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ABSTRACT

One of 15 core modules in a 22-module series designed to train vocational education curriculum specialists (VECS), this guide is intended for use by both instructor and student in a variety of education environments, including independent study, team teaching, seminars, and workshops, as well as in more conventional classroom settings. The guide has five major sections. Part I, Organization and Administration, contains an overview and rationale, educational goals and performance objectives, recommended learning materials, and suggested reference materials. Part II, Content and Study Activities, contains the content outline arranged by goals. Study activities for each goal and its corresponding objectives follow each section of the content outline. Content focus is on educational evaluation in retrospect (historical antecedents), terminology used in educational evaluation, the education and role of the evaluation specialist, the different conceptions of educational evaluation and the purposes for which it is conducted, and criteria used in evaluating vocational education programs and instruction. Part III, Group and Classroom Activities, suggests classroom or group activities and discussions keyed to specific content in the outline and to specific materials in the list of references. Part IV, Student Self-Check, contains questions directly related to the goals and objectives of the module, which may be used as a pretest or posttest. Part V, Appendix, contains suggested responses to the study activities from part II and responses to the student self-checks. (HD)

-Study Guide-

Module 13

BASIC CONCEPTS IN EDUCATIONAL EVALUATION

This document is one of a series of teaching/learning modules designed to train Vocational Education Curriculum Specialists. The titles of all individually available documents in this series appear below:

INTRODUCTORY MODULES

1. The Scope of Vocational Education
2. Roles of Vocational Educators in Curriculum Management
3. Current Trends in Vocational Education
4. Organization of Vocational Education
5. Legislative Mandates for Vocational Education
6. The Preparation of Vocational Educators

CORE MODULES

1. Important Differences Among Learners
2. Learning Processes and Outcomes
3. Applying Knowledge of Learning Processes and Outcomes to Instruction
4. Assessing Manpower Needs and Supply in Vocational Education
5. Laying the Groundwork for Vocational Education Curriculum Design
6. Selecting Instructional Strategies for Vocational Education
7. Derivation and Specification of Instructional Objectives
8. Development of Instructional Materials
9. Testing Instructional Objectives
10. Fiscal Management of Vocational Education Programs
11. Introducing and Maintaining Innovation
12. Managing Vocational Education Programs
13. Basic Concepts in Educational Evaluation
14. General Methods and Techniques of Educational Evaluation
15. Procedures for Conducting Evaluations of Vocational Education

SEMINARS AND FIELD EXPERIENCE MODULE

(Seminars in Authority Roles and the Curriculum Specialist in Vocational Education, and Leadership Styles and Functions of the Curriculum Specialist in Vocational Education; field work in Project Design and Administration, Operation of School Programs, Evaluation of School Programs, Educational Research and Development, and State, Regional, and Federal Program Supervision)

INSTALLATION GUIDE

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PREFACE

Who is a vocational education curriculum specialist? The answer to this question is not as simple as it might appear. A vocational education curriculum specialist is likely to work in many different capacities, including, but not limited to: instructor, department chairperson, dean of vocational-technical education, vocational supervisor, principal, state or local director of vocational education, and curriculum coordinator.

The specialist is, perhaps, more identifiable by his/her responsibilities, which include, but are not limited to:

- planning, organizing, actualizing, and controlling the work of an educational team performed to determine and achieve objectives.
- planning, organizing, and evaluating content and learning processes into sequential activities that facilitate the achievement of objectives.
- diagnosing present and projected training needs of business, industry, educational institutions, and the learner.
- knowing, comparing, and analyzing different theories of curriculum development, management, and evaluation and adapting them for use in vocational-technical education.

This teaching/learning module is part of a set of materials representing a comprehensive curriculum development project dealing with the training of vocational education curriculum specialists. The purpose of this two-year project was 1) to design, develop, and evaluate an advanced-level training program, with necessary instructional materials based on identified vocational education curriculum specialist competencies, and 2) to create an installation guide to assist instructors and administrators in the implementation process.

The curriculum presented here is, above all else, designed for flexible installation. These materials are not meant to be used only in the manner of an ordinary textbook. The materials can be used effectively by both instructor and student in a variety of educational environments, including independent study, team teaching, seminars, and workshops, as well as in more conventional classroom settings.

Dr. James A. Dunn
Principal Investigator and
presently Director,
Developmental Systems Group
American Institutes for Research

ACKNOWLEDGEMENTS

The Vocational Education Curriculum Specialist Project was a comprehensive development and evaluation effort involving the contribution of a large number of people: project staff, curriculum consultants, a national advisory panel, and a number of cooperating colleges and universities. This wide variety of valuable inputs makes it difficult to accurately credit ideas, techniques, suggestions, and contributions to their originators.

The members of the National Advisory Panel, listed below, were most helpful in their advice, suggestions, and criticisms.

Myron Blee	*Florida State Department of Education*
James L. Blue	*RCW Director, Olympia, Washington*
Ralph C. Bohn	*San Jose State University*
Ken Edwards	*International Brotherhood of Electrical Workers*
Mary Ellis	*President, American Vocational Association*
George McCabe	*Program Director, Consortium of California State University and Colleges*
Curtis Henson	*Atlanta Independent School District, Georgia*
Ben Hirst	*Director, Consortium of the States, Atlanta, Georgia*
Joseph Julianelle	*U. S. Department of Labor*
Lee Knack	*Industrial Relations Director, Morrison-Knudsen, Inc.*
Bette LaChapelle	*Wayne State University*
Jerome Moss, Jr.	*University of Minnesota*
Frank Pratzner	*CVE, Ohio State University*
Rita Richey	*Wayne State University*
Bryl R. Shoemaker	*Ohio State Department of Education*
William Stevenson	*Oklahoma State Department of Education*

The project would not have been possible without the cooperation and commitment of the field test institutions listed below.

California State University, Long Beach
California Polytechnic State University, San Luis Obispo
Consortium of California State University and Colleges
- California State University, Sacramento
- California State University, San Diego
- California State University, San Francisco
- California State University, San Jose
- California State University, Los Angeles

Iowa State University
University of California Los Angeles
University of Northern Colorado

Overall responsibility for the direction and quality of the project rested with James A. Dunn, Principal Investigator. Project management, supervision, and coordination were under the direction of John E. Bowers, Project Director.

TABLE OF CONTENTS

Part I:

Organization and Administration

PART I
ORGANIZATION AND ADMINISTRATION

Guidelines

This study guide has five major sections. Each section contains useful information, suggestions, and/or activities that assist in the achievement of the competencies of a Vocational Education Curriculum Specialist. Each major section is briefly described below.

PART I: ORGANIZATION AND ADMINISTRATION

PART I contains an Overview and Rationale, Educational Goals and Performance Objectives, Recommended Learning Materials, and Suggested Reference Materials. This section will help the user answer the following questions:

- How is the module organized?
- What is the educational purpose of the module?
- What specifically should the user learn from this module?
- What are the specific competencies emphasized in this module?
- What learning materials are necessary?
- What related reference materials would be helpful?

PART II: CONTENT AND STUDY ACTIVITIES

Part II contains the content outline arranged by goals. The outline is a synthesis of information from many sources related to the major topics (goals and objectives) of the module. Study activities for each goal and its corresponding objectives follow each section of the content outline, allowing students to complete the exercises related to Goal 1 before going on to Goal 2.

PART III: GROUP AND CLASSROOM ACTIVITIES

The "Activities-Resources" column in the content outline contains references to classroom or group activities and discussion questions related to specific content in the outline. These activities and discussion questions

are located in PART III and are for optional use of either the instructor or the student. Both the classroom activities and discussion questions are accompanied by suggested responses for use as helpful examples only--they do not represent conclusive answers to the problems and issues addressed. Also contained in the "Activities-Resources" column are the reference numbers of the resources used to develop the content outline. These reference numbers correspond to the numbers of the Suggested Reference Materials in PART I.

PART IV: STUDENT SELF-CHECK

PART IV contains questions directly related to the goals and objectives of the module. The self-check may be used as a pre-test or as a post-test, or as a periodic self-check for students in determining their own progress throughout the module.

PART V: APPENDICES

Appendix A contains responses to the Study Activities from PART II, and Appendix B contains responses to the Student Self-Check. The responses provide immediate feedback to the user and allow the module to be used more effectively for individualized study. They have been included in the last part of the module as appendices to facilitate their removal should the user wish to use them at a later time rather than concurrently with the rest of the module.

Approximately 30 hours of out-of-class study will be necessary to complete this module.

Overview and Rationale

In the curriculum development process, the evaluation component directly and continuously affects all other activities. This module is designed to provide the vocational educator with an overview of the development of contemporary evaluation theories and familiarize him with the terms used in educational evaluation. Formal, systematic

educational evaluation is defined and differentiated from standard educational research, evaluation research, and informal nonsystematic evaluation. The most popular current evaluation theories are briefly described, and the roles that evaluators fill in implementing those theories are explained.

