to other _____ of the body.

See frame 10 for the answers for this frame.

(The answers for frame 9 are: male, female, burning discharge.)

FRAME 12

If gonorrhoea is allowed to go untreated, it may invade the reproductive organs and cause _____, or it may settle in different organs to cause _____ or _____ disease.

However, gonorrhoea can be quickly and easily cured by using _____, but it must be administered by a competent person such as a _____.

The answers for this frame are: sterility, arthritis, heart, penicillin, doctor.

(The answers for frame 10 are: burning, urinates, discharge, disappear.)

Lesson Plan

Module Title: VD

Today's Lesson: Lesson IV; P. I. Part II - Gonorrhoea

Objectives:

Using Programmed Instruction Worksheets and without error:

1. Students will be able to name, describe, and draw the bacterial agent which causes gonorrhoea.
2. Students will be able to distinguish between the symptoms of gonorrhoea in the male and those in the female.
3. Students will be able to list three diseases or conditions which can result from untreated gonorrhoea.
4. Students should be able to describe the treatment for gonorrhoea.
5. Students should be able to make a Gram stain of and identify the type of bacteria which causes gonorrhoea.

Procedure:

1. Take attendance.
2. Pass out worksheets, VD, Part II.
3. Allow students to progress through the program to the laboratory activity.
4. Make smears of a culture of a staphylococcus, a streptococcus, and a diplococcus, as required by the learners in order to complete this exercise.
5. Give aid to the learners as necessary in making Gram stains, viewing the organisms under the microscope and diagraming them.
6. Check completed frames and drawings for accuracy.

Materials:

1. Pens, pencils, waxed pencil.
2. Copies of V., Part II - Gonorrhoea
3. Microscopes, slides.
4. Cultures of a staphylococcus, a streptococcus and a diplococcus.
5. Gram staining reagents, Gram's crystal violet solution, Gram's iodine, 95% alcohol (ethyl), and Gram's safranin solution.

Learning Strategy V

Observe a photographic slide presentation by a guest lecturer from the Department of Public Health and participate in a discussion which will enable the learner to master fourteen of the items on the criterion test.

Lesson Plan

Module Title: VD

Today's Lesson: Lesson V. Lecture and Slide Presentation

Objectives:

1. Students will be able to listen to and observe a lecture and photographic slide presentation on venereal disease by a guest speaker.
2. Students will be able to orally participate in a discussion regarding how syphilis and gonorrhea are transmitted, detected and treated, the symptoms of gonorrhea in the male and the female and the symptoms of syphilis in the primary, secondary, and tertiary stages.

Procedure:

Well in advance of the day of the presentation,

1. Secure a guest lecturer from the Venereal Disease section of the D. C. Department of Public Health.
2. Secure a suitable room and reserve materials necessary for the guest's presentation.
3. Advise classes of the arrangements being made.

The day of the lecture,

4. Set up the room for the guest's convenience.
5. Meet the guest and familiarize him with the facilities.

At class time,

6. Take attendance.
7. Introduce the guest to the classes.
8. Allow the guest speaker to give his presentation.
9. Encourage students to participate in questioning and discussion, following the presentation.
10. Thank lecturer after class.

Materials:

1. Guest speaker - Mr. Arnold, from the Epidemiology Section of the Northwest Clinic, D. C. Department of Public Health, Upshur Street, N. W.
2. Screen, table, etc. as needed by the guest for his presentation.

Evaluation:

A very interesting presentation of slides and information. Students were enthusiastic and asked questions freely.

Learning Strategy VI

Learning system designer developed Programmed Instruction - a taped lesson. A discussion of syphilis, using a tape recorder, taped lesson and a worksheet. The learner should be able to master five of the objectives tested for in the post-test (criterion test).

VD

Lesson Plan

Title of Module: VD

Today's Lesson: Lesson VI. Syphilis - A Taped Lesson

Objectives:

1. Those students who have not done so will be able to complete Parts I and II of the Programmed Instruction with 100% accuracy.

