DOCUMENT RESUME

ED 132 412 08 CE 009 203

TITLE	Vocational Education Curriculum Specialist (VECS). Module 11: Introducing and Maintaining Innovation. Study Guide. (Teaching/Learning Module).
INSTITUTION	American Institutes for Research in the Behavioral Sciences, Palo Alto, Calif.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C.
PUB DATE	76
CONTRACT	OEC-0-74-9286
NOTE	84p.; For related documents see CE 009 129-136 and CE 009 192-206
EDRS PRICE	MF-$0.83 HC-$4.67 Plus Postage.
DESCRIPTORS	*Change Agents; *Curriculum Development; *Educational Change; *Educational Innovation; Higher Education; Instructional Innovation; Instructional Materials; Instructional Programs; Learning Modules; Models; Post Secondary Education; Secondary Education; Specialists; Study Guides; Teacher Education; *Vocational Education

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 the process of dissemination, implementation, and utilization as a process of change in the educational community, and how a change agent can organize his work so that successful innovation will take place. 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 11

INTRODUCING AND MAINTAINING INNOVATION

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	*State Department of Education*
James L. Blue	*Director, Olympia, Washington*
Ralph C. Bohn	*Iowa State University*
Ken Edwards	*International Brotherhood of Electrical Workers*
Mary Ellis	*President, American Vocational Association*
George McCabe	*Program Director, Consortium of California State Universities and Colleges*
Curtis Henson	*Atlanta Independent School District, Georgia*
Ben Hirst	*Director, Department of the States, Atlanta, Georgia*
Joseph Julianelle	*U. S. Department of Labor*
Lee Knack	*Industrial Relations Director, Harrison-Emerson, Inc.*
Bette LaChapelle	*Kent State University*
Jerome Moss, Jr.	*University of Minnesota*
Frank Pratzner	*OVE, Ohio State University*
Rita Richey	*Wayne State University*
Bryl R. Shoemaker	*Ohio State Department of Education*
William Stevenson	*Alabama 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 class 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 either by the instructor or the student. Both the classroom activities and discussion questions are accompanied by suggested responses for use as helpful guidelines. 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

> There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things.
>
> The Prince, Machiavelli

[illegible]

[illegible] in stark contrast [illegible] teachers and leaders today. Voca- [illegible] instructing large [illegible] minority students and migrant students from rural, structured [illegible] with the problems of the physically and mentally handicapped, [illegible] into the mainstream of society; with the problems [illegible] unemployed victims of technological change; and with the many other critical problems that result from a rapidly changing society.

The skilled journeyman or practitioner is still needed to transmit the "know-how" of his vocation. But knowledge and skill are no longer sufficient qualifications for the vocational educator. Today, the vocational educator must show not only occupational knowledge and skill, but must also be an innovator and a change agent. The process of innovation has been the focus of much research, and the resultant knowledge should be made available to vocational educators to help them in their expanded role as change agents. This module has been designed to serve this purpose.

Vocational educators must recognize that the vocational curriculum specialist program in which they are involved is innovative; the techniques that have maintained and nurtured this program will be identified in this module.

Module 11 is designed to give the student a brief overview of the diffusion process of educational innovations. It is structured to help the student progress from the stage of understanding educational problems and theoretical models of innovation to a stage where he himself will build and critique diffusion models.

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The content of the module is organized around two major goals. The first goal concerns the terminology and concepts used to discuss the diffusion of innovations; it describes four models of diffusion; and discusses the characteristics of innovative programs to facilitate their acceptance.

The second goal investigates in detail one model of change. In this goal, the student will read Ronald Havelock's book entitled The Change Agent's Guide to Innovation in Education, and will complete practice exercises that require him to evaluate and apply Havelock's concepts.

Finally, a wrapup exercise gives the student another opportunity to plan a diffusion plan for an innovation or to evaluate the implementation process as it occurs in a particular school.

Goals and Objectives

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

GOAL II.1: EXPLAIN THE PROCESS OF DISSEMINATION, IMPLEMENTATION, AND UTILIZATION AS A PROCESS OF CHANGE IN THE EDUCATIONAL COMMUNITY.

- Objective II.11 Define the terms used in the study of the diffusion of educational programs, including the following: change agent, client, dissemination, diffusion, implementation, innovation, user, and integrated approach.
- Objective II.12 Describe the characteristics of people most likely to accept innovations.
- Objective II.13 Explain how the Innovations Evaluation Guide can be used to evaluate the benefits and costs of potential innovations.
- Objective II.14 List and describe at least five of the nine attributes exhibited by programs that are most easily adopted.
- Objective II.15 Explain the difference between an integrated approach and a sequential approach to development and diffusion.
- Objective II.16 Describe the four models of diffusion, implementation, and utilization.

GOAL II.2: DESCRIBE HOW A CHANGE AGENT CAN ORGANIZE HIS WORK SO THAT SUCCESSFUL INNOVATION WILL TAKE PLACE.

- Objective II.21 Describe the four roles of the change agent.
- Objective II.22 List and describe the six stages of the Havelock model of innovation and change.
- Objective II.23 Describe the four requirements for establishing a successful first encounter with clients and the community.

Objective 11.24	List the six danger signals that indicate a successful relationship may not be possible.
Objective 11.25	Describe the three ways to diagnose a client's problem or need.
Objective 11.26	Describe the nine mechanisms that can be used for acquiring information and relevant resources.
Objective 11.27	Describe the four steps that should be completed before a solution to a particular problem is decided upon.
Objective 11.28	List and describe the six phases in the process of individual adoption.
Objective 11.29	Explain how the change agent can expedite each of the six phases of the adoption process.
Objective 11.210	Describe six procedures that help ensure that a program will be maintained.

Recommended Materials

Havelock, Ronald, G. The Change Agent's Guide to Innovation in Education. Englewood Cliffs, New Jersey: Educational Technology Publications, 1973.

Suggested References

1. Brickell, Henry M. "Appraising the Effects of Innovations in Local Schools." In Educational Evaluation: New Roles, New Means, edited by R. W. Tyler, pp. 284-304. The Sixty-Eighth Yearbook of the National Society for the Study of Education, Part II. Chicago: The University of Chicago Press, 1969.

2. Hall, Douglas C. Instructional Systems Options and Guidelines for the Dissemination and Implementation of Career Education. Palo Alto, California: American Institutes for Research, 1974.

3. Havelock, Ronald G. The Change Agent's Guide to Innovation in Education. Englewood Cliffs, New Jersey: Educational Technology Publications, 1973.

   NOTE: Appendix C of Havelock's book, The Change Agent's Guide to Innovation in Education, contains an excellent bibliography on implementation and innovation. For additional references or resource material, refer to this bibliography.

4. Hearn, Norman E. "The Where, When, and How of Trying Innovations." Phi Delta Kappan, February 1972.

5. Hull, William L., and Wells, Randall L. The Classification and Evaluation of Innovations for Vocational and Technical Education. Washington, D.C.: U.S. Department of Health, Education and Welfare, 1972.

6. Olorsky, and Smith. "Educational Change: Its Origins and Characteristics." Phi Delta Kappan, March 1972.

7. Reynolds, Larry. "Teacher Adaptation to Planned Change." In The Process of Planned Change in the School's Instructional Organization, edited by Charters et al. Eugene, Oregon: University of Oregon, 1973.

8. Rogers, E. K., and Shoemaker, Floyd F. Communication of Innovations. 2nd ed. New York: Free Press, 1971.

9. Turnbull, Brenda J., Thorn, Lorraine I., and Hutchins, C. L. Promoting Change in Schools: A Diffusion Casebook. San Francisco: Far West Laboratory for Educational Research and Development, 1974.

10. Vallance, Elizabeth. Introduction to Dissemination and Marketing. San Francisco: Far West Laboratory for Educational Research and Development, 1973.

Part II:

Content and Study Activities

PART II
CONTENT AND STUDY ACTIVITIES

Goals 11.1, 11.2

Content Outline	Activities-Resources

Goal 11.1: Explain the Process of Dissemination, Implementation, and Utilization as a Process of Change in the Educational Community.

Goal 11.2: Describe How a Change Agent Can Organize His Work So That Successful Innovation Will Take Place.