The module is divided into two major content areas. The first area is an overview of the forces that have influenced the educational evaluation movement since the scientific management movement in the early part of the twentieth century. The evolution of educational evaluation terminology is presented, and contemporary definitions of those terms are explained. In addition, the differences in purpose between educational research and educational evaluation are pointed out. Also, formal, systematic educational evaluation is differentiated from informal, everyday, nonsystematic evaluation, and the purposes of the two types of evaluation are delineated.

The second major content area is an overview of current evaluation theory. Major evaluation models are briefly described and their salient points outlined. The roles that evaluators play in the various models and the skills and knowledge required of them are also described.

Goals and Objectives

Upon completion of this module the student will be able to achieve the following goals and objectives:

GOAL 13.1: BE AWARE OF THE SOCIAL, POLITICAL, AND ECONOMIC FACTORS THAT HAVE CONTRIBUTED TO THE DEVELOPMENT OF THE EDUCATIONAL EVALUATION MOVEMENT.

- Objective 13.11 Identify the major activities that have been characterized as educational evaluation in the past.
- Objective 13.12 Identify the major events and factors of the last two decades that have had the most pronounced effect on the educational evaluation movement.

GOAL 13.2: BE FAMILIAR WITH THE TERMINOLOGY USED IN EDUCATIONAL EVALUATION.

- Objective 13.21 Define educational evaluation as it is presently conceptualized.
- Objective 13.22 Distinguish among terms (such as research, measurement, and testing) that are commonly interchanged with the term evaluation but which do not actually mean the same.

GOAL 13.3: BE AWARE OF THE SIMILARITIES AND DIFFERENCES BETWEEN EDUCATIONAL RESEARCH AND EDUCATIONAL EVALUATION.

- Objective 13.31 Explain the differences in techniques and purposes between educational research and educational evaluation.
- Objective 13.32 Distinguish between everyday educational evaluation activities and systematic educational evaluation.

Objective 13.33 Distinguish among activities that are characterized as grading, measurement, research, and evaluation.

GOAL 13.4: BE AWARE OF THE QUALITIES AND KNOWLEDGE THAT EDUCATIONAL EVALUATORS MUST POSSESS AND THE ROLES THEY MUST PLAY.

Objective 13.41 Identify decision situations that require an evaluator's expertise.

Objective 13.42 Identify the three major roles that evaluation specialists are required to fill in a decision-making context.

Objective 13.43 Identify the knowledge and skills that evaluation specialists must have and use in their various roles.

GOAL 13.5: BE AWARE OF THE DIFFERENT CONCEPTIONS OF EDUCATIONAL EVALUATION AND THE PURPOSES FOR WHICH IT IS CONDUCTED.

Objective 13.51 Identify the four major types or conceptions of educational evaluation.

Objective 13.52 Distinguish among the purposes of the four general types of evaluation.

Objective 13.53 List the characteristics that are common to all four types of educational evaluation.

GOAL 13.6: BE AWARE OF THE CRITERIA USED IN A DECISION-MAKING CONTEXT TO EVALUATE VOCATIONAL EDUCATION PROGRAMS AND INSTRUCTIONAL INTERVENTIONS.

Objective 13.61 List criteria that are commonly used in evaluations of vocational education.

Objective 13.62 Distinguish between the criteria used to evaluate vocational education and those used to evaluate education in general.

Recommended Materials

1. Anderson, Scarvia B. et al. "Evaluator Role" in Encyclopedia of Educational Evaluation. San Francisco: Jossey-Bass, Inc., Publishers, 1973 (pp. 147-151).

2. Stufflebeam, Daniel L. et al. Chapter 10: "Education of the Evaluation Specialist" in Educational Evaluation and Decision Making. Phi Delta Kappa National Study Committee on Evaluation. Itasca, Illinois: F. E. Peacock Publishers, Inc., 1971.

3. Wenrich, Ralph C., and Wenrich, J. William. 'Evaluation Criteria' is excerpted from Chapter 14, "Evaluation, Accountability, and Research" of Leadership in Administration of Vocational and Technical Education. Columbus, Ohio: Charles E. Merrill Publishing Company, 1974 (pp. 267-269).

Suggested References

1. Alkin, Marvin C. et al. Evaluation and Decision Making: The Title VII Experience. Los Angeles: University of California, Center for the Study of Evaluation, 1974.

2. _____, and Fitz-Gibbon, Carol T. "Methods and Theories of Evaluating Programs." Journal of Research and Development in Education, 8 (Spring 1975): 2-15.

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20. _____. "Evaluation as Englightenment for Decision-Making." In Improving Educational Assessment and An Inventory of Measures of Affective Behavior, edited by W. H. Beatty.

21. Tyler, Ralph. Basic Principles of Curriculum and Instruction. Chicago: University of Chicago Press, 1949.

22. Voelkner, Alvin R. "What Every Educator Should Know About Evaluation." American Vocational Journal, 46: 59-61.

23. Wenrich, Ralph C., and Wenrich, J. William. Leadership in Administration of Vocational and Technical Education. Columbus, Ohio: Charles E. Merrill Publishing Company, 1974.

24. Worthen, Blaine R., and Sanders, James R. Educational Evaluation: Theory and Practice. Worthington, Ohio: Charles A. Jones Publishing Co., 1973.

25. Wray, Ralph D. "Evaluation of Occupational Programs." Business Education Forum, 28 (April 1974): 21-22.

Part II:

Content and Study Activities

PART II
CONTENT AND STUDY ACTIVITIES

Goal 13.1

Content Outline	Activities-Resources
Goal 13.1: Be Aware of the Social, Political, and Economic Factors That Have Contributed to the Development of the Educational Evaluation Movement.	
A. Educational Evaluation in Retrospect*	* See the Glossary of Terms at the beginning of Part III.
1. Evaluation is an activity we all engage in every day. It usually follows a rationale and includes criteria for making a decision.	
2. According to Alkin and Fitz-Gibbon, evaluation is usually comparative, that is, one option or course of action is examined and compared with another (2).	(2) "Methods and Theories of Evaluating Programs."
3. Daily evaluations are usually informal and not systematic.	
B. Historical Antecedents to Educational Evaluation	
1. Early scholars evaluated the effects they had on their students, but their evaluation "reports" were confidential. Evaluation was done for personal reasons, but it was, nevertheless, done to improve instruction.	
2. The scientific management movement in educational administration provided the impetus for	

the first comprehensive evaluations of education. However, the methods were rather unscientific, and the purpose was largely for economic reasons rather than for instructional improvement (10).	(10) Behavioral Science and Educational Administration, Chaps. III, IV.
3. The Eight-Year Study was the first formal, systematic evaluation that used sophisticated techniques. Its impact, however, was minimal because of World War II (11).	(11) The Curriculum: Retrospect and Prospect, pp. 26-44.
4. During the Civil Rights Movement of the 1960s, the "separate is not equal" doctrine provided more reason for evaluation.	(5) The Transformation of the School, pp. 338-347.
5. "Life adjustment" education critics demanded proof that schools were effective (5).	
6. Sputnik created another issue in the "schools are soft" controversy (5), (11).	(5) Same as above, p. 347. (11) Same as above, p. 91.
7. The Elementary and Secondary Education Act of 1965 focused attention on evaluation as the means for determining the effectiveness of educational programs.	
8. The public accountability movement gave further impetus to systematic evaluation in determining program, school, and teacher effectiveness (24).	(24) Educational Evaluation: Theory and Practice, p. 91.
9. Decentralization has increased the need for district level evaluation units to tailor evaluation to local performance objectives.*	* See Discussion Questions A and B in Part III.

C. Study Activities

After a careful reading of the content outline and any additional references as suggested, complete the following activities.

1. The call for educational evaluation, whether by individual teachers or by society, has been based on a desire either to improve the quality of student learning or to justify the expenditure of money on the educational enterprise. For example, in the time of Plato the need for educational evaluation was based on Plato's desire to improve the quality of his students. For the decades shown below, indicate what was behind the push for educational evaluation--a desire for a better student learning (quality), or a desire for better cost-effectiveness (economy)?

   a. 1910-1920
   b. 1930-1940
   c. 1950-1960
   d. 1960-1970
   e. 1970-present

2. What was the first major federal legislation that required evaluation of the funded programs?

3. What three factors seem to be most prominent in the push for "accountability" of the schools today?

(See Appendix A for possible answers.)

Goals 13.2, 13.3

Content Outline	Activities-Resources

Goal 13.2: Be Familiar with the Terminology Used in Educational Evaluation.

Goal 13.3: Be Aware of the Similarities and Differences Between Educational Research and Educational Evaluation.

A. Educational Evaluation: An Examination of Terminology

1. Because educational evaluation has only recently been recognized as a discipline, there is often confusion and ambiguity in its terminology.
2. Evaluation is defined most popularly as a systematic, formal process for identifying and collecting data on educational phenomena to assist in the decision-making process (17), (18), (14), (11), (2), (19).
   a. The term "educational phenomena" may include programs, curricula, instructional interventions, or other observable facts or events in the educational process.
   b. Formal judgment by the evaluator is not part of the evaluation process.