Those who have completed Parts I and II will be able to with the use of the tape recorder:

1. Explain how syphilis is spread throughout the body.
2. Describe the symptoms of primary syphilis in both the male and the female.
3. Name at least two consequences of untreated syphilis.
4. Distinguish between the first, second, and third stages of syphilis, giving the locations of the lesions in each stage.
5. Describe the treatment for syphilis.

Procedure:

1. Take attendance.
2. Pass back papers as necessary.
3. Set up listening stations for tape recorder.
4. Allow all other students to complete Parts I and II correctly to proceed to the taped lesson, Part III, using listening stations.
5. Allow all other students to complete Parts I and II of the Programmed Instruction materials, or other learning activities needed to reach the terminal objectives of the module.
6. At the end of the class period, collect all papers.

Materials:

1. Copies of Parts I, II, and III of Programmed Instruction.
2. Pamphlets and other reading materials concerning VD.

3. Microscopes, glass slides, broth culture, plate culture, Gram stain reagents.
4. Tape recorder, taped lesson, listening stations.
5. Pencils, pens, paper.

Lesson VI
Part III Syphilis
A Taped Lesson

Script:

Today, we will continue our study of venereal disease with a discussion of the most dangerous of the venereal diseases, syphilis.

As many of you may know, evidently when Columbus discovered America he also discovered syphilis. It was probably unknown in Europe and Asia before Columbus and his men returned from the New World in 1493.

Many historical figures were victims of syphilis, among them were: Charles VIII of France, Henry VIII of England, Bloody Mary, also of England and Al Capone of the U. S. A.

Please read along with this tape recording and fill in the blanks where requested. You will be told what the acceptable answers are after you attempt to answer. If your words are not correct, please change them. Begin now.

1. The germ which causes syphilis is called Treponema pallidum. We have been studying bacteria recently which have a round shape. The round shaped bacteria are called (pause) You should have written cocci. (Spell cocci.) If you have not written this word, write it now.
2. When these cocci are attached together 2 by 2, they are known as (pause). You should have written diplococci. (Spell diplococci.) Write diplococci in the blank for number 2.
3. One of the diseases caused by diplococci is (pause). Write the correct word in the blank provided. (Pause.) You should have written gonorrhoea. (Spell gonorrhoea.)
4. The bacteria which causes syphilis, is named (pause). Write the name. (Pause.) Number 4 should read: The bacteria which causes syphilis, named Treponema pallidum are shaped differently.
5. They are shaped like corkscrews and are called (pause). Write what you think they may be called in the blank. (Pause.) You should have written spirochetes. (Spell spirochetes.)

6. Draw a diagram of what you think a corkscrew-shaped bacteria would look like. (Pause.) Look at the blackboard and observe the drawings the teacher has made there. Correct your diagrams as necessary.
7. These spirochetes are easily killed outside the body by air, light, and heat. Inside the body, they thrive and are carried by the (pause) to all parts of the body. Write the correct word or words in the blank. (Pause.) You should have written bloodstream or circulatory system.
8. They enter the body through the mucous membranes or a tiny break or cut in the (pause). Write the correct word in the blank. (Pause.) You should have written skin. (Spell skin.)
9. Syphilis progresses through (pause). Write the number. (Pause.) Number 9 should read: Syphilis progresses through three stages if it is not treated early in its development.
10. The first stage of syphilis is known as (pause). You should have written primary syphilis.
11. The symptom of primary syphilis is (pause). Write what you think the correct word is. (Pause.) The correct word is chancre. (Spell chancre.) This sore develops at the place where the germs entered the body, which is usually the (pause). Write the correct word in the blank. You should have written genital or sex areas. (Spell genital.)
12. As in gonorrhea, even if untreated this first symptom will blank. Write the correct word or words in the blank. (Pause.) You should have written disappear or go away. The chancre will heal.
13. When the next symptoms appear, two to six months after infection, this is known as the second stage of syphilis or blank syphilis. Write the correct word in the blank. (Pause.) You should have written secondary in the blank. (Spell secondary.)
14. These symptoms may be a skin rash, sores in the mouth, throat, or nose, low fever or blank falling in blank. Write the correct words in the blanks. (Pause.) You should have written hair falling out in patches.