A. Introducing and Maintaining Change

The best programs in the world are useless if they are sitting on a shelf gathering dust. Although you may spend hours planning the perfect innovative program, acquiring the necessary materials and equipment, getting the budget approved, and assigning teachers, you may not have a successful program if you do not follow the proper procedure for introducing and maintaining it.

If teachers and administrators do not like it, they can be very effective in making the best

program look like a failure. You must have their support for your innovation.

In this lesson, we shall discuss how to implement innovation.

1. Terminology of Change. In educational research and development, the terms diffusion, dissemination, implementation, and utilization are often used inconsistently. In this lesson, diffusion is a general term defined as the process of transmitting information about an educational innovation (an idea, program, or product); it includes the sequential stages of dissemination, implementation, and utilization.
   a. Dissemination is the process by which the diffusion creates awareness of or interest in the innovative ideas, programs, or products; it provides the information necessary for potential users to decide whether or not to implement the innovation on a trial basis.
   b. Implementation is the trial adoption of the innovation by the user. The diffusor is active at this stage, offering priority technical assistance, consultation, training, and help in adapting the innovation to the unique needs of a user.
   c. Utilization is the final process in the diffusion sequence. It is the adoption of the innovation by the user.

2. The Change Agent. Your job as a change agent is to carry out the process of diffusion so that programs will be accepted and used as intended.

B. Functions of the Change Agent

There are five general functions the change agent must perform. They are: involving potential users in the development and selection of programs; informing potential users about programs; demonstrating the effectiveness of programs; training program staff to use the innovative programs; and servicing and maintaining implemented innovations (10).

1. Involving potential users in the development and selection of programs. Early functions of the change agent include diagnosing the needs and interests of the program users, evaluating the benefits of alternative programs, studying the feasibility of funding and using programs, and adapting programs to fit the needs of the user. It is crucial to involve potential users and even community--unions, major employers, youth groups--in this stage. The dynamics of technological change are so rapid that the involvement of business and industry, along with the teachers themselves, is crucial.

2. Informing potential users about programs. Early dissemination activities include writing information brochures and organizing demonstrations and conferences to inform

(10) Introduction to Dissemination and Marketing. Also see (3) The Change Agent's Guide to Innovation in Education.

selected audiences about packages and programs relevant to their situations.

Until recently, educational innovations occurred so infrequently that there was little need for a systematic informing function. But with the increase in number of new developments available, the function of informing has become important even to sophisticated school systems. Information must be made available in ways that help the practitioner make a sensible professional judgment.

3. Demonstrating the effectiveness of programs. Demonstration activities include: setting up field-test demonstration sites and organizing visits; instituting "trial runs" in schools to allow for first-hand observation and evaluation; providing data and evaluations on previous uses of the program. Demonstration can easily be turned into evangelism. In the past, the typical demonstration was arranged to convince the practitioner of something by showing him that it was feasible. But these traditional demonstrations often failed--first, because they were set up in unrealistic situations, such as university laboratory schools; and second, because they did not provide the practitioner with an opportunity to assess the innovation. Today, the function of the demonstrator is to create credible situations so the practitioner can gather relevant information from the

demonstration about the operation and its consequences.

4. Training program staff to use the innovative programs. Training activities include: running Saturday or summer workshops; serving as consultant to teachers in the early stages of new-product use; arranging for site visits and peer-training conferences between current users and potential users; and running periodic refresher seminars.

   The training of potential adopters makes sense, especially if the innovation requires new skills and knowledge to make it work effectively. Few educators are so secure that they will risk their reputations by trying out an innovation they are not expert in using. It seems likely that the availability of inservice training is responsible in great measure for the success of such recent innovations as the curricular materials in metal technology and the computers in machining and agri-business that utilize both programmed and computer-oriented instruction.

5. Servicing and maintaining implemented innovations. Servicing activities include: providing technical assistance in maintaining equipment (machines, laboratory equipment); providing updated versions of the innovation as they appear; ensuring that lost material (equipment, workbooks, or texts) is replaced without disruptive delay in the program.

At some point, an innovation must be converted by the users into a regular part of the ongoing operation. This often means new physical or personnel resources. In addition, since the initial enthusiasm for the innovation usually wanes, the resulting lowered efficiency must be compensated for by further resources and support. Unless such resources are to be regularly available, there is little point in adopting the innovation in the first place.*

* See Classroom Activity 1 in Part III.

C. Some Principles of the Diffusion Process

1. Successful program use is directly related to the early involvement of users in the development process.
2. Products that incorporate a diffusion strategy from the outset tend to be used more widely and more quickly than those that have a diffusion strategy tacked on at the last minute as an afterthought.
3. Diffusion, like research, development, and evaluation, is a special function requiring special skills.
4. Each educational program requires its own diffusion strategy. There is no one strategy appropriate for all programs.
5. For the purposes of this course, the linkage model developed by Ronald Havelock will be considered the most appropriate model for the process of educational change.

6. Planning should be incorporated into every stage of development; in the diffusion of an innovative program this is the meaning of an "integrated" approach to diffusion. When the diffusion plan is considered only after the program has been developed, it is not an "integrated" plan; it is "sequential." An integrated plan for diffusion is preferable because the program has a much better chance of being appropriate for the users and therefore, adopted (9).*

(9) Promoting Change in Schools: A Diffusion Casebook.

* See Discussion Questions A and B in Part III.

D. Attributes of Programs That Are Successful Innovations

Most innovations that meet with easy acceptance exhibit nine principal attributes: relative advantage; compatibility; simplicity of use; trialability; observability; low financial costs; acceptable time considerations; reasonable space requirements and size of product; and support services that are acceptable (8).

(8) Communication of Innovations, pp. 22-23. Also see (3) The Change Agent's Guide to Innovation in Education, pp. 97-110, and (6) "Educational Change: Its Origins and Characteristics."

1. Relative Advantage. Relative advantage is the degree to which a product is perceived by the potential user (which could be a teacher, administrator, curriculum coordinator, or the school board) as being better than a competing product or process. Factors that help create a relative advantage for a product include the following:
   a. low initial cost,
   b. lower perceived risk regarding product performance and anticipated outcomes;

c. a decrease in discomfort;
d. a savings in time and effort; and
e. the immediacy of reward (6).

2. Compatibility. Compatibility is the degree to which a program product or process is perceived by a user as being consistent with his existing values, past experiences, and needs. An innovative program, product or process, that is not compatible with the value system of the user will be implemented more slowly than a product that is compatible if at all.

3. Simplicity of Use. Simplicity is the degree to which users perceive a program product as being easy to understand and use. A program product or process that requires users to have access to a mechanical calculator is probably simpler than one requiring access to an electronic computer. As simplicity decreases, probability of adoption and ease of diffusion also decrease.

4. Trialability. Trialability is the degree to which a product can be experimented with on a limited basis. Products that can be tried out in parts are generally adopted more rapidly than products that are not divisible. A product that can be broken down logically into smaller components tends to be diffused more easily because it presents the user with less risk and more options for use.

5. Observability. Observability is the degree to which the outcomes of a program product or

(6) "Educational Change: Its Origins and Characteristics."

process are visible to others. The effects of some products are readily observable whereas the effects of others are not. Generally, the effects of innovative processes are not immediately observable; hence, processes are more difficult to diffuse than tangible products.

6. Low Financial Costs. If an installed program product or process results in low operating costs to consumers, the probability of its being adopted increases. If the product requires extra expense, however, the probability decreases (1), (4).

7. Acceptable Time Considerations. Time considerations depend on the consumer's perception of the time that must be allocated for the installation of a product. Activities that require time include training, servicing or maintenance, planning and lead time for ordering supplies and equipment, plus operating time required to use the product. The more time needed to install and maintain the products, the less likely will be its adoption (1).

8. Reasonable Space Requirements and Size. The physical facilities required in order to install, use, and operate a program product or process, as perceived by the target consumer, tend to influence its diffusion. If the innovation requires extensive modifications in the existing physical plant, the probability of its being adopted decreases;

(1) "Appraising the Effects of Innovations in Local Schools."

(4) "The Where, When, and How of Trying Innovations."

the innovation tends to free the physical plant for other uses, the probability increases. Also, if it is portable or easy to move about, its adoption is more feasible than it would be otherwise.