(17) "The Methodology of Evaluation," pp. 39-83.
(18) "The Countenance of Educational Evaluation," pp. 523-540.
(14) Discrepancy Evaluation.
(11) The Curriculum: Retrospect and Prospect.
(2) "Methods and Theories of Evaluating Programs," pp. 2-3.
(19) Educational Evaluation and Decision Making.

c. Measurement is not the same as evaluation (24).

d. Grading is not the same as evaluation. Grading schemes or systems can be evaluated.

e. Evaluations are conducted to provide information for those experiencing or demanding accountability (15).

f. Research and evaluation both use many of the same techniques, but the ultimate purposes are different (11).

   (1) Researchers are looking for conclusions: evaluators are looking for worth.

   (2) Researchers are concerned with the generalizability of their discoveries; evaluators are concerned with one specific situation.

g. Two distinctive types of evaluation that were first described by Michael Scriven in 1967 are "formative" and "summative" evaluations.

   (1) Formative evaluations are those conducted for the immediate improvement of a program that is still modifiable. This type of evaluation provides decision-making information to the developer or manager of a project or program.

(24) Educational Evaluation: Theory and Practice, Chap. 2.

(15) "Accountability: A Sobering Thought," p. 21.

(11) The Curriculum: Retrospect and Prospect, Chap. 2.

(2) Summative evaluations are those connected with the final judgment of a project or program. This type of evaluation provides decision-making information to the user or consumer of a product or program (17).*	(17) "The Methodology of Evaluation," pp. 39-83. * Students should complete Classroom Activity 1 which relates to Goal 13.3. See Part III. See Discussion Questions C, D and E.

B. Study Activities

Based on your reading of the content outline and any additional references as suggested, complete the following activities.

1. Define "systematic educational evaluation."

2. Define "formative" and "summative" evaluation, and indicate the differences between the two.

3. Indicate whether or not each of the following activities should be characterized as systematic educational evaluation. If not, indicate how the activity might best be described, using such terms as "measurement," "grading," "research," and so on.

   a. A data processing instructor wants to establish the manual dexterity level of prospective students relative to a specific set of criteria, so she administers a series of manual dexterity examinations to all incoming students.

   b. The dean of vocational education at a community college conducts a pretest-post-test study to see if programmed instruction is preferable to the traditional instructor-student relationship.

   c. Mr. Kriebelmeir, the carpentry teacher, keeps a log of "points" that his students earn in the performance of daily classroom activities so he can prepare defensible reports on their progress at the end of the term.

   d. A district curriculum specialist compares the results of several different approaches to individualizing instruction in order to see which of them should be adopted districtwide.

   e. A local college professor attempts to determine if the students in vocational education classes perform better and learn more if they are financially rewarded for their efforts in class.

   f. A state law requires that all teachers be appraised at least semi-annually in terms of their demonstrated effect on students.

Answer the following questions. If you have difficulty, re-read the material for that I.O.

1. List several similarities between research and evaluation.

2. How do the purposes of educational research and educational evaluation differ?

3. Are the results of educational evaluations generalizable? Why?

4. How does measurement differ from evaluation?

Goal 13.4

Content Outline	Activities-Resources
Goal 13.4: Be Aware of the Qualities and Knowledge that Educational Evaluators Must Possess and the Roles They Must Play.	
A. Education of the Evaluation Specialist	
1. Decision situations determine the role(s) that the evaluator will have to fill. According to Stufflebeam et al., there are four categories of decision situations:	
a. choosing among optional and sometimes competing goals;	
b. choosing one of several optional methods of achieving a goal;	
c. choosing among the alternatives involved in implementing a program; and	(19) Educational Evaluation and Decision Making, p. 297.
d. choosing to terminate, revise, or continue a program (19).	
2. The first three categories listed above are the initial focus of the evaluator in the "interface" role.	
3. In the "technical" role, the evaluator produces information to serve these first three decision situations.	
4. In the "administrative" role, the evaluator plans [illegible]valuation and coordinating acti[illegible].*	* See Discussion Question F in Part III.

B. Study Activities

Based on your reading of the content outline and any additional references as suggested, complete the following activities.

1. Stufflebeam and his associates divide the role of the evaluation specialist into three categories. List the three categories.

2. The authors of "Evaluator Role" take a slightly different tack from Stufflebeam and his associates in defining the roles of the evaluator. Are the two conceptions of "role" compatible? If so, place the roles described in "Evaluator Role" into the categories that Stufflebeam and his associates delineated.

3. List four abilities or types of knowledge that evaluators must have in order to play the interface role effectively.

4. List five abilities that the evaluator must have in order to effectively fill the role of evaluation technician.

5. From where do educational evaluators often "borrow" techniques to use in their role as evaluation technicians?

6. List three activities that the evaluator performs in the administrative role.

7. Stufflebeam and his associates group the skills and knowledge needed by the evaluation specialist into four general categories. List those four categories and include several examples from each.

8. When describing the interface role of the e. .ator, Stufflebeam and his associates list several criteria that are commonly used in the decision-making process. List those criteria, and give an example of each from vocational education.

Goal 13.5

Content Outline	Activities-Resources

Goal 13.5: Be Aware of the Different Conceptions of Educational Evaluation and the Purposes for Which It Is Conducted.

A. Evaluation Theories for Quality Education: An Overview

1. Bobbitt and Charters, curriculum reformers of the 1920s, produced curricula that were highly acceptable to school administrators and others because their content was quantifiable and measurable (5), (11).*
2. Evaluation theorists have various conceptions of the purpose of evaluation and have created evaluation "models" that correspond to these:
   a. goal-attaining models (21);
   b. judgmental models emphasizing intrinsic criteria (12);
   c. judgmental models emphasizing extrinsic criteria (12), (18); and
   d. decision-facilitation models (2), (14), (19), (20), (24).*

B. Evaluating Evaluation

1. Humanistic educators have questioned the very motives of evaluation; they have concluded that evaluation is often used as a selection mechanism, as an untenable application of industrial mechanisms to human behavior, and as part of a bureaucratic record-keeping structure (9).

(5) The Transformation of the School, p. 199.

(11) The Curriculum: Retrospect and Prospect, Chap. 1.

* See Discussion Question G in Part III.

(21) Basic Principles of Curriculum and Instruction.

(12) Educational Evaluation: New Roles, New Means.

(18) "The Countenance of Educational Evaluation," pp. 523-540.

(2) "Methods and Theories of Evaluating Programs."

(14) Discrepancy Evaluation.

(19) Educational Evaluation and Decision Making.

(20) "Evaluation as Enlightenment for Decision-Making."

(24) Educational Evaluation: Theory and Practice, pp. 210-215, gives an excellent comparison of selected characteristics of the various models

* See Discussion Question G in Part III.

(9) "An Evaluation of Evaluation," pp. 3-14.

2. Other critics feel that evaluation is a danger to an evolving understanding of the learning process (4).
3. Some educators feel that evaluation has been used negatively, rather than for improvement.

(4) "Educational Accountability from a Humanistic Perspective," pp. 19-21.

C. Quality Control and Evaluation

1. Evaluation and quality control are not the same.
2. A quality control system incorporates all the expressed purposes of evaluation: goal attainment (and examination), self-examination, information for decisions, and judgment.
3. Quality control essentially maintains consistency in output with respect to the standards or criteria of acceptance; evaluation seeks to collect information relevant for decisions leading to improvement.

D. Study Activities

Read and analyze the following material.

The major reason an organization is in business is either to produce a profit or to provide a service. Schools produce profits in the form of people who have the requisite skills to fill necessary roles in society. In order to be effective and efficient in the conduct of the educational enterprise, educators select objectives, define the methods and conditions required to meet those objectives, and maintain quality control by evaluation. Vocational educators were among the first to adopt methods and techniques from the business model, perhaps because the content of vocational education was so visibly related to business.

Cremin (5, p. 199) has written that the techniques for curriculum development advanced by Bobbitt and Charters in the early 1920s were successful and were accepted so heartily because they were able to quantify the content of curricula and to measure it. They were able to evaluate the worth of what was being taught and to demonstrate the efficiency of their methods.

Trends in education in the late 1920s and the 1930s showed somewhat less emphasis on measurable, quantifiable objectives and more on reordering society. However, the work of Ralph Tyler (21), formulated in the 1930s and 1940s, serves as the basis of one form of educational evaluation currently in use. Tyler felt that the bases for curriculum development should be: selecting objectives, selecting learning experiences, organizing the learning experiences, and evaluating learning.

Campbell and Gregg (3) assert that the general purpose of evaluation is to improve the effectiveness of goal achievement. Popham (13) insists that the purpose of evaluation is the formal assessment of the worth of educational phenomena. Hammond (14) feels that the purpose of evaluation in education is to discover whether innovation is effective in achieving expressed objectives, while Stufflebeam (19) and Alkin (1) argue that

evaluation should be used to facilitate decision-making. Tyler, Metfessel, and Michael (21) declare that the purpose of evaluation is to learn whether or not expressed objectives are met. Scriven (17) claims that the assessment of merits is the most important purpose of evaluation.

There are as many processes for educational evaluation as there are expressed purposes. However, the four general processes, or models, are: (1) the goal-attaining model; (2) the judgmental model emphasizing intrinsic criteria; (3) the judgmental model emphasizing extrinsic criteria; and (4) the decision-facilitation model.