15. If neither primary or secondary syphilis is treated, the disease continues unchecked and after a time, the secondary symptoms also (pause). Write the correct word or words in the blank. (Pause.) You should have written disappear or go away.
16. All signs of syphilis may stay away for many years, but the blank are still in the body. Write the correct word in the blank. (Pause.) You should have written spirochetes or germs.
17. When some signs of the disease do reappear, this is the third and last stage, known as blank syphilis. Write the correct word in the blank. You should have written tertiary. (Spell tertiary.)
18. In tertiary syphilis, some of the symptoms or conditions are: heart disease, paralysis, or (pause). Write the correct word or words in the blank. (Pause.) The correct words are insanity or mental illness.
19. There are some other problems that arise from having syphilis. One of these occurs when a pregnant woman has syphilis. Her child might be born deaf, blind, blank, mentally retarded or blank. Fill in the blanks correctly. (Pause.) The correct words are: deformed and dead. A syphilitic mother has only one chance in six of having a healthy baby.
20. If the baby is not born dead, when it grows into a child, there might be many things wrong with him. There may be rash, damage to the brain, bones or liver, teeth, and the blank or blank may be misshapen. Write the correct words in the blanks. (Pause.) The correct words are nose or jaws.
21. However, syphilis can be (pause). Write the correct word in the blank. (Pause.) You should have written cured.
22. The most effective medicine is blank, properly administered early in the disease by a blank. Write the correct words in the blanks. (Pause.) The correct words are penicillin and doctor.

When you finish this tape, take your worksheet to the teacher and allow her to see your answers.

VD
Part III Syphilis

Please read along with the tape recording and fill in the blanks where requested. You will be told what the acceptable answers are after you attempt to answer. If your words are not correct, please change them.

1. The germ which causes syphilis is called Treponema pallidum. We have been studying bacteria recently which have a round shape. These round shaped bacteria are called _____.
2. When these cocci are attached together 2 by 2, they are known as _____.
3. One of the diseases caused by diplococci is _____.
4. The bacteria which causes syphilis, named _____ are shaped differently.
5. They are shaped like corkscrews and are called _____.
6. Draw a diagram of what you think a corkscrew-shaped bacteria would look like.

7. These spirochetes are easily killed outside of the body by air, light, and heat. Inside the body they thrive and are carried to all parts or organs by the _____.
8. They enter the body through the mucous membranes or a tiny break or cut in the _____.
9. Syphilis progresses through _____ stages if it is not treated early in its development.
10. The first stage of syphilis is known as _____ syphilis.

11. The symptom of primary syphilis is a _____.
This sore develops at the place where the germs enter the body which is usually the _____ areas.
12. Even if untreated, this first symptom will _____.
The chancre will heal.
13. When the next symptoms appear, 2 to 6 months after infection, this is known as the second stage of syphilis or _____ syphilis.
14. These symptoms may be a skin rash, sores in the mouth, throat or nose, low fever or _____ falling out in _____.
15. If neither primary or secondary syphilis is treated, it continues unchecked and after a time the secondary symptoms also _____.
16. All signs of syphilis may stay away for many years, but the _____ are still in the body.
17. When some signs of disease do reappear, this is the third and last stage known as _____ syphilis.
18. In tertiary syphilis some symptoms are heart disease, paralysis, and _____.
19. There are some other problems that arise from having syphilis. One of these occurs when a pregnant woman has syphilis. Her child might be born deaf, blind, _____ mentally retarded or _____. A syphilitic mother has only one chance in six of having a healthy baby.
20. If the baby is not born dead, when it grows into a child, there might be many things wrong with him. There may be a rash, damage to the brain, bones or liver, teeth and the _____ or _____ may be misshapen.
21. However syphilis can be _____.
22. The most effective medicine is _____ properly administered early in the disease by a _____.