9. Support Services That are Acceptable. If an innovative program product or process can be used without help from maintenance persons other than the teacher and without regular repair work, its adoption is more feasible than it would be otherwise. A textbook or a programmed learning manual, for example, would be more feasible for a school district with limited resources than would a computer-assisted instruction unit requiring maintenance and repair (1).

(1) "Appraising the Effects of Innovations in Local Schools."

10. The person responsible for implementing the program product or process should interact with the development team to ensure that the program design is realistic and congruent with the values of the intended users. The person implementing the program should also interact with the consumer or potential user at every stage of development. Building and maintaining this link between the consumer and development team is the most critical role performed by the person implementing the program. Failure in this role can result in unused programs, unmet user needs, and loss of credibility with the community, school district, and students.*

* See Discussion Questions C, D, and E in Part III.

E. Four Theoretical Models

Four basic models of diffusion are:
The Research, Development, and Diffusion Model
The Problem-Solving Model
The Social Interaction Model
The Linkage Model
These models differ in their emphasis on the roles of the potential users (3), (2).

1. Background. Historically, the users of innovations in education--that is, program administrators and teachers--were expected also to do their own research and development regarding new materials. They were expected to develop new materials and then implement them in the classroom. This approach proved to be ineffective, however, because teachers did not have the time, the materials, or the experience necessary for this task. Subsequently, the trend was abandoned in favor of using development teams from the school district research and development agencies to do this job. With development teams came a need for someone to implement and install the innovations in the school district, to evaluate the innovations systematically, and then to modify them. And this person must also be responsible for maintaining and evaluating the system. Each of the four models deals with these responsibilities. They differ in their emphasis on and division of

(3) The Change Agent's Guide to Innovation in Education, Appendix A.

(2) Instructional Systems Options and Guidelines for the Dissemination and Implementation of Career Education.

responsibilities among the change agent, the user, and the development team or outside development agency (2).

2. Model 1--The Research, Development, and Diffusion Model

   a. In this model resource agencies or publishing companies outside the system of potential users develop the innovative programs or products and present the completed package to users--schools and teachers. Reliance on this model often results in the development of a large number of innovative programs and materials that are not successfully implemented later in the schools. The major criticism of this model is that no attention is focused on the needs, values, and experiences of the user. It assumes that users will automatically adopt an innovation merely because information about its value has been given. This is generally untrue.

   b. The research, development, and diffusion model is used primarily by change agents employed by the outside development agency. These agents sometimes refer to their activities as the "marketing" approach. You might refer to the agents as salesmen or consultants (2).

(2) Instructional Systems Options and Guidelines for the Dissemination and Implementation of Career Education.

3. Model 2--The Problem-Solving Model

   a. Many current models for effecting change in education emphasize the importance of close relationships between external resources (development agencies such as publishing companies) and potential users. They differ in the presumed nature of the relationships and in the presumed importance of the relationships to the success of innovative attempts.

   b. The problem-solving model is one in which the user identifies his own needs and diagnoses his own problems. Only in the search for solutions to these problems does the external resource play a role. Once the resource has provided a potential solution, the user adopts the suggested innovation, applies it, and evaluates its success. This model heavily emphasizes the importance of the user, rather than the external resource, as the source of both interest in change and awareness of a problem needing change. The potential users (educators) are deeply involved in the planning and analysis of needs assessment before the innovation is selected. The program administration and teaching staff set the goals, define the needs, and seek solutions, with the external resources acting only as consultants.

c. This model provides for analysis and development to be shared between the external developer and the user.

4. Model 3--The Social Interaction Model

The social interaction model places emphasis on the external resource as the initiator of change. This model stresses the influence of opinion leaders. The success of innovations is based on personal contacts between the staff of the external resources or development agency and key users. Proponents of this model believe that change is likely to be initiated from outside the user system because the user-system is in a steady state and resists change from within.

5. Model 4--The Linkage Model

a. Finally, Havelock offers the linkage model, which combines elements of the problem-solving and social interaction models. In this model both external resource and user systems diagnose problems and search for solutions; there is close communication between them (3).

(3) The Change Agent's Guide to Innovation in Education.

b. The external resource agency continually stimulates the user's situation in order to develop solutions to problems faced by the user. The user system, in turn, stimulates the problem-solving process of the resource system.*

* See Classroom Activity 2 in Part III.

F. Wrapup of Module*

* See Discussion Question F in Part III.

G. Study Activities

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

Educational Diffusion: A Definition of Terms

Diffusion is a process of transmitting information about an educational innovation such as an idea, a program, or a product to a user of the innovation. The general term diffusion includes the sequential stages of dissemination, implementation, and utilization. The entire diffusion process also can be considered in terms of five phases: awareness, interest, evaluation, trial, and adoption. The awareness and interest phases correspond to the dissemination stage--the potential user learns about the innovation and then seeks more detailed information about it. The evaluation and trial phases correspond to the implementation stage--the potential user examines the possible value of the innovation for his purposes and is willing to implement the innovation on a tryout basis. The adoption phase corresponds to the utilization stage when the user accepts the innovation on a full-scale basis.

The change agent is the person who facilitates planned innovation. He may be a member of the agency that developed the innovation or a member of the staff of the potential institutional user. He may also be external to both groups. Just as the process of diffusion, in general, shows a change in the control of information about the innovation going from the producer and user (during implementation) and then to the user alone (during utilization), the role of the change agent changes correspondingly during these three stages of the diffusion process.

Diffusion literature often uses the term client to mean the potential user. Other terms you will need in order to progress in your self-study of this module are presented here. The most important concept to remember is that an integrated approach to diffusion requires the change agent to participate in all phases of an educational innovation: planning, development, dissemination, implementation, and utilization.

The following terms appear frequently and may be unfamiliar to you; the definitions explain how the terms are used.

Adoption - the goal of the diffusion process; the point at which consumers decide to use a specific innovation.

Change agent - a person who facilitates planned change or planned innovation. In the context of this module, the disseminator, marketer, or vocational curriculum specialist is considered a change agent.

Client - the person, group, organization, or community that the change agent serves; the potential user of the innovation.

Communication tactic - any of several ways of presenting information to a prospective client. Communication tactics may vary according to the client's needs.

Consumer - an individual or a group and/or an organization that receives and uses the product of educational research and development; the target of dissemination messages.

Diffusion - the process of transmitting information about an innovation including the sequential steps of dissemination, implementation, and utilization.

Dissemination - that process through which information about a product is communicated to consumers during the development process to (1) promote consumer awareness of and interest in specific research and development program outputs, and (2) induce consumer reactions to those outputs, leading to eventual adoption of the output.

Implementation - the process of carrying out and using an innovation.

Innovation - the idea, product, or change that is new to people and that is the concern of the implementation and diffusion processes.

Integrated approach to diffusion - an approach to diffusion that requires the active participation of the change agent in all phases of program planning, development, diffusion, utilization, and implementation.

Marketing - activities by which a research and development agency's product is promoted, physically distributed, and finally adopted.

Package - a combination of educational products.

Post hoc marketing - an approach to marketing in which the dissemination of information and the distribution of the product are not begun until after the product has been developed.

Product - the end result of research and development program efforts; an educational product may be either a material product (such as a text or game) or a process (such as a teaching strategy).

User - anyone who uses research and development resources to solve his problem; synonymous with "client."

Utilization - the process identifying target audiences and collecting feedback on their understanding and acceptance of innovations.

1. Having read the preceding material on "Educational Diffusion: A Definition of Terms," define the following terms as they are used in the dissemination and implementation of innovations.

   a. change agent
   b. client
   c. dissemination
   d. diffusion
   e. implementation
   f. innovation
   g. integrated approach to diffusion
   h. user

Characteristics of People Likely to Accept Innovations

Many studies have contrasted early knowers of an innovation to later knowers. The portrait that emerges of the early knower reveals more formal education in his background, more social participation in his environment, greater exposure to interpersonal channels of communication, and greater change agent contact.

Early adopters of an innovation have similarly been contrasted with later adopters. An identical portrait emerges for early adopters. They are better educated, more socially oriented, in tune with interpersonal communication channels, and regular users of change agent services. In addition, they manage larger units, rely more heavily upon scientific know-how, take greater risks, and have higher aspiration levels. Early adopters have more favorable attitudes toward change and enjoy a higher degree of opinion leadership in their environment. In addition, they are more likely to belong to systems with modern rather than traditional norms.