Campbell and Gregg (3) have delineated four points or four steps that seem to be part of all the different processes. The first step in any evaluation process is selecting and defining the particular phase of the activity to be evaluated. Once one knows what is going to be evaluated, criteria or basic assumptions upon which interpretations or judgments will be based can be developed. The remaining steps in the evaluation process are collecting data pertinent to the criteria, interpreting and analyzing that data, and drawing conclusions.

The goal-attainment models, as exemplified by Tyler, Metfessel, Michael and Hammond (14), first decide on a goal, then express the goal in behavioral terms, and finally assess the degree to which the goal is attained. Goal-attainment models spring from the Eight-Year Study of progressive education, a study guided in part by Ralph Tyler. Metfessel, Michael, and Hammond have expanded the original Tyler model, but the emphasis remains goal attainment.

The most common example of a judgmental model emphasizing intrinsic criteria is the accreditation model. Worthen and Sanders (24) point out that the purpose of the accreditation model is to identify deficiencies in the education of teachers and students relevant to content and procedures. Accrediting agencies are often not as interested (publicly at least) in the worth of what is being taught as they are in the methods used to teach it and the facilities available. Personal judgment (and

bias) by professional colleagues often serves as the basis for evaluation in the accreditation model.

Scriven (17) and Stake (18) are the chief proponents of the judgmental models emphasizing extrinsic criteria. These models are concerned with the effects of the educational process. Scriven is responsible for the formative-summative distinction common to evaluation today. He has also recommended that the worth of the goals should be determined before an evaluator decides how well they have been achieved. Once an evaluation has been undertaken, the emphasis, according to Scriven, should be on the effects of the program. Scriven also argues that it is the responsibility of the evaluator to make comparisons with competing processes in order to facilitate any decision on the part of the operators of the program. The end result of the evaluation process in his opinion would then be the improvement of the instructional process.

Stake's countenance model distinguishes between the descriptive and the judgmental acts of the evaluator according to what he perceives as three phases of an educational program: what happens before the program (antecedents), what happens during the program (transactions), and what happens as a result of the program (outcomes). He then makes a distinction between what was intended as part of the program and what was actually observed. Judgments based on absolute criteria (standards) and relative criteria (personal judgment) may then be made. As with Scriven's model, the purpose underlying the countenance model is the improvement of instruction.

The decision-facilitation models, as characterized by Alkin (1), Provus (14), and Stufflebeam (19), are less concerned with determining the worth of educational goals than with collecting and presenting data to decision-makers who then determine the worth or make a value judgment. Stufflebeam's model is called the CIPP model after Context, Input, Process, and Product. The CIPP process is primarily concerned with delineating the questions raised by decision-makers, obtaining data relative to those questions, and synthesizing the information for use by the decision-maker.

Malcom Provus (14) devised a model for evaluation based on the premise that evaluation is the comparison of performance to standards. He calls his model the Discrepancy Model because it pays particular attention to the discrepancies between what the program operators claim are their standards for student performance and students' actual performances. The Discrepancy Model requires an independent evaluator whose chief purpose is to aid program improvement and counsel program administration. Again, the Discrepancy Model is a decision-facilitation model: a service to program operators.

The Alkin, or CSE Model (1), is probably the most lauded of the decision-facilitation models. It is composed of three phases: pre-formative, formative, and summative. The pre-formative phase has two activities in which the evaluator is involved: needs assessment and program planning. The formative phase contains an implementation evaluation and a progress evaluation. The summative phase is an outcome evaluation and provides data to the decision-maker that aids in the determination of whether to continue or discontinue the program. The CSE Model is the only model that includes evaluation as a part of the total process of program planning, development, operation, revision, and continuance or discontinuance. Unfortunately, most programs have already been put into effect by the time the evaluation component is introduced, so the CSE Model is difficult to employ in its entirety.

James Macdonald (9) has questioned the motives behind the rapid growth of educational evaluation in recent years. He feels that the justification for evaluation offered by most evaluators--that of concern for finding out what has been learned or accomplished in order to improve the process in the future--is secondary to the continuance of the funding of most projects or programs. He accuses many evaluators (or those calling for evaluation) of being concerned not with learning, but with selection. Evaluation is seen by Macdonald as often being a part of the record-keeping fetish of the bureaucratic structure and an application of industrial activity to educational programming. Evaluation becomes a way of separating means from ends, and it is all done "scientifically" because evaluation is defined as a technical problem.

Macdonald (19) and Arthur Combs (4) both feel that the current evaluation emphasis is dangerous to the humanistic image of man and to an evolving understanding of the learning process. Macdonald feels that the danger is heightened by federal grant programs (such as Title I), by the national testing programs, by accountability movements, and by the industrial focus of the schools. He proposes that evaluation procedures be built around the following ideas:

(1) goals are merely hypotheses that may evolve or change;
(2) intuition is real and results in unpredictable activity;
(3) inconsistency between goals and behavior may well signify experimentation and productive change;
(4) careful sequential activity over time may be an enemy of personal growth; and
(5) learning can be viewed as a way of changing one's past experiences by reinterpreting them in light of new actions and consequences (9, p. 14).

Macdonald's and Comb's criticisms are valid and familiar to curriculum specialists. They call for an examination of the applications of evaluation within the education system.

A glance at the literature of vocational education reveals a plethora of books, articles, and studies on evaluation, accountability, cost-effectiveness, quality control, and research. Most of these documents have been published since provisions in the Vocational Education Amendments of 1968 mandated periodic evaluation of the vocational programs supported by federal funds. Many approaches have been used and recommended to assure quality vocational programs including evaluation that focuses on providing data for decision-makers, evaluation for judging whether a program is good or bad, and evaluation for self-assessment. The intent of the clauses in the 1968 VEA mandating periodic evaluation was to increase or maintain quality vocational education, necessitating an emphasis on both the process and the product of the vocational education system.

Educators are again employing a term borrowed from business and industry to name the process of ensuring that the best possible education is provided: quality control. Quality control implies more than just evaluation or accountability. A quality control system does not limit the process to providing data for decision-makers, or to providing an opportunity for self-examination, or to placing a value label on a program. A quality control system does all of these things at all phases of the vocational program, and it includes everything and everyone involved in the vocational education experience. A viable quality control system is, at the same time, both a reflection of planning and an integral component of planning, in that it serves as a method for determining if and how well programs are accomplishing their stated objectives and, at the same time, serves as an input to the needs assessment phase of vocational planning.

A quality control system is not only concerned with the attributes of the "product" of the process, but with the methods employed in the process, the equipment and facilities used, the personnel, and the planning and operation of the system itself. A quality control system assures vocational education that is current, relevant, and of high quality. It is the mechanism by which all components of the process are strengthened through the use of evaluation.

1. Evaluation models or theories may usually be categorized according to purpose. List the four major categories of evaluation models and state the purpose for each.

2. Although the four categories of evaluation models have different purposes, what activities appear to be a part of all the processes?

3. What are the basic differences in purpose among the goal-attainment models, the judgmental models, and the decision-facilitation models?

4. What are the five major steps of evaluation that the evaluator is involved in when the CSE model is fully implemented?

5. James Macdonald and Arthur Combs have been two of the most vocal critics of the evaluation movement in education. List several of their criticisms.

6. Macdonald offered five assumptions around which evaluations should be built. Examine those areas, and then in one or two sentences summarize his fears of what evaluation could produce.

7. Is quality control the same as evaluation? Why?

Goal 13.6

Content Outline	Activities-Resources

Goal 13.6: Be Aware of the Criteria Used in a Decision-Making Context to Evaluate Vocational Education Programs and Instructional Interventions.

A. Evaluation Criteria *

1. Wenrich and Wenrich identified the five most common (and time tested) criteria for vocational education evaluations:
   a. program completion rates;
   b. student competency;
   c. cost-efficiency of the program (6);
   d. placement of students; and
   e. employer-employee satisfaction (23).

* Students should complete Classroom Activity 3 which relates to Goal 13.6 in Part III. Also see Discussion Question H.

(6) "The Role of Vocational Education in Improving Skills and Earning Capacity in the State of Ohio: A Cost-Benefit Study."

(23) Leadership in Administration of Vocational and Technical Education, pp. 267-272.

B. Study Activities

Based on your reading of the content outline and any additional references as suggested, complete the following activities.

1. Wenrich and Wenrich identify five criteria that they consider critical to the success of any vocational program evaluation. List these five criteria, and give examples of methods or techniques that an evaluation specialist might use to collect data to determine if the criteria are being met. This exercise requires outside reading in the Recommended Materials.

Wrapup Activity

NOTE: To meet the basic requirements of this module, select one of the following activities and complete it as directed. Each of the letters under Activity 1 identifies on activity. If you wish to gain additional credit beyond the basic requirements, you may choose a second activity to complete. Consult with your instructor first if you wish additional credit.