Learning Stragegy VII

A laboratory demonstration, performed by the teacher and a discussion including the teacher and learner(s) concerning the laboratory diagnosis of syphilis and gonorrhoea. This strategy should enable the learner to master two of the items on the criterion test.

Lesson Plan

Module Title: VD

Today's Lesson: Lesson VII. Demonstration of Laboratory
Diagnosis of Venereal Disease.

Objectives:

1. Each student will be able to explain how syphilis is diagnosed in the laboratory.
2. Each student will be able to explain how gonorrhoea is diagnosed in the laboratory.

Procedure:

1. Take attendance.
2. Pass out papers as necessary.
3. Set up a micro-projector.
4. Demonstration of prepared slides.
 - a) Exhibit prepared slides of a pubic louse, the gonococcus, and the syphilis spirochete.
 - b) Entertain questions and discussion concerning these slides.
5. Demonstration of laboratory diagnosis of syphilis.
 - a) Place slides containing positive and negative tests for agglutination of red blood cells. (A drop of human Anti-A and Anti-B serum plus a drop of type A or B whole blood.)
 - b) Explain that the diagnosis of syphilis is done in a similar manner, only using the patients serum and the syphilis antigen reagent.
6. Demonstration of gonorrhoea diagnosis in a laboratory.
 - a) Explanation of the source of material to be examined (discharge from genital organs of infected persons).
 - b) Demonstration of diagnostic procedure:
 - 1) Gram stain directly from discharge and look for the presence of diplococci.
 - 2) Smear the discharge on to chocolate blood agar plates, incubate, anaerobically for 24 to 48 hours, then make a Gram's stain of the culture and look for diplococci.
7. Answer any questions students ask relevant to the discussion.
8. Have students answer in writing the questions on the worksheets.
9. Collect papers.

Materials:

1. Pens, pencils.
2. Prepared slides of Neisseria gonorrhoeae, a spirochete or spirillum, a pubic louse. (Pubic louse and gonococcus obtained by the D. C. Department of Public Health.)
3. Micro-projector.
4. Human Anti-A and Anti-B serum, blood (Type A or B)
5. Chocolate Blood Agar Plates
6. Diagnosis worksheets.

Evaluation:

As indicated by the feedback sheets, most students understood the diagnosis of gonorrhoea in a laboratory. However, they were not especially clear about the details of syphilis diagnosis. A demonstration of how syphilis is actually detected in a laboratory would probably be superior. For instance, there exists an RPR card test which diagnoses syphilis quickly, but this was unavailable at the time of the lesson.

VD
Diagnosis of VD in a Laboratory

1. In your own words explain how gonorrhoea is diagnosed in a laboratory.

2. Explain how gonorrhoea is diagnosed in a laboratory.

Lesson Plan

Module Title: VD

Today's Lesson: Lesson VIII. Post-test.

Objective:

90% of the students taking the post-test on venereal disease should be able to perform with 70% accuracy.

Procedure:

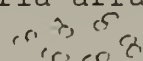
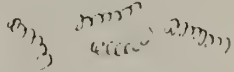
1. Take attendance.
2. Administer the post-test for this unit to those students who have completed all lessons he feels are necessary to pass it.
3. Collect papers.

Materials:

1. Pens, pencils.
2. Copies of the post-test on venereal disease.

VD
POST-TEST

Stimulus	Response
1. Define venereal disease.	1. An infectious disease starting usually in the genital area, transmitted by close body contact (or sexual intercourse).
2. Name two of the most common venereal diseases and one common or slang word for each.	2. Syphilis - Old Joe, bad blood, siff, or syph. Gonorrhea - Claps, morning drip, or a dose.
3. Explain how gonorrhea and syphilis are spread throughout the body.	3. The germs which cause them enter the body usually through the mucous membranes of the genital area and reach all parts of the body through the bloodstream or circulatory system.
4. List two ways in which venereal disease is transmitted (passed) from person to person.	4. By close body contact; sexual intercourse, oral sex, heavy petting, kissing an infected area, congenitally from mother to child.
5. If venereal disease is detected, the patient should:	5. D) Contact a physician or VD clinic and the health department.
a) Go to the neighborhood drugstore and seek the druggist's advice.	
b) Wait for it to go away.	
c) Purchase a good ointment from the drugstore and apply it to the lesions.	
d) Contact a physician or VD clinic and health department.	
e) Take a bath in disinfectant.	