When researchers focused upon the characteristics of opinion leaders, they learned that these individuals were more innovative than their followers, were more cosmopolitan, and enjoyed a higher social status. Again, opinion leaders regularly utilized the services offered by change agents.

These generalizations provide an insight into the functions of the innovation-decision process, insight into entering points within the system for change agents, and insight into how to work with whom in an environment.

2a. What are the characteristics of people most likely to accept innovations?

a.

b.

c.

d.

e.

b. With what type of people will the change agent have the best results when trying to gather initial support for an innovation?

Evaluation of Innovations

One of the most important phases in the planning and dissemination of an innovation is a careful evaluation of the variety of possible innovations. Publishing companies are trying to sell many exciting new programs; members of the community request and suggest different programs; students suggest the adoption of new programs; and you probably have some favorite programs that you would like to see adopted. How do you as a change agent decide which ones to adopt and which ones to reject? By carefully weighing the benefits and costs of each innovation.

3. One guide for evaluating innovations is described in the article, "Innovations Evaluation Guide" by William Hull and Randall Wells, provided on the following pages. Read this article; then answer the questions below.

   a. How could you use the Innovations Evaluation Guide to improve your curriculum?

   b. Which of the categories of the evaluation guide are most critical? Explain your answer.

   c. If you were presenting an innovation to the community or to potential users, which of the categories of the evaluation guide would you discuss? Explain your answer.

Hull and Wells, The Classification and Evaluation of Innovations for Vocational and Technical Education. U. S. Department of Health, Education and Welfare, 1972.

INNOVATIONS EVALUATION GUIDE

WHAT IT IS

The Innovations Evaluation Guide is an instrument to help improve the decision-making ability of educators who evaluate innovations. The Guide classifies innovations by their characteristics in a manner which facilitates their evaluation by potential adopters.

WHY IT WAS DEVELOPED

Educators often lack pertinent information upon which to base their decisions. Use of this Guide will reduce the risk of failure due to an oversight in considering essential information. This aid to making a more rational decision suggests evaluative criteria for assessing an innovation.

HOW IT WORKS

The format of the Guide allows the evaluator to do a step-by-step analysis of the benefits and costs of an innovation. By providing information for the applicable characteristics, the evaluator can gain support and approval from those who are affected by his decision. Developers and promoters of exemplary innovations can use the categories in the Guide to supply consumer information on their products.

WHO CAN USE IT

The Guide can be used by any educator who has the task of evaluating innovations. Potential users include such people as classroom teachers, school administrators, state supervisors of exemplary programs, local educational agency project directors, state department personnel, teacher-educators, research and development center personnel, and research coordinating unit personnel.

WHEN TO USE IT

Educators should find the Guide most helpful when an innovation needs to be considered for adoption. It can also be useful as an evaluation tool to assess an innovation which is in the trial stage of adoption.

WHAT IT IS NOT

This Guide does not attempt to assess community or organization needs for innovations. The identification of problems and the mobilization of resources are the prerogatives of decision-makers in educational agencies.

Since the purpose of this Guide is to assess innovations rather than local situations, the educator must know his needs and be able to identify problems which exist. At this point, the Guide is useful in evaluating innovations as possible solutions to the perceived problems.

Information on the development of the Innovations Evaluation Guide can be obtained from the Final Report, *The Classification and Evaluation of Innovations in Vocational and Technical Education,* Research Series No. 71. This research was conducted at The Center for Vocational and Technical Education, The Ohio State University, by William L. Hull,

principal investigator, and Randall L. Wells, research associate.

INNOVATIONS EVALUATION GUIDE

BENEFITS

INDIVIDUAL PUPIL GROWTH

Rate of learning.
What effect will the innovation have on the rate of student learning?

Scope of learning.
How does the innovation affect the number and type of learning experiences and/or skills to which the students will be exposed?

Attitude.
What effect on attitudes can be attributed to the innovation (i.e., community, students, teachers, administrators)? Are there any experiences which assist the students in the development of their self-concepts and their abilities to relate to other individuals?

PROGRAM OPERATIONS

Efficiency.
What information is available which will allow a cost/benefit analysis of the innovation? How does this analysis compare to the present status or other alternatives?

Effectiveness.
What evidence indicates the innovation can achieve the required objectives to our satisfaction?

SOCIETY AND THE ECONOMY

Entry and advancement in an occupation.
What effect does the innovation have on increasing the opportunities to acquire job entry skills? Does the innovation include activities which will contribute to promotion and satisfaction on the job?

Economic and social efficiencies.
What effect will the innovation have on productivity and costs to society in relation to such items as wages, occupational mobility, and school dropout rate?

Social values.
What attempts will be made to create an awareness of society in the students through the teaching of concepts concerning institutions, laws, cultures and social problems?

Community involvement.
What benefits will accrue to the school and community after installing the innovation? What effect will the innovation have on such items as school and community relations, and the public image of the school?

CREDIBILITY

Validity.
What evidence indicates that the innovation can achieve its objectives?

Reliability.
Where has the innovation been tested previously? How similar are these settings to our situation?

ASSURANCE CONTRACT

Warranty.
To what extent does the developer and/or promoter warrant the soundness of the innovation? Who is responsible for assuring the services of the innovation?

Operational assistance.
What types of consultation and services are provided by the sponsoring agency to warrant the product?

COSTS

FUNDING

Costs
What is the cost per unit over time? Will the innovation involve a saving?

Sources of dollars.
How can the innovation be funded? Must the cost be borne locally, or is assistance available wholly or in part from state, federal, or public sources such as foundations? What are the possibilities of reallocating present budget items to accommodate installation?

Availability of dollars.
What processes and/or procedures must be followed to acquire the necessary funding? Is the local educational agency in a position to expend its own money and be reimbursed later, or are funds from other sources available prior to expenditure?

Proportion of dollars available from different sources.
In what proportion are funds available from other sources? Do matching funds have to be local funds?

Limitations of use of other than local funds.
What limitations are placed on the use of other funds? Can funds be used for instruction only, equipment and instruction, or equipment, supplies and instruction? Can funds be used for items such as construction, food, transportation or consultants?

TIME CONSIDERATIONS

Installation time.
How much time does it take to get the innovation working?

Lead time.
What deadlines are placed on activities prior to the operating date? How much time is necessary to order and receive items such as texts and materials? How much time is necessary to order, receive, and install equipment? Will the innovation require teacher orientation or advanced teacher planning time?

Planning time.
How much time must be devoted to planning by a teacher, coordinator or administrator during each week?

Operation time.
What amount of time is required by the innovation in daily preparation, classroom activities, meetings, etc.?

Cyclical considerations.
What characteristics of the innovation dictate that it be installed at a particular time during the calendar or academic year?

INSTALLATION CONSIDERATIONS

Acceptance.
What barriers can be anticipated from the community, school personnel, or students concerning the installation of the innovation?

Complexity.
What is the extent of involvement necessary to install the innovation? How many staff members, students, schedules, classrooms, laboratories, or schools are involved?

Divisibility.
What are the requirements concerning extent of installation? Can it be trial tested by the adopting unit before complete installation of the total product?

Policy changes.
What changes in policy on the state and local level are necessary in order for the innovation to be successful (i.e., procedure for a field trip on local level; certification changes on state level)?

Degree of development.
Is the innovation in an installable form or does it require more development? Are additional materials or training activities necessary?

Feasibility.
What evidence is there to indicate that the innovation will work in our situation?

Adaptability.
What adjustments can be made to meet local conditions without damaging the authenticity of the innovation?

ORGANIZATIONAL CHANGE

Disruption of routine.
What interruption of routine is required by the innovation due to rescheduling of classes, retraining of teachers, sharing of facilities, etc.?

Effect on staff organization.
What effect will the innovation have on the present structure? Does it create a need for a separate division or department?

Role change for individuals.
What changes in duties and/or responsibilities are necessary for successful operation of the innovation?

New relationships among groups.
What new kinds of relationships among departments or grade levels will be necessary for successful operation of the innovation?

PERSONNEL NEEDS

Quantity of staff.
What additions to the staff are required? How many part-time or full-time people per unit are needed?

Teaching or other experiences.
What staff experiences are necessary for successful operation of the innovation? Do leaders need to have a knowledge of the community?