1. The purpose of each of the activities below is to give you an opportunity to determine how local educational agencies are implementing the evaluation activities required by the Vocational Education Amendments of 1968. Select a high school district near you and interview several members of the vocational education hierarchy to determine answers to one of the following questions or group of questions. Summarize the answers you receive in a four- to five-page paper.

   a. How does the district indicate to the State Advisory Council the extent to which consideration was given by the district to the findings and recommendations of the most recent advisory council evaluation submitted to the U. S. Office of Education? (It would help to have a copy of that report.)

b. Does the district evaluate the effectiveness of the funds provided under VEA? How?

c. Does the district evaluate the effectiveness of the instruction vocational students receive in terms of job placement, earnings relative to students who have not received training, or earnings relative to students who received training at another level of the education system, such as community college? How? If not in terms of any of these, how do they evaluate their programs? Who conducts the evaluation?

d. What form of evaluation is used by the district, that is, which of the "models" is employed, if any, to evaluate the vocational curricula? (You will have to be familiar with all four evaluation models.)

e. How much of the district's vocational education budget, or for that matter total instructional budget, is used for evaluation activities?

2. Using the resources found in the Suggested References section, study one of the four evaluation models. Defend its use as a viable evaluation model for vocational education in a four- to five-page paper.

Part III:

Group and Classroom Activities

PART III

GROUP AND CLASSROOM ACTIVITIES

Classroom Activities

GLOSSARY

The following terms are defined in order to clarify their meanings in the context of this module.

CIPP. An acronym formed from the first letters of the four basic kinds of evaluation under the decision-facilitation model as advocated by Stufflebeam. The letters represent context, input, process, and product.

COMPARATIVE EVALUATION. Evaluation in which one process/product is compared with another or with others in terms of effectiveness, cost, acceptance, etc.

CRITERION. A standard for judging and validating.

EDUCATIONAL PHENOMENA. Observable objects, facts, events, or processes in the educational setting that are evaluated.

FORMATIVE EVALUATION. Evaluation that is concerned with program improvement, and that generally requires evaluator intervention in the program or process.

OBJECTIVE. A point of accomplishment that can be verified within a given time and under specifiable conditions, which, if attained, reflects progress toward achievement of a corresponding goal. Objectives are sometimes known as behavioral objectives, performance objectives, and terminal objectives.

PRE-TEST.
POST-TEST. A component of an evaluation system or research design that requires testing before and after instruction or implementation of a program to determine the extent of student progress or achievement.

RELIABILITY. A term usually applied to measurement instruments, indicating that the instrument is consistent in the way it measures qualities or characteristics.

SUMMATIVE EVALUATION. Evaluation concerned with determining overall program effectiveness; it generally requires little or no evaluator intervention in the program or process.

SYSTEMATIC EVALUATION. A systematic, formal process of identifying and collecting information on educational phenomena to assist decision-makers in choosing among available decision options.

VALIDITY. A term usually applied to measurement instruments, indicating that the instruments adequately cover what they are designed to cover, that they correlate with the factors or traits they are designed to measure, and that they correlate with other measures of the same trait.

NOTE: The following activities are designed for use in the classroom to stimulate discussion on specific topics covered in this module. The activities are designed to be used following student self-study; however, depending on the background and abilities of students, these activities may not require previous study. All classroom activities are keyed to the content outline to indicate an appropriate point at which they might be presented.

1. Using the following situation and related questions, establish several groups in the class and allow the students to brainstorm possible solutions to the problem. Have each group of students choose either the formative or summative evaluation role, and after their brainstorming session, have them describe the procedures they believe appropriate to carrying out that evaluation.

   SITUATION: Assume that you are members of an evaluation consulting firm called in to help plan a program for formative and summative evaluation of a U.S. Office of Education project in which the chief focus is developing curriculum materials for use in training vocational education curriculum specialists. The materials (consisting largely of self-instructional booklets) are being developed at considerable cost to the taxpayers, and the question is how they may be most effectively used, and, having used them as effectively as

possible, whether they are really worth the cost. Choose either the formative or summative evaluation role, and describe the procedures you believe are appropriate to carrying out that evaluation.

RELATED QUESTIONS: The following questions are those that evaluators might ask. They are not in any specific order, and no clue is given as to whether the formative or summative evaluator would ask the question. The class should discuss whether or not these questions relate to formative or summative evaluations.

a. What are the objectives of the project? Are they measurable?
b. Is a pretest of any kind applicable?
c. May a posttest be used?
d. Is there a market for vocational curriculum specialists?
e. Are there other programs in existence that could be adapted to the objectives at less cost?
f. What kinds of tests may be used to determine if the project objectives are met?
g. Will there be opportunities to pretest the materials developed prior to actual use?
h. What criteria constitute "effective"?
i. What are minimal proficiency levels for vocational curriculum specialists?
j. What size of a group of learners should be used in the testing of the materials?
k. What decision criteria have the project personnel specified?

2. Using the situation described in Activity 1, divide the class into four groups and have each group assume the role of evaluators whose purpose is one of the following four: (1) goal attainment; (2) judgmental based on intrinsic criteria; (3) judgmental based on extrinsic criteria; or (4) decision facilitation. Each group should develop lists of criteria that it would examine for its specific purpose in evaluation. (The lists of criteria developed should be clearly consistent with each of the purposes; i.e., goal attainment, etc.)

3. Campbell and Gregg (3) have identified several points that they consider to be part of all the different evaluation processes. Discuss those points in the context of the four types of evaluation and attempt to substantiate their assertion. How does the purpose of the evaluation affect the way in which those activities are conducted? You might attempt to chart the different points against each of the four evaluation types in a 4 x 4 matrix such as the one below:

Campbell and Gregg's Points:	Evaluation Purposes: Goal Attainment	Judgmental Based on Intrinsic Criteria	Judgmental Based on Extrinsic Criteria	Decision Facilitation
1. Select and define the phase of the activity to be evaluated	The entire process and/ or program			All phases of the planning, development and operation of a program
2. Develop or define evaluative criteria	Were or are goals met?	Number of books in the library		
3. Collect data	All data will be relative to attainment of goals			
4. Interpret data and draw conclusions	The goals are either met or they aren't yes = good no = bad		Did the students get jobs?	

Activities for Additional Credit

NOTE: These activities are designed for the student who wishes to obtain credit beyond the basic requirements of the module. You may choose to write a paper on one of these activities, or discuss the activity with the instructor, or you may select some other method to complete the activity.

1. Select a vocational program you know of or one from a nearby high school and determine, from the director or from the principal, by what criteria the vocational program was evaluated in their last accreditation evaluation.

2. Develop an evaluation plan for a proposed new textbook, curriculum package, or instructional intervention in the vocational subject area with which you are most familiar.

3. Select one of the evaluation criterion categories identified by Wenrich and Wenrich (see Recommended Materials #3, pp. 267-269) and delineate methods of collecting data for decision makers relative to that criterion category.

4. Perform a library search for materials relevant to the evaluation of vocational education during one of the decades from 1920 to the present. Prepare an annotated bibliography of all materials that are discovered. The annotation should include a short summary of the criteria used in the evaluation process during that decade.

Discussion Questions

A. What are some examples of everyday evaluations we all make? What criteria do we consider in making these evaluations? For what purpose are everyday evaluations conducted?

(Examples of everyday evaluations might include:
a. color of tie or scarf to wear with shirt and suit or blouse;
b. the fit of one's clothing;
c. degree of danger in driving on freeways.

The criteria for these everyday evaluations are:
a. hues and tones of clothing and their coordination;
b. conformance to body contours, tightness, or looseness;
c. one's driving experience, degree of congestion of the freeways.

Purposes of everyday evaluations: Most everyday evaluations are conducted for the purposes of improving one's appearance, increasing comfort, improving the use of time, and in some cases, preserving one's safety.)

B. What are some common, everyday evaluations that a vocational teacher might make? What criteria might be considered and how are these criteria unique to vocational education? For what purposes might these evaluations be conducted?

(Some everyday evaluations that a vocational teacher might carry out are the:
a. relative safety or cleanliness of the classroom;
b. effectiveness of a particular type of instruction in a given situation;
c. type of material to use in a classroom.

The criteria for these evaluations include:
a. amount of clutter around work areas, number of students, students' attitudes toward safety;
b. number of students present, the degree of complexity of the concept or process being taught;
c. expense of materials, the type of materials used in the actual work environment, the danger involved in the use of certain materials.

The purposes of these evaluations: Most everyday evaluations in vocational education are for the purposes of improving the immediate instruction, ensuring safety, or making the learning situation as realistic as possible.)

C. What are some systematic evaluations common to school settings?

(Examples might include field tests of texts or instructional materials prior to adoption.)

D. What roles do research and measurement play in the development of instructional materials?

(Research and measurement may be used to determine what, why, and how students can learn.)

E. What role does formative evaluation play in the development of instructional materials? Summative evaluation?

(Formative evaluation is concerned with improving instructional materials. Summative evaluation is concerned with judging curriculum materials as effective or not, primarily to arrive at a decision to replicate or adopt them.)

F. What part do evaluators' personalities or demeanor play in the way they are perceived by the people for whom the evaluation is being conducted? Those being evaluated?