6. Name three dangers of self-treatment of venereal disease.
7. About how many of the teenagers in the District of Columbia have or have had some form of VD?
8. What is the name of the bacteria which causes gonorrhoea? Describe or draw it.
9. What are the symptoms of gonorrhoea in the male patient? What are the symptoms in the female? What is the difference?
10. List three diseases or conditions which can result from untreated gonorrhoea.
11. What is the proper treatment for gonorrhoea?
12. Which bacteria causes syphilis? Describe or draw it.
13. What are the symptoms of primary syphilis in male and female?
6. Infected persons might
1) pass diseases on to other people, 2) cause irreparable damage to his own body (these conditions may be listed), 3) causative germs may become resistant to treatment.
7. About 1/4 (or 25%, 20-30%)
8. The gonococcus or Neisseria gonorrhoeae, diplococci, or round bacteria arranged in pairs, or 
9. Discharge and burning sensation during urination in the male; discharge and discomfort in the female. The difference is that the symptoms in the male are very definite, while in the female, they may be slight or completely unnoticeable.
10. Arthritis, sterility, heart disease, blindness in newborns, crippling.
11. Penicillin.
12. The syphilis spirochete, or Treponema pallidum and cork-screw or spiral shaped, or a coiled bacterium or 
13. A chancre or painless sore.

14. Name at least three consequences of untreated syphilis.
14. Death, insanity, crippling, heart disease, deformed babies.
15. What is the correct treatment for syphilis?
15. Penicillin.
16. Explain the method by which syphilis is diagnosed in the laboratory.
16. A smear is made from the chancre in the primary stage and a blood test is made in the other stages.
17. Explain how you would find out in a laboratory if a person has gonorrhoea.
17. (1) A smear is taken from the discharge a patient has, or
(2) Discharge is spread on special plates and allowed to grow for 24-48 hours. In both cases, Gram stains are made to look for diplococci.
18. What is the difference between the first, second and third stages of syphilis? Include in your discussion the places where the disease can show up in each stage.
18. First stage - Chancre, usually in the genital area, but may be on the finger, mouth, or other parts of the body.
Second stage - Rash, all over or on any part of the body, hair may fall out in patches.
Third stage - Lesions in the central nervous system or other parts or organs of the body. Death may result.

END

SECTION 8.0

APPENDIX

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8.2 Supplemental Materials List

"Educational Objectives"

"Establishing Performance Standard"

"Selecting Appropriate Educational Objectives"

"Appropriate Practice"

"Perceived Purpose"

"Knowledge of Results"

Note: All of the above are included in a set of illustrated filmstrips with accompanying audio-taped narrations and instructional manual. Vimcet Associates, P.O. Box 24714, Los Angeles, California, 90024.

C H A P T E R V I

SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS

Summary

The purpose of this dissertation was to develop an instructional package designed to train secondary teachers working in low-income urban areas to construct instructional modules for their students so as to actualize competency-based pupil education programs. The objective of the dissertation was attained in that a training package was designed and used by twelve science teachers in four secondary schools in low-income areas of a large urban city on the east coast. The package was effective in that the twelve participating teachers developed and implemented over thirty science modules. All involved teachers indicated that the competency-based instructional approach (the approach which utilized the modules developed by the teachers) generated more student interest than did the traditional approach. In addition, all involved teachers indicated a preference for the competency-based instructional approach. Further, eight teachers reported a decrease in the rate of absenteeism during the implementation of the modules they had developed, while four teachers reported no change.