Personnel development required by the innovation.
What requirements are necessary for the development of certain role attitudes, skills, and competencies not presently possessed by personnel? Is the present staff capable of, and willing to handle the personnel development necessary for the success of the innovation? Are consultants available?

SPACE REQUIREMENTS

Space (Housing).
Are present facilities sufficient? If not, what physical facilities are necessary to house the innovation?

Space (Land Use).
What acreage is necessary for installing the innovation?

Arrangement of space to other programs.
Does the success of the innovation require close proximity to ongoing programs or present facilities? On the other hand, is a separate location desirable?

Acquisition of needed space.
What are the options to acquiring needed space for the innovation (i.e., donation, purchase, lease, rent, build)?

EQUIPMENT REQUIREMENTS

Hardware.
What are the major items of equipment or their components necessary for the operation and success of the innovation?

Software.
What supplies are necessary for the operation of the innovation?

4. Most innovations that meet with easy acceptance exhibit nine principle attributes. Try to list and describe as many of these nine attributes as possible.

a.

b.

c.

d.

e.

f.

g.

h.

i.

5a. What is the difference between an integrated approach and a sequential approach to development and diffusion? Explain.

b. Why is the integrated approach more effective than the sequential approach?

6. Read Appendix A in Ronald Havelock's The Change Agent's Guide to Innovation. Then answer the following questions.

a. Describe the problem-solving strategy for change.

b. Who originates the innovation in the problem-solving strategy for change?

_____a. the change agent

_____b. a development company or publishing company

_____c. the community or school personnel

c. What is the role of the vocational curriculum specialist in the problem-solving strategy?

d. Describe the social interaction model for change.

e. Who originates the innovation in the social interaction strategy for change?

_____a. the change agent

_____b. an outside development company or publishing company

_____c. the community or school personnel

f. Describe the research, development, and diffusion strategy for change

g. Who originates the innovation in the research, development, and diffusion strategy for change?

_____a. the change agent

_____b. an outside development company or publishing company

_____c. the community or school personnel

h. Describe the linkage strategy for change.

i. Who originates the innovation in the linkage model for change?

_____a. the change agent

_____b. an outside development company or publishing company

_____c. the community or school personnel

7. Read the Introduction, the four case studies, and Stage I: Building a Relationship in Havelock's, The Change Agent's Guide to Innovation in Education. Then answer the following questions.

a. Define the following terms used in Havelock's model for innovation.

a. client
b. change agent
c. resource linker

b. Havelock lists four roles of the change agent. List the four roles and briefly describe each.

c. Havelock has developed a six-stage model to describe the process of change and innovation. List the six stages of his model.

d. An important part of Havelock's model is the concept of the change agent serving as a resource linker. What does Havelock mean by the term resource linker?

As you answer Questions e through n, assess your relationship with a current client and with the community in which you presently work. Base your answer on an evaluation of these groups. If you are not in a position to evaluate an actual client or community, interview someone who is, preferably a vocational education specialist, and then answer the following questions.

e. By Havelock's definition, who is your client?

f. List the norms (or significant characteristics) of your client or client group.

a.

b.

c.

g. Who are the "influentials" and "gatekeepers" of your client group?

h. What are the norms in your community?

i. It is important to identify the most powerful and influential people in your community. In vocational education they are usually your Advisory Committee representatives and the organizations they represent. Who are they and how do they usually react to innovation? (Are they usually conservative or progressive?)

j. As a change agent or resource linker, you will be trying to influence group leaders. Describe your relationship with your client and with the community leaders. Consider whether you are: 1) starting a new relationship; 2) re-establishing a positive, negative or ambiguous relationship; or 3) redefining an ongoing relationship

k. Do you consider yourself an inside change agent or an outside change agent?

l. Evaluate your ability to establish a successful first encounter by listing your strong and weak points after each characteristic.

a. FRIENDLINESS

Strong Points

Weak Points

b. FAMILIARITY

Strong Points

Weak Points

c. REWARDINGNESS

Strong Points

Weak Points

d. RESPONSIVENESS

Strong Points

Weak Points

m. Havelock outlines the characteristics of a change agent/client relationship that comprise an ideal base from which to launch the innovation process. Rate your relationship as a vocational curriculum specialist with your school district.

When rating your relationship, use the following scale:

1 2 3 4 5 6 7 8 9 10
Poor Fair Good

CHARACTERISTICS OF AN IDEAL RELATIONSHIP	RATING
a. Reciprocity	
b. Openness	
c. Realistic expectations	
d. Expectations of reward	
e. Equal power	
f. Minimum threat	
g. Confrontation of differences	
h. Involvement of all relevant parties	

n. Havelock outlines six "danger signals" that indicate a successful relationship may not be possible. Briefly describe each "danger signal." Check those that are present in your client or community relationships.

DANGER SIGNALS	PRESENT?
a. History of unresponsiveness to change	
b. Clients want to use you as a pawn	
c Client is already committed to a particular position	
d. Client is powerless in his own house	
e. Client shows signs of pathology or incapacity	
f. Client makes a negative response to a well-managed initial encounter effort	

8. Read Stage II in Havelock, The Change Agent's Guide to Innovation in Education. Then answer the following questions. As you answer the questions, assess the situation of a current client and of the community in which you presently work. Base your answer on an evaluation of these groups. If you are not in a position to evaluate an actual client or community, interview someone who is, and then answer the questions.

   a. Describe what Havelock means by the following terms:

      a. surface problems
      b. second-level symptoms

   b. Analyze your client as a system by considering the following questions:

      a. What are the system's goals?
      b. Is there an adequate structure for achieving these goals?
      c. Is there openness in communications?
      d. Does the system have the capacities necessary to achieve the stated goals?
      e. Does the system reward its members for working towards its stated goals?

   c. Havelock describes three ways to diagnose a client's problem or needs. List the three ways.

9. Read Stage III in Havelock, The Change Agent's Guide to Innovation in Education. Then answer the questions that follow.

   Describe the nine mechanisms listed below that can be used for acquiring information and relevant resources.

   a. Person who states the problem
   b. Key informants within the system
   c. Group interviews
   d. Observation
   e. Observation and measurement of system outputs
   f. Organization of a self-diagnostic workshop for the client system
   g. Outside diagnostic research team

h. Collaborative systematic diagnostic program

i. Continuous quantitative diagnostic monitoring

10. Read Stage IV in Havelock, The Change Agent's Guide to Innovation in Education. Then complete the following activity.

a. Explain each of the four steps that should be completed before a solution to a particular problem is decided upon.

a. Derivation of implications from research

b. Generation of a range of solution ideas

c. Feasibility testing

d. Adaptation

b. Before selecting a solution to a problem, the possible solutions must be weighed and compared. Havelock discusses three broad categories for making comparative judgments. Consider a problem or possible innovation in your educational setting and analyze the possible solutions using the questions Havelock raises on pages 107 and 108. Write your conclusions below.

a. Potential benefit

b. Workability

c. Diffusibility

11. Read Stage V in Havelock, The Change Agent's Guide to Innovation in Education. Then complete the following activities.

a. List in order the six phases in the process of individual adoption.

b. Explain how you as a change agent can expedite each of the six phases of the adoption process.

a. Awareness

b. Interest

c. Evaluation

d. Trial

e. Adoption

f. Integration

12. Read Stage VI in Havelock, The Change Agent's Guide to Innovation in Education. Then complete the following activities.

    a. Havelock states that the key word in ensuring continuance is "internalization." Explain.

    b. Ensuring continuance of an innovation is also a responsibility of the change agent. Explain how each of the considerations below ure that a program will be maintained. (Note: The role of the ge agent, in this case the vocational curriculum specialist, not include the follow-up function, especially in an organization where there are a number of professionals on the Vocational Education Director's staff; in this case, the staff would carry out this monitoring function.)

        a. Continuing reward
        b. Practice and routinization
        c. Structural integration into the system
        d. Continuing evaluation
        e. Providing for continuing maintenance
        f. Continuing adaptation capability

Wrapup Activity

NOTE: To meet the basic requirements of this module, select one of the following activities and complete it as directed. 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. Plan either a development or a dissemination model for a vocational education course. Describe all the functions the change agent would perform, the sequence of events, the check points, and the evaluation criteria for deciding whether or not the program was successfully developed or implemented. You may use the stages and criteria of the Havelock model and the readings in this guide. Be prepared to present your model to the class and the instructor.