(The evaluator who has a "know-it-all" attitude will likely antagonize both those who are being evaluated and those for whom the evaluation is being conducted. The overly aggressive evaluator may give the impression that he is biased in some way toward the program or project, thereby creating an unfavorable attitude in the two groups. The evaluator must maintain an unbiased stance when collecting data upon which decisions will be based. To do otherwise would jeopardize the reliability of the evaluation results, and may unfairly or incorrectly bias readers of the evaluation report for or against a particular project or program.)

G. What social movement created the types of educational administrators who would heartily accept a curriculum that was so "scientific" it was measurable? What social factors led to the creation of that movement? (10)

(The movement in the early part of the 20th century for efficiency in business [the scientific management movement] created a probable climate for the use of "measurable," "scientific" curricula. Some of the social factors that led to this movement include mass immigration, mass migration from farms or the rural South to the cities, creation of large city school systems, and gross inefficiencies in the conduct and management of private and public organizational activities.)

H. What other criteria might be used in evaluating vocational programs? What are those used in other educational evaluations? (19)

(Other criteria might include such things as student satisfaction and the adaptability of students to changes in the occupation or job.

Criteria used in other educational evaluations include the ability of the students to grasp abstract concepts and to read and write efficiently. These same criteria also apply to many vocational evaluations.)

Part IV:

Student Self-Check

PART IV
STUDENT SELF-CHECK

GOAL 13.1

1. The evaluation of educational efforts has been a part of the formal educational process for as long as we have had one, but the evaluation effort wasn't systematized until rather recently. List four functions performed by educators prior to 1950 that were then characterized as evaluation. (13.11)

2. List four major social events or movements that have occurred in the last two decades that have contributed to the educational evaluation movement. (13.12)

GOAL 13.2

3. Define educational evaluation as it is most popularly conceptualized and employed. (13.21)

4. Match the terms in the left column with the definitions in the right column. Put the letter of each definition in the space next to its corresponding term. (13.22)

_____ summative evaluation	a. Assessing the merit of students' intellectual attributes or accomplishments
_____ measurement	b. The process of requesting, requiring, or providing evidence that schools are giving society its money's worth of education
_____ grading	c. The act of assessing worth
_____ research	d. The act or process of determining overall program effectiveness
_____ formative evaluation	e. The process of developing a model or theory that identifies all relevant variables in an environment and hypothesizes about their relationship.
_____ educational evaluation	f. The act or process of providing decision information to program developers or managers
_____ judging	g. The process of identifying and collecting data on educational phenomena to assist decision-makers in choosing among available options
_____ accountability	h. The act of assigning numbers to objects and events according to some predetermined criteria

GOAL 13.3

5. Explain the basic differences in purpose between educational evaluation and educational research. (13.31)

6. Indicate how each of the activities depicted below might best be described or characterized as measurement, research, grading, non-systematic evaluation, systematic evaluation, formative evaluation, or summative evaluation. (13.32, 13.33)

_____ A local trade union consortium has complained that new apprentices who have had vocational training in high school cannot perform many of the basic tasks required of them, so the district vocational education director mandates that performance examinations be given to all vocational program graduates.

_____ Instructors of the vocational programs in the above district are required to base their final assessment of their students on the results of the performance examinations.

_____ The teacher of a medical laboratory technician course, after much deliberation on the merits of various brands and styles of lab coats, decides that it would be best if all students wore orange lab coats without pockets while in class.

_____ An educational psychologist feels that the color of lab coats has an effect on students' attitudes toward safety and responsibility in the classroom, so he examines matched pairs of students in different classrooms where the students wear different colored coats and compares their attitudes.

_____ A building trades teacher feels that if students were allowed and encouraged to form their own construction company, they would learn better and faster. The company is formed and students assume the various positions of a construction company hierarchy. They then bid for jobs in the community around the school. The supervisor of vocational education is impressed with the operation of the program, but after it has been in operation for two semesters, the school board questions whether the increase in learning (if any) is worth the added risks of having the students work off campus. A consultant is called in to help the supervisor decide whether or not to allow the continued operation of the company.

_____ A college professor is asked to supervise an occupational needs assessment for the state division of vocational education so the state can decide which of its vocational program objectives should be emphasized. The division wants the needs assessment conducted independently so they can better determine how to direct and allocate funds for the various vocational programs.

_____ A textbook company, dismayed at their lack of success in maintaining a market in newly released books after an initial spurt of sales, decides to try out all new materials prior to final printing and then judge whether or not they should be altered.

GOAL 13.4

Place a check mark (✓) next to those decision situations listed below that require an evaluator's expertise. (13.41)

____ a. Is one program better than another?

____ b. Is the better program worth the added expense of conducting it?

____ c. Should the school board buy nonunion products to use in vocational classes?

____ d. Six teachers who appear to have equal qualifications apply for one job opening. Who should get the job?

8. What are the three major roles that evaluators are required to assume in educational evaluation?

9. List two skills or pieces of knowledge that an evaluator must possess in order to be effective in <u>each</u> of the above roles. (13.43)

GOAL 13.5

10. List four major "conceptions" or types of evaluation, and state the purpose of each. (13.51, 13.52)

11. What four activities are common to all types of evaluation? (13.53)

GOAL 13.6

12. List five criteria that are commonly employed in vocational education evaluations. (13.61)

13. Place a check mark (✓) next to those criteria listed below that would most likely be used in evaluating vocational programs. (13.62)

_____ a. Students' ability to find work upon graduation

_____ b. Students' attitudes toward work

_____ c. Students' demonstrated competence

_____ d. Students' preferences in work clothes

_____ e. Teacher morale

_____ f. Postgraduate earnings of students

_____ g. Work experience of the teaching staff

_____ h. Demonstrated competence of the students in oral and written communication skills

Part V:

Appendices

PART V
APPENDICES

Appendix A:
Possible Study Activity Responses

The answers below are designed to give you feedback on the exercises in this guide. If correct answers exist to given questions, they are provided. In the case of more complex exercises, sample responses or suggestions are provided.

GOAL 13.1

1. a. economic
   b. quality
   c. quality
   d. economic
   e. primarily economic, but quality is included

2. Elementary and Secondary Education Act of 1965

3. a. decrease in local support
   b. increase in federal support
   c. decentralization

GOAL 13.2

1. "Systematic educational evaluation" is a systematic, formal process of identifying and collecting information on educational phenomena to assist decision-makers in choosing among available decision options.

2. Formative evaluation is that type of evaluation concerned with program improvement.
   Summative evaluation is that type of evaluation concerned with determining overall program effectiveness.
   Formative evaluation is a service to the developer or manager of a program or project or curriculum material. Summative evaluation is a service to the user of the phenomena.

3. a. No; measurement
   b. Yes; systematic evaluation
   c. No; grading
   d. Yes; systematic evaluation
   e. No; pure research
   f. Yes; (hopefully) systematic evaluation

GOAL 13.3

1. Both research and evaluation measure.
   Both collect data.
   Both use statistical techniques to analyze data.
   Both employ technological tools.
   Both prepare formal reports.

2. The purpose of research is to reach conclusions; the ultimate purpose of evaluation is to determine worth of phenomena.

3. No. The results of educational evaluations are not generalizable. Evaluations deal with one specific program or phenomena, and there is no intent to generalize. What works in one situation may or may not work in another, and no attempt is made to find out.

4. Measurement is conducted to determine position on a scale, while evaluation is conducted to determine worth relative to specific criteria.

GOAL 13.4

1. a. interface role
   b. technical role
   c. administrative role

2. Yes; the two conceptions of role are compatible. "Evaluator Role" describes skills that Stufflebeam and his associates included in their categories.
The interface role includes the evaluator as defendant and the evaluator as attorney. The technical role includes the evaluator as expert witness, and the evaluator as court reporter. The administrative role includes the evaluator as judge and juror. The roles of evaluator as detective and social worker are roles that aren't recognized as acceptable, but they do exist, and would probably best be placed in the interface role.

3. Consider your answer correct if it includes any four of the following:

   a. ability to spell out the ends to be served by the evaluation
   b. knowledge of available options or alternatives
   c. ability to determine criteria to be used in the decision-making process
   d. ability to identify audiences for the reporting of evaluation results
   e. ability to interact with (if not conduct) the technical aspect of the evaluation
   f. ability to determine the information needs of each audience of the evaluation
   g. ability to prepare an evaluation report that will meet the audience's needs

4. Consider your answer correct if it includes any five of the following:

   a. converting criterion statements into measures
   b. sampling
   c. measurment
   d. data processing
   e. data analysis
   f. data interpretation
   g. data reporting

5. Educational evaluators often "borrow" techniques to use in their role as evaluation technicians from educational research methodology.