The twelve teachers who participated in the field testing of the training package, as indicated in Chapter IV, were relatively free to select curriculum materials and to

explore different instructional approaches. Inasmuch as the competency-based approach places great emphasis on varied modes of instruction and on the use of a variety of instructional materials, teachers utilizing this approach must have a certain degree of freedom. Being required to follow a specific curriculum guide, or having to use a standard text would limit the effectiveness of the competency-based approach.

In the survey conducted to ascertain the need for an instructional package to train secondary teachers in low-income urban areas to construct modules, 10.5% of the teachers responding indicated that they must always follow a specific curriculum guide, and 23.8% indicated that they are required to use a standard text. For these teachers, the competency-based approach would have its limitations.

The survey further indicated that 65.7% are sometimes required to follow a specific curriculum guide while 23.8% indicated they never had to. Further, 49.5% indicated that sometimes they had to follow a standard text while 26.7% indicated they never had to. The foregoing figures suggest somewhat more flexibility and freedom for these teachers thereby imposing fewer limitations on the use of the competency-based approach. The optimal conditions, however, for the implementation of this approach, would be complete freedom to select curriculum materials and modes of instruction.

Recommendations

This dissertation suggests some implications for further study. The following recommendations, therefore, are being made:

(1) Since no effort was made in the dissertation to look at the relationship between the use of the competency-based approach and student achievement, it is recommended that further study be conducted to determine if this approach increases student achievement.

(2) Whereas this project involved only science teachers, it is recommended that further study be conducted using teachers in other subject areas.

(3) Since the rate of turn-over of youth in continuation high schools and in correctional institutions is high, the use of self-pacing modules might prove more effective than the use of traditional methods. It is recommended that a study be made to determine if this is so.

Conclusions

The competency-based approach is by no means a cure-all for all the problems facing secondary schools in low-income urban areas. "System-wide educational change presupposes that there is no single school design or educational program that is the sole answer to the problems and challenges of urban education. System-wide reform depends upon the encouragement of system-wide diversity. Such a strategy

is both educationally and politically sound."¹ The competency-based approach, however, did increase student interest therefore can be effective in reducing some of the apathy apparent in secondary urban schools. In addition, since the training package was effective, it can be used as a vehicle for providing in-service training for secondary teachers, thereby adding to their skills in curriculum development and providing them with an alternative approach to instruction.

¹Atron Gentry, Byrd Jones, et al., Urban Education: The Hope Factor (Philadelphia, Pa.: W.B. Saunders Company, 1972), p. 82.

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APPENDICES

APPENDIX A
SURVEY FORM #1

School System _____

The use of instructional modules is emerging as an effective means of providing students increased opportunities for self-pacing, individualization, personalization, and alternative means of instruction.

A module can be defined as an independent unit of instruction which has a primary focus on clearly defined objectives and specified criteria by which the attainment of the objectives will be determined.

This study is being conducted to determine whether a manual designed to train secondary teachers in low-income urban areas to construct instructional modules would be useful.

Directions: For each item, place a check in the column which best indicates your thinking on that item:

ITEM

1. You must follow a specific curriculum guide.
2. You are required to use a standard text.

Always	Some- times	Never	Not Applicable

3. You have received training in curriculum development in the last four (4) years.
4. A manual on how to construct sample modules would be of benefit to you.

Yes	No

APPENDIX B

SURVEY FORM #2

Subject taught: _____

Directions:

You have now taught using the traditional approach and the CBE approach. In reference to these approaches, please respond to the following questions:

- 1.0 Which approach generated more student interest, the competency-based or the traditional as evidenced by more active participation in class activities? (Check one.)

Traditional approach _____

Competency-based approach _____

- 2.0 Did the rate of absenteeism from class decrease, increase, or remain the same when using the competency-based approach? (Check one.)

decreased _____

increased _____

remained the same _____

- 3.0 Which method of teaching do you prefer to use? (Check one.)

Traditional approach _____

Competency-based approach _____