2. Study one of the models for innovation (research, development, and diffusion; social interaction; or problem-solving) other than the Havelock model. Write a paper describing the model. Include in your report the functions of a change agent and the sequence of events for development and implementation. Be prepared to present your model to the class and the instructor.

Part III:

Group and Classroom Activities

PART III
GROUP AND CLASSROOM ACTIVITIES

Classroom Activities

NOTE: The following activities are designed for use in the classroom to stimulate discussion of 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 for participation.

1. "If teachers must be retrained in order for a change to be made, the chances for success are reduced unless strong incentives to be retrained are provided." Discuss the meaning and importance of this statement.

2. Read each of the following case descriptions of how programs were developed and implemented; then answer the questions that follow.

   Case 1

   A research organization conducted a national study on the need for specific types of vocational training programs for the severely handicapped. Their study showed that vocational programs for the blind are feasible in your geographic and subject area. They identified several industries that would hire the blind if they were trained. The representatives of the research organization helped your district get federal funding for the program, trained the teachers on the special instructional and learning problems of the blind, and provided the necessary supplies and equipment.

   1. Which change model does this case illustrate?

      This is an example of the research, development, and diffusion model.

2. If you were employed by the school district involved, what would be your functions as a change agent?

(Be sure to consider such aspects as: modifying the program, providing resources, explaining the program to community and school, providing feedback to research organization, evaluating program effectiveness, placing graduates, etc.)

Case 2

You are employed by a school district to administer vocational education classes. One day a representative of the bakers' union comes to your office and asks you to start a program to train pastry chefs. You are interested, so you visit the bakery and hear about the shortage of pastry chefs. After many meetings with the local union, pastry chefs, and your school personnel, you determine that a program is feasible. At this point, your supervisor calls in a development company to do a task analysis and develop a curriculum. This company then designs the program, and in about one year you are ready to start enrolling students in your pastry-making class.

1. Which model of change does this case most closely represent?

   problem-solving model

2. Could or should you (the change agent) have taken a more active role in the development of the program?

   Yes. The change agent should take part in the task analysis and, if possible, the development of the program.

3. What dangers are there when an outside agency develops the program unaided by the school personnel?

   Content may be incorrect, entry level of students incorrect, and design of materials inappropriate for school.

4. What would you have tried to do differently if you had been the change agent?

   (The need for conducting a needs analysis and population analysis should be discussed. Also, school personnel should have been involved with the development and testing of the program.)

Case 3

You are employed by a school district to administer vocational education programs. One day, while talking with several students in the carpentry class, you learn that the students and teacher would like to try to repair school buildings as part of their course. It sounds like a good idea, so you talk to the carpentry teacher, the school principal, and the district director. They are all encouraging, so you go back to the students and the teacher to get more information on what they want. Together you work out the details of a new program and develop the curriculum guide. By the next semester, the course is ready to be used on a tryout basis. You and the teacher evaluate the effectiveness of the course by using previously agreed upon criteria; you also make modifications in the course as the semester progresses. At the end of a year and after many revisions, all--you, the teacher, the students, and the district director--agree that the course was a success, and it will be continued for at least one more year.

1. Which change model does this case most closely represent?

   social interaction model

2. Could the change agent have done more to involve the community in the program? Might this have been useful?

   Yes. The community was not involved at all.

3. How would you plan for more community involvement?

   (The change agent could send notices to community businesses or volunteer organizations to see if they could use student repairs or if they could donate supplies and equipment.)

Discussion Questions

A. What is the definition of the following:

1. integrated plan for diffusion
2. sequential plan for diffusion

(An integrated plan for diffusion involves the potential users of the program, the developers, the students, and the teachers during all phases of program planning, development, and diffusion. A sequential approach to diffusion involves distinct groups of people only during the phases of planning, development, and diffusion in which they are directly involved.)

B. Provide examples you have seen of the following types of diffusion outcomes:

1. failures due to no plan for diffusion
2. failures due to a "sequential" plan for diffusion
3. success due to an "integrated" plan for diffusion

(1. Many, many programs of considerable value are never used because there is no plan for diffusion. Many federally funded programs can be used as examples.
2. Programs that are developed and later found to be inappropriate for the target population or out of date due to technological changes can be discussed as examples of failures due to the use of "sequential" planning.
3. Examples of successful programs should be discussed. You may find that one reason for the programs' success is the use of "integrated" planning.)

C. What is the role of "relative advantage" in determining the acceptance of a program?

(Relative advantage is the degree to which a product is perceived by the potential user as being better than all other alternatives. Many factors influence the potential user's concept of "relative advantage" including low initial cost, low risk, a savings in time or effort, and immediacy of reward. The class might suggest additional factors that might also be perceived to improve a product's relative advantage.)

D. Which attributes of successful innovative programs seem most critical in vocational education programs? Explain your reasons.

(In vocational education programs the most important factors are probably financial costs, reasonable space and size requirements, and compatibility.)

E. Which attributes of successful innovative programs seem least critical in vocational education programs? Explain your reasons.

(The factors that are probably least important in vocational education are simplicity of use [vocational programs by their nature are often difficult to use] and trialability.)

F. Do you have any problems or concerns regarding this module?

Part IV:

Student Self-Check

PART IV

STUDENT SELF-CHECK

GOAL 11.1

1. Define the following terms: (11.11)
   a. change agent
   b. client
   c. dissemination
   d. diffusion
   e. implementation
   f. innovation
   g. user
   h. integrated approach to diffusion

2. Describe the characteristics of people most likely to accept innovations. (11.12)

3. Explain how the Innovations Evaluation Guide can be used to evaluate the benefits and costs of potential innovations. (11.13)

4. List and describe at least five of the attributes exhibited by programs that are most easily adopted. (11.14)

5. Explain the difference between an integrated approach and a sequential approach to development and diffusion. (11.15)

6. Briefly describe the four models of diffusion, implementation, and utilization. (11.16)
   a. Research, Development, and Diffusion Model
   b. Social Interaction Model
   c. Problem-Solving Model
   d. Linkage Model

7. Read each of the following case descriptions of how programs were developed and implemented; then answer the questions that follow. (11.16)

Case 1

A research organization conducted a national study on the need for specific types of vocational training programs for the severely handicapped. Their study showed that vocational programs for the blind are feasible in an area like yours. They identified several industries that could hire trained blind individuals. The representatives of the research organization helped your district get federal funding for the program, and provided the training materials. They are now acting as consultants for the maintenance of the program.

Which change model does this case illustrate?

_____ a. Research, Development, and Diffusion

_____ b. Problem-Solving

_____ c. Social Interaction

_____ d. Linkage

Case 2

You are sitting in your school office going over next year's budget when the door is thrown open. "Oh boy," you think, "Here is that volunteer from VISTA who wants us to start a program to teach high school students how to upholster furniture. Now he has the leader of the union with him." You invite them in and the VISTA volunteer describes the program he wants to develop. To your surprise, the union is solidly behind his idea. The next day, you receive five phone calls from influential leaders in the unions and in the community, all of whom support the program. You explain again and again that there is no money in the budget for any new programs. Of course, you assure them that if there were money, you would start the program. Several days later, the door is once again

thrown open. There is that VISTA fellow again. This time he is delighted to tell you that he has raised enough money to start the program. With no more excuses, you put together the teachers and students and start the class.

Which model of change does this case most closely represent?

_____ a. Research, Development, and Diffusion

_____ b. Problem-Solving

_____ c. Social Interaction

_____ d. Linkage

Case 3

You are employed by a school district to administer vocational education programs. One day while talking with several students in the carpentry class, you learn that the students and teacher would like to try to repair school buildings as part of their course. It sounds like a good idea, so you talk to the carpentry teacher, the school principal, and the district director. They are all encouraging, so you go back to the students and the teacher to get more information on what they want. Together you work out the details of a new program and develop the curriculum guide. By the next semester, the course is ready to be used on a tryout basis. You and the teacher evaluate the effectiveness of the course by using previously agreed upon criteria; you also make modifications in the course as the semester progresses. At the end of a year and after many revisions, all--you, the teacher, the students, and the district director--agree that the course was a success, and it will be continued for at least one more year.

Which change model does this case most closely represent?