6. Consider your answer correct if it includes any three of the following:

   a. deciding on the focus of the evaluation
   b. planning the evaluation and scheduling the activities
   c. coordinating the various roles of the evaluator
   d. appraisal of techniques/methods employed
   e. record keeping

7. a. Knowledge of the conception of evaluation: functions, inputs, outputs, sequence, environment, physical catalysts, and human agents and their roles

   b. Knowledge required in performing evaluation work: focusing the evaluation, information collection and organization, data analysis and reporting, and administration

   c. Knowledge of the evaluation setting: the education system and all social, political, and economic aspects

   d. Other areas: economics (especially for cost-benefit evaluations), political science, and general systems theory

8. a. time--the length of a course in instructional hours governs the number of learning units that can be accomplished
   b. money--funds allocated for instructional support are crucial in terms of supplies, audio-visual materials, text and reference books, field trips, ratio of students to teacher, equipment availability and maintenance, etc.
   c. equipment availability--need to use outdated equipment
   d. achievement criteria--a trainee-graduate must meet entry-level employment standards since these are the minimum criteria for employment
   e. attitudes--the achievement of the affective domain is the greatest challenge faced by the instructor and is the primary expressed need of business and industry
   f. political factors--include conflicts between career aspirations of minorities and the job opportunities available; the closed shop and the maintenance of a restrictive labor supply by some unions; the dichotomy between parent and student goals

GOAL 13.5

1. a. Goal-attaining: to determine if the program or project met its objectives
   b. Judgmental emphasizing intrinsic criteria: to identify deficiencies in content and procedures and decide whether they (the content and procedures) are good or bad
   c. Judgmental emphasizing extrinsic criteria: to identify deficiencies in the process and judge the worth
   d. Decision-facilitation: to provide information for decision making with the ultimate end being the improvement of the process and product

2. a. selecting and defining what is to be evaluated
   b. establishing or determining evaluation criteria
   c. collecting data
   d. analyzing data and drawing conclusions

3. Goal-attainment checks only to see if what was set out to be accomplished was in fact accomplished. No value is placed on goals or on whether or not they were reached. Judgmental models place a value on the goals, the process, and the product. Improvement can come only with the next program. Decision-facilitation models intend to improve the product and the process by being involved through the total system. Decision-facilitation models are an aid in decision-making, but no judgment is passed as to value or worth.

4. a. needs assessment
   b. program planning
   c. implementation evaluation
   d. progress evaluation
   e. outcome evaluation (summative)

5. a. evaluation is dehumanizing
   b. involves bureaucratic record keeping
   c. stifles creativity
   d. evaluation is really for selection, not improvement

6. Locking into set procedures promotes conformity
   Inconsistency doesn't necessarily mean no growth has occurred

7. No. Quality control is not the same as evaluation. Evaluation is one mechanism of a quality control system. A truly comprehensive quality control system would employ evaluations of all four types.

GOAL 13.6

1. a. program completion: checking school records, exit interviews
   b. competency: competency exams, licensing exams, etc.
   c. cost efficiency: cost-benefit studies, checking other comparable programs for their costs
   d. employment placement: follow-up studies
   e. employee-employer satisfaction: follow-up studies

   (The examples above are just a few of many. Examples that are, in your judgment, comparable to or better than those above are acceptable)

Appendix B:
Possible Self-Check Responses

GOAL 13.1

1. The evaluation of educational efforts has been a part of the formal educational process for as long as we have had one, but the evaluation effort wasn't systematized until rather recently. List four functions performed by educators prior to 1950 that were then characterized as evaluation. (13.11)

   - grading students based on daily classwork
   - personal appraisal of students by teachers
   - teacher's self-appraisals
   - testing students

2. List four major social events or movements that have occurred in the last two decades that have contributed to the educational evaluation movement. (13.12)

   (Consider the student answer correct if it includes any four of the following.)

   - the civil rights movement
   - federal legislation mandating evaluation
   - increase in federal funds
   - decrease in local funds
   - school decentralization movement
   - public accountability movement (consumerism)
   - genuine desire on the part of educators to improve the educational process

GOAL 13.2

3. Define educational evaluation as it is most popularly conceptualized and employed. (13.21)

   Educational evaluation is a systematic, formal process of identifying and collecting information (or data) on educational phenomena to assist decision-makers in choosing among available decision options.

4. Match the terms in the left column with the definitions in the right column. Put the letter of each definition in the space next to its corresponding term. (13.22)

d summative evaluation	a. Assessing the merit of students' intellectual attributes or accomplishments
h measurement	b. The process of requesting, requiring, or providing evidence that schools are giving society its money's worth of education
a grading	c. The act of assessing worth
e research	d. The act or process of determining overall program effectiveness
f formative evaluation	e. The process of developing a model or theory that identifies all relevant variables in an environment and hypothesizes about their relationship
g educational evaluation	f. The act or process of providing decision information to program developers or managers
c judging	g. The process of identifying and collecting data on educational phenomena to assist decision-makers in choosing among available options
b accountability	h. The act of assigning numbers to objects and events according to predetermined criteria

GOAL 13.3

5. Explain the basic differences in purpose between educational evaluation and educational research. (13.31)

An acceptable answer would describe evaluation as being conducted to improve the education process and to determine worth. Research has as its purpose reaching generalizable conclusions. Evaluation is not generalizable.

6. Indicate how each of the activities depicted below might best be described or characterized as measurement, research, grading, non-systematic evaluation, systematic evaluation, formative evaluation, or summative evaluation. (13.32, 13.33)

measurement A local trade union consortium has complained that new apprentices who have had vocational training in high school cannot perform many of the basic tasks required of them, so the district vocational education director mandates that performance examinations be given to all vocational program graduates.

grading Instructors of the vocational programs in the above district are required to base their final assessment of their students on the results of the performance examinations.

everyday evaluation (nonsystematic) The teacher of a medical laboratory technician course, after much deliberation on the merits of various brands and styles of lab coats, decides that it would be best if all students wore orange lab coats without pockets while in class.

research An educational psychologist feels that the color of lab coats has an effect on students' attitudes toward safety and responsibility in the classroom, so he compares the attitudes of matched students in different classrooms, where the students wear different colored coats.

summative evaluation A building trades teacher feels that if students were allowed and encouraged to form their own construction company, they would learn better and faster. The company is formed and students assume the various positions of a construction company hierarchy. They then bid for jobs in the community around the school. The supervisor of vocational education is impressed with the operation of the program, but after it has been in operation for two semesters, the school board questions whether the increase in learning (if any) is worth the added risks of having the students work off-campus in competition with local construction companies. A consultant is called in to help the supervisor decide whether or not to allow the continued operation of the company.

systematic evaluation (decision-facilitation) A college professor is asked to supervise an occupational needs assessment for the state division of vocational education so the state can decide which of its vocational program objectives should be emphasized. The division wants the needs assessment conducted independently so they can better determine how to direct and allocate funds for the various vocational programs.

formative evaluation A textbook company, dismayed at their lack of success in maintaining a market in newly released books after an initial spurt of sales, decides to try out all new materials prior to final printing and then judge whether or not they should be altered.

GOAL 13.4

7. Place a check mark (✓) next to those decision situations listed below that require an evaluator's expertise. (13.41)

   ✓ a. Is one program better than another?

   ✓ b. Is the better program worth the added expense of conducting it?

   ____ c. Should the school board buy nonunion products to use in vocational classes?

   ____ d. Six teachers who appear to have equal qualifications apply for one job opening. Who should get the job?

8. What are the three major roles that evaluators are required to assume in educational evaluation? (13.42)

   a. interface role

   b. technical role

   c. administrative role

9. List two skills or pieces of knowledge that an evaluator must possess in order to be effective in each of the above roles. (13.43)

   (Consider the student answer correct if it includes any two of the following skills or knowledge for each role.)

a. Interface Role

(1) ability to spell out the ends to be served by the evaluation
(2) knowledge of available options or alternatives
(3) ability to determine criteria to be used in the decision-making process
(4) ability to identify audiences for the reporting of evaluation results
(5) ability to interact with (if not conduct) the technical aspect of the evaluation
(6) ability to determine the information needs of each audience of the evaluation
(7) ability to prepare an evaluation report that will meet the audience's needs

b. Technical Role

(1) converting criterion statements into measures
(2) sampling
(3) measurement
(4) data processing
(5) data analysis
(6) data interpretation
(7) data reporting

c. Administrative Role

(1) deciding on the focus of the evaluation
(2) planning the evaluation and scheduling the activities
(3) coordinating the various roles of the evaluator
(4) appraisal of techniques/methods employed
(5) record keeping

GOAL 13.5

10. List below four major "conceptions" or types of evaluation, and state the purpose of each. (13.51, 13.52)

a. goal attainment which purpose is: determination of goal achievement

b. judgmental emphasizing intrinsic criteria which purpose is: judgment

c. judgment emphasizing external criteria which purpose is: judgment

d. decision-facilitation which purpose is: information for decision-making

11. What four activities are common to all types of evaluation? (13.53)

    a. Selecting and defining what is to be evaluated

    b. Establishing or determining evaluation criteria

    c. Collecting data

    d. Analyzing data and drawing conclusions

GOAL 13.6

12. List five criteria that are commonly employed in vocational education evaluations. (13.61)

    Answers here should list either the five major categories--Program Completion, Competency, Cost Efficiency, Employment Placement, Employee-Employer Satisfaction--or specific examples of them.

13. Place a check mark (✓) next to those criteria listed below that would most likely be used in evaluating vocational programs. (13.62)

    ✓ a. Students' ability to find work upon graduation

    ____ b. Students' attitudes toward work

    ✓ c. Students' demonstrated competence

    ____ d. Students' preferences in work clothes

    ✓ e. Teacher morale

    ✓ f. Postgraduate earnings of students

    ✓ g. Work experience of the teaching staff

    ____ h. Demonstrated competence of the students in oral and written communication skills

CIPCE[1] Attitude Scale No. 1.4

Attitudes toward Educational Evaluation. Below are a number of statements about the evaluation of educational programs. A program can be a lesson, a course, a whole curriculum, or any training activity. Consider each statement as a statement of opinion. If you agree at least a little bit with the statement, circle the letter A. If you disagree even a little bit with the statement, circle the letter D. If you both agree and disagree, or if you have no opinion, leave the letters uncircled.

A = AGREE D = DISAGREE Blank = Neither

1. A D The major purpose of an educational evaluation study should be to gather information that will be helpful to the educators.

2. A D It is important for the program evaluator to find out how well various people like the program.

3. A D Generally speaking, an educational program should be evaluated with reference to one or more "control" programs.

4. A D The evaluator should accept the responsibility of finding the strongest, most defensible, and publicly attractive points of the program.

5. A D In evaluating a program, it is at least as important to study and report on the types of teaching as it is to study and report on the amount of learning.

6. A D The evaluator should draw a conclusion as to whether or not the goals of the program are worthwhile.

7. A D It is more important to evaluate a program in comparison to what other programs do than to evaluate it with reference to what its objectives say it should do.

8. A D Principals and superintendents should not gather data about the quality of instruction in the classroom.

9. A D The task of putting educational objectives into writing is more the responsibility of the evaluator than that of the educator.

10. A D It is essential that the full array of educational objectives be stated before the program begins.

11. A D Evaluation studies would improve if they gathered more kinds of information, even if at the expense of gathering less reliable information.

12. A D Evaluators should ignore data that cannot be objectively verified.

13. A D Education should have more of an engineering orientation than it now has.

14. A D The job of an evaluator is mostly one of finding out how well students learn what they are supposed to learn.

15. A D Evaluation should aid an educator in revising his goals even while the program is in progress.

16. A D The process of decision-making about the curriculum is one of the weakest links in the present operation of the schools.

17. A D Educators have some important aims that cannot be stated adequately by anyone in terms of student behaviors.

18. A D Information from an evaluation study is not worth the trouble it makes.

19. A D The first job in instruction is the formulation of a statement of objectives.

20. A D A teacher should tell his students any and all of his teaching objectives.

21. A D The major purpose of educational evaluation is to find out the worth of what is happening.

22. A D The evaluator should be a facilitator more than a critic or reformer or scholar.

23. A D Some school experiences are desirable because they round out a child's life--whether or not they increase his competence or change his attitudes.

24. A D An evaluator should find out if the teaching is in fact the kind that the school faculty expects it to be.

25. A D Whether or not an evaluation report is any good should be decided pretty much on the same grounds that research journal editors use to decide whether or not a manuscript should be published.

26. A D The main purpose of evaluation is to gain understanding of the causes of good instruction.

27. A D Description and value judgment are equally important components of evaluation.

28. A D In conducting an evaluation, there is no justification for the exercise of subjective judgment of any kind by the evaluator.

29. A D Educational evaluation is a necessary step in the everyday operation of the school.

30. A D The strategy of evaluation should be chosen primarily in terms of the particular needs the sponsors have for evaluation data.

31. A D The educational evaluator should attempt to conceal all of his personal judgment of the worth of the program he is evaluating.

32. A D The sponsor of an evaluation should have the final say-so in choosing or eliminating variables to be studied.

33. A D The main purpose of educational evaluation is to find out what methods of instruction work for different learning situations.

34. A D Parents' attitudes should be measured as part of the evaluation of school programs.

35. A D An evaluator finds it almost impossible to do his job without intruding upon the operation of the program at least a little.

36. A D All important educational aims can be expressed in terms of student behaviors.

37. A D Some educational goals are best expressed in terms of teacher behaviors.

38. A D It is essential that evaluation studies be designed so that the findings are generalizable to other curricula.

39. A D An evaluation study should pay less attention to the statistical significance of a finding than an instructional research study would.

40. A D Evaluation interferes with the running of schools more than it helps.

41. A D Little evaluation planning can be done before you get a statement of instructional objectives.

42. A D The leader of an evaluation team should be a teacher.

43. A D The entire school day and the entire school experience should be divided up and assigned to the pursuit of stated educational goals.

44. A D An evaluation of an educational program should include a critical analysis of the value of the goals of the program.

45. A D Every teacher should have formal ways of gathering information about the strengths and shortcomings of his instructional program.

46. A D Money spent on evaluation contributes more to the improvement of education than any other expenditure.

47. A D There just is no way that careful and honest evaluation can hurt a school program.

48. A D If an evaluation study is well designed, the primary findings are likely to improve decisions made by administrators, teachers, and students themselves.

49. A D When the evaluator has to choose between helping his staff run its program better and helping educators everywhere understand all programs a little better he should choose the latter.

1. Stake, Robert E. Urbana, Illinois: Center for Instructional Research and Curriculum Evaluation, University of Illinois, 1971.

CIRCE Attitude Scale No. 1.4b

Scoring of attitudes toward educational evaluation should be made following completion of CIRCE Attitude Scale.

Different people have different ideas about the evaluation of educational programs. Some believe that maintaining a good school and improving instruction require carefully planned evaluation. Others believe that evaluation activities interfere with teaching and learning, doing more harm than good.

Different people see different purposes for educational evaluation. Certain people are oriented more to pupil behaviors or to classroom conditions or to other aspects of the program.

Responses to the items on this attitude scale provide us with 6 scale scores. When plotted on the profile sheet below they are expected to indicate the respondent's attitudes toward educational evaluation.

Directions for Self Scoring

Start in the opposite corner of the page. For each scale check your sheet to see how you responded to each of the eleven items. For example, with SCALE V how did you mark Item #2? If you marked it "A" put a check in the parentheses. Put the number of checks in the box. Mark each horizontal scale (at the right) at the numberpoint shown in its box. Draw your profile by connecting your scores on the five scales, I-V. Then find your CONFIDENCE score by using the formula below.

To obtain an overall CONFIDENCE IN EVALUATION score, do the same thing with the check-list at the right.

0 1 2 3 4 5 6 7 8 9 10 11

Confidence Scale

Item					
8	D	( )			
12	D	( )			
15	A	( )			
18	D	( )			
29	A	( )			
34	A	( )			
40	D	( )			
45	A	( )			
46	A	( )			
47	A	( )			
48	A	( )			

SCALE I

3 A ( ) 30 D ( ) 38 A ( )
11 D ( ) 31 A ( ) 39 D ( )
25 A ( ) 32 D ( ) 49 A ( )
26 A ( ) 33 A ( ) Total ☐

I. A RESEARCH orientation to Evaluation

0 1 2 3 4 5 6 7 8 9 10 11

The person high on this scale appears to believe that evaluation should rely on precise measurement and statistical analysis to gain general understanding of why programs do or do not succeed.

SCALE II

1 A ( ) 15 A ( ) 30 A ( )
4 A ( ) 16 D ( ) 32 A ( )
6 D ( ) 22 A ( ) 35 A ( )
13 D ( ) 28 D ( ) Total ☐

II. A SERVICE orientation to Evaluation

0 1 2 3 4 5 6 7 8 9 10 11

The person high on this scale appears to believe that evaluation should be designed according to the needs of the educators involved so as to aid them in their present work and future decisions.

SCALE III

5 A ( ) 22 A ( ) 36 D ( )
9 A ( ) 23 A ( ) 37 A ( )
17 A ( ) 24 A ( ) 42 A ( )
20 D ( ) 34 A ( ) Total ☐

III. A TEACHING orientation to Evaluation

0 1 2 3 4 5 6 7 8 9 10 11

The person high on this scale appears to believe that evaluation should be focused considerably on the quality of teaching and should discover the intrinsic merit in facilities and in instruction.

SCALE IV

7 D ( ) 15 D ( ) 37 D ( )
9 D ( ) 17 D ( ) 41 A ( )
10 A ( ) 19 A ( ) 43 A ( )
14 A ( ) 36 A ( ) Total ☐

IV. OBJECTIVE-[illegible]tion to Evaluation

0 1 2 3 4 5 [illegible] 7 8 9 10 11

The person high on this scale appears to believe instruction, and therefore evaluation, should be focused considerably on a priori statements of objectives, and the merit of the program is largely indicated by the success of students reaching those objectives.

SCALE V

Item 2 A ( )
4 A ( )
6 A ( )
12 D ( )
21 A ( )
[illegible] A ( )
29 D ( )
31 D ( )
34 A ( )
39 A ( )
44 A ( )
Total ☐

V. A JUDGMENT orientation to Evaluation

0 1 2 3 4 5 6 7 8 9 10 11

The person high on this scale appears to believe that educational evaluation is largely a matter of establishing the worth of the program for various purposes as perceived by various groups of persons in and around the program.

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