_____ a. Research, Development, and Diffusion

_____ b. Problem-Solving

_____ c. Social Interaction

_____ d. Linkage

GOAL 11.2

8. Describe the four roles of the change agent. (11.21)

9. List and describe the six stages of the Havelock model of innovation and change. (11.22)

10. Describe the four considerations for establishing a successful first encounter with clients and the community. (11.23)

11. List the six danger signals that indicate a successful relationship may not be possible. (11.24)

12. Describe three ways to diagnose a client's problem or need. (11.25)

13. Describe the nine mechanisms that can be used for acquiring information and relevant resources. (11.26)

14. Describe the four steps that should be completed before a solution to a particular problem is decided upon. (11.27)

15. List and describe in order the six phases in the process of individual adoption. (11.28)

16. Explain how the change agent can expedite each of the six phases of the adoption process (11.29)

17. Describe six procedures that help to ensure that a program will be maintained. (11.210)

Part V:

Appendices

PART V
APPENDICES

Appendix A:

Possible Study Activity Responses

GOALS 11.1, 11.2

1a. change agent - a person who facilitates planned change or planned innovation. In the context of this module, the disseminator or marketer is considered a change agent.

b. client - the person, group, organization, or community that the change agent serves; the potential user of the products of research and development efforts.

c. dissemination - that process through which information about a product is communicated to consumers during the development process to (1) promote consumer awareness of an interest in specific research and development program outputs; and (2) induce consumer reactions to those outputs, leading to eventual adoption of the output.

d. diffusion - the process of transmitting information about an innovation including the sequential stages of dissemination, implementation, and utilization.

e. implementation - the process of carrying out an innovation.

f. innovation - the idea, process, or product that is new and that is the subject of diffusion and dissemination.

g. integrated approach to dissemination - an approach to dissemination that requires the active participation of the change agent in all phases of program planning, development, diffusion, utilization, and implementation.

h. user - the person or group of people who will use and benefit from the innovation.

2a. The characteristics of people most likely to accept innovations include:

a. liberalness
b. upper income and education
c. live in homogeneous communities
d. live in cosmopolitan communities
e. youth

b. Initial support is most easily received from risk-takers.

3. (The specific response to this activity depends on your particular needs and the needs of the community or school district in which you work.)

4. Program attributes that lead to easy acceptance include:

   a. Relative Advantage. Relative advantage is the degree to which a product is perceived by the potential user as being better than the competing product or process. Factors that help create a relative advantage for a product include the following:

      a. low initial cost;
      b. lower perceived risk regarding product performance and anticipated outcomes;
      c. a decrease in discomfort;
      d. a savings in time and effort; and
      e. the immediacy of reward.

   b. Compatibility. Compatibility is the degree to which a product is perceived by a user as being consistent with his existing values, past experiences, and needs. A product or innovation that is not compatible with the value system of the user will be implemented more slowly than a product that is compatible.

   c. Simplicity of Use. Simplicity is the degree to which users perceive a product as being easy to understand and use. A product that requires users to have access to a mechanical calculator is probably simpler than one requiring access to an electronic computer. As simplicity decreases, probability of adoption and ease of diffusion also decrease.

   d. Trialability. Trialability is the degree to which a product can be experimented with on a limited basis. Products that can be tried out in parts are generally adopted more rapidly than products that are not divisible. A product that can be broken down logically into smaller components tends to be diffused more easily because it presents the user with less risk and more options for use.

   e. Observability. Observability is the degree to which the outcomes of a product or program are visible to others. The effects of some products are readily observable whereas the effects of others are not. Generally, the effects of innovative processes are not immediately observable; hence, processes are more difficult to disseminate than tangible products.

   f. Low Financial Costs. If an installed program, product, or process results in low operating costs to consumers, the probability of its being adopted increases. If the product requires extra expense, however, the probability decreases.

g. Acceptable Time Considerations. Time considerations depend on the consumer's perception of the resources that must be allocated for installation of a product. This includes training, servicing or maintenance, planning and lead time, plus operating time required to use the product. The more time needed to install and maintain the product, the less likely will be its adoption.

h. Reasonable Space Requirements and Size. The physical facilities required to install, use, and operate a program or product, as perceived by the target consumer, tend to influence its disseminability. If the innovation requires extensive modifications in the existing physical plant, the probability of its being adopted decreases; if the innovation tends to free the physical plant for other uses, the probability increases. Also, if it is portable or easy to move about, its adoption is more feasible than it would be otherwise.

i. Support Services. If an innovative program or product can be used without help from maintenance persons other than the teacher and without regular repair work, its adoption is more feasible than it would be otherwise. A textbook or a programmed learning manual, for example, would be more feasible for a school district with limited resources than would a computer-assisted instruction unit requiring maintenance and repair.

5a. An integrated approach involves the users, designers, developers, and the change agent during all stages: planning, development, and implementation. The sequential approach considers people only during the time in which they are directly involved with an activity.

b. The integrated approach ensures that the innovation meets the needs and is accepted by those people who will later use it or implement it into the system.

6a. The problem-solving model is one in which the user identifies his own needs and diagnoses his own problems. Only in the search for solutions to these problems does the external resource play a role. Once the resource has provided a potential solution, the user adopts the suggested innovation, applies it, and evaluates its success. This model heavily emphasizes the importance of the user, rather than the external resource, as the source of both interest in change and awareness of a problem needing change. The potential users (educators) are deeply involved in the planning and analysis of needs assessment before the innovation is selected. The program administration and teaching staff set the goals, define the needs, and seek solutions, with the external resources acting only as consultants.

b. c

6c. The vocational curriculum specialist, as change agent, must listen to people who present problems; analyze the problems and the needs of the users; suggest alternative solutions; help to implement and revise the innovation so that it satisfies the users.

d. The social interaction model places emphasis on the external resource as the initiator of change. This model stresses the influence of opinion leaders. The success of innovations is based on personal contact between the staff of the external resource or development agency and key users. Proponents of this model believe that change is likely to be initiated from outside the user system because the user system is in a steady state and resists change from within.

e. a or c

f. The research, development, and diffusion strategy for change is based on the assumption that resource agencies or publishing companies outside the system of potential users develop the innovative programs or products and present the completed package to users--schools and teachers. Reliance on this model often results in the development of a large number of innovative programs and materials that are not successfully implemented later in the schools. The major criticism of this model is that no attention is focused on the needs, values, and experiences of the user. It assumes that users will automatically adopt an innovation merely because information about its value has been given. This is usually not true.

g. b

h. The linkage model for change combines elements of the problem-solving and social interaction models. In this model both external resource and user systems diagnose problems and search for solutions; there is close communication between them.

The external resource continually stimulates the user's situation in order to develop solutions to problems faced by the user. The user system, in turn, stimulates the problem-solving process of the resource system.

i. a

7a. Havelock uses the following definitions:

a. client - The client is the group with whom the change agent works. The client usually requests or takes part in the diffusion process.

b. change agent - The change agent is the person who is trying to make the innovation. A vocational curriculum specialist should act as a change agent.

c. resource linker - The resource linker is the change agent or person who brings together needs, resources, and solutions.

b. The four change agent roles are:

a. Catalyst - shows need for change
b. Solution giver - provides a variety of alternative solutions
c. Process helper - helps those concerned test and select solutions
d. Resource linker - brings those with needs together with the resources and solutions

c. Havelock's six stages include:

a. Build a relationship.
b. Diagnose the problem.
c. Acquire relevant resources.
d. Choose the solution.
e. Gain acceptance.
f. Stabilize the innovation and ensure self-renewal.

d. A resource linker communicates, builds, and makes possible all six stages in the Havelock model.

e. Your client is probably the school administrators in your district and the students who will use a new program.

f.-n. (The specific responses to these activities depend on your particular client, community, and perceptions of yourself as change agent.)

8a. a. surface problems - the obvious problems that are easily noticed
b. second-level symptoms - the attitudes and beliefs that led to the outreach of surface problems

b. (The specific response to this activity depends on your particular situation.)

c. a. Identify problems.
b. Identify opportunities.
c. Look at the client as a system.

9. a. Person who states the problem: Interview the person who states the problem.
   b. Key informants within the system: Interview key informants who know about the problems.
   c. Group interviews: Interview a spokesman or a group of spokesmen who represent the various groups.
   d. Observation: Visit problem locations and observe the people and interrelationships.
   e. Observation and measurement of system outputs: Gather hard evidence and specific signs of the problem.
   f. Organization of a self-diagnostic workshop for the client system: Organize meetings and workshops where the problems can be discussed.
   g. Outside diagnostic research team: If the system is large and the problem is difficult, hire an outside agency to conduct a needs analysis.
   h. Collaborative systematic diagnostic program: Educate the client system so that they can establish a competent needs analysis system.
   i. Continuous quantitative diagnostic monitoring: Maintain a system of continual evaluation on improvement so that the innovation meets the needs of the community.

10a. a. Derivation of implications from research: Study research that can give findings for the particular problem.
   b. Generation of a range of solution ideas: Diagnose the problem and suggest as many solutions as possible.
   c. Feasibility testing: Evaluate the suggestions to decide which one is best.
   d. Adaptation: Shape and revise the best solution to fit your particular needs.

   b. (The specific response to this activity depends on the particular problem or innovation you selected.)

11a. a. awareness
   b. interest
   c. evaluation
   d. trial
   e. adoption
   f. integration

   b. a. Awareness: The change agent should describe the problem to the users to instill curiosity and interest.
   b. Interest: The change agent should encourage the user to actively seek information.
   c. Evaluation: The change agent should demonstrate the advantages of the innovation.
   d. Trial: The change agent should continue to demonstrate the advantages of the program and should support and encourage the new activities.

e. Adoption: The change agent should help the users adjust to the new situation and provide services when problems or unexpected obstacles arise.
f. Integration: The change agent should nurture the integration of new skills and practices into everyday procedures.

12a. If an idea or concept is not accepted and used as a natural practice by the users, it has not been adopted. Acceptance leads to use, and use to internalization. Internalization, then, is the change agent's goal.

b. a. Continuing reward: Positive reinforcement in terms of program success is crucial if the user is to be satisfied that the project is worth continuing.
b. Practice and routinization: The innovation should become a routine part of everyday life.
c. Structural integration into the system: An innovation must be integrated into the existing structure.
d. Continuing evaluation: A provision for evaluation during the life of an innovation ensures that it is operating as planned. And, if necessary, revisions and improvements can be made.
e. Providing for continuing maintenance: There must be some sort of maintenance system to deal with breakdowns and complications. If there is no one to correct problems, the program will most likely be discontinued.
f. Continuing adaptation capability: To allow for changes in the user system and in technology, there should be a system to deal with program adaptation on a continuing basis.

Appendix B:
Possible Self-Check Responses

GOAL 11.1

1. Define the following terms: (11.11)

   a. change agent--a person who facilitates planned change or planned innovation. In the context of this module, the disseminator, marketer, or vocational curriculum specialist is considered a change agent.

   b. client--a person, group, organization, or community that the change agent serves; the potential user of the innovation.

   c. dissemination--that process through which information about a product is communicated to consumers during the development process to (1) promote consumer awareness of and interest in specific innovations, and (2) induce consumer reactions to those outputs, leading to eventual adoption of the output.

   d. diffusion--the general term used to describe the complete procedure of dissemination, implementation, and utilization. Diffusion includes the process of informing others about an innovation.

   e. implementation--the process of carrying out and using an innovation.

   f. innovation--the idea, product or change that is new to people and that is the concern of the implementation and diffusion process.

   g. user--the person or group that will use the innovation.

   h. integrated approach to diffusion--an approach to diffusion that requires that the change agent participate in all phases of program planning, development, diffusion, utilization, and implementation.

2. Describe the characteristics of people most likely to accept innovations. (11.12)

   a. educated
   b. socially oriented
   c. regular users of change agent channels
   d. risk takers
   e. have high aspirations

3. Explain how the Innovations Evaluation Guide can be used to evaluate the benefits and costs of potential innovations. (11.13)

   A set of criteria can be applied to all possible innovations to help make a rational decision based on essential information.

4. List and describe at least five of the attributes exhibited by programs that are most easily adopted. (11.14)
   Consider the student answer correct if it includes any 5 of the following.

a. relative advantage	Product has low initial cost, low risk, decrease in discomfort; saves time and effort.
b. compatibility	Product is consistent with user values.
c. simplicity	Product does not require complex equipment.
d. trialability	Product can be tested prior to adoption.
e. observability	Results of using product are visible to others.
f. low financial cost	Results in low operating costs.
g. acceptable time considerations	Reasonable amount of time is required for preparing the administration, training instructors, or ordering supplies.
h. reasonal requirements and size	The physical facilities required in order to install, use, and operate the program are acceptable.

5. Explain the difference between an integrated approach and a sequential approach to development and dissemination. (11.15)

An integrated approach involves both the developer and user during all stages of product development and dissemination.
A sequential approach does not involve the user during all phases of development and dissemination.

6. Briefly describe the four models of dissemination, implementation, and utilization. (11.16)

a. Research, Development, and Diffusion Model

In this model resource agencies or publishing companies outside the system of potential users develop the innovative programs and products and present the completed package to users--schools and teachers. Reliance on this model often results in the development of a large number of innovative programs and materials that are not successfully implemented later in the schools. The major criticism of this model is that no attention is focused on the needs, values, and experiences of the user. It assumes that users will automatically adopt an innovation merely because information about its value has been given.

b. Social Interaction Model

The social interaction model places emphasis on the external resource as the initiator of change. This model stresses the influence of opinion leaders. The success of innovations is based on personal contact between the staff of the external resources or development agency and key users. Proponents of this model believe that change is likely to be initiated from outside the user system because the user system is in a steady state and resists change from within.

c. Problem-Solving Model

The problem-solving model is one in which the user identifies his own needs and diagnoses his own problems. Only in the search for solutions to these problems does the external resource play a role. Once the resource has provided a potential solution, the user adopts the suggested innovation, applies it, and evaluates its success. This model heavily emphasizes the importance of the user, rather than the external resource, as the source of both interest in change and awareness of a problem needing change. The potential users (educators) are

deeply involved in the planning and analysis of needs assessment before the innovation is selected. The program administration and teaching staff set the goals, define the needs, and seek solutions, with the external resources acting only as consultants.

d. Linkage Model

The linkage model combines elements of the problem-solving and social interaction models. In this model both external resource and user systems diagnose problems and search for solutions; there is close communication between them.

7. Read each of the following case descriptions of how programs were developed and implemented; then answer the questions that follow. (11.16)

Case 1

A research organization conducted a national study on the need for specific types of vocational training programs for the severely handicapped. Their study showed that vocational programs for the blind are feasible in an area like yours. They identified several industries that could hire trained blind individuals. The representatives of the research organization helped your district get federal funding for the program, and provided the training materials. They are now acting as consultants for the maintenance of the program.

Which change model does this case illustrate?

X a. Research, Development, and Diffusion

____ b. Problem-Solving

____ c. Social Interaction

____ d. Linkage

Case 2

You are sitting in your school office going over next year's budget when the door is thrown open. "Oh boy" you think, "Here is that volunteer from VISTA who wants to start a program to teach high school students how to upholster furniture. Now he has the leader

of the union with him." You invite them in and the VISTA volunteer describes the program he wants to develop. To your surprise, the union is solidly behind his idea. The next day, you receive five phone calls from influential leaders in the unions and in the community , all of whom support the program. You explain again and again that there is no money in the budget for any new programs. Of course, you assure them that if there were money, you would start the program. Several days later, the door is once again thrown open. There is that VISTA fellow again. This time he is delighted to tell you that he has raised enough money to start the program. With no more excuses, you put together the teachers and students and start the class.

Which model of change does this case most closely represent?

____a. Research, Development, and Diffusion

____b. Problem-Solving

__X__c. Social Interaction

____d. Linkage

Case 3

You are employed by a school district to administer vocational education programs. One day, while talking with several students in the carpentry class, you learn that the students and teacher would like to try to repair school buildings as part of their course. It sounds like a good idea, so you talk to the carpentry teacher, the school principal, and the district director. They are all encouraging, so you go back to the students and the teacher to get more information on what they want. Together you work out the details of a new program and develop the curriculum guide. By the next semester, the course is ready to be used on a tryout basis. You and the teacher evaluate the effectiveness of the course by using previously agreed upon criteria; you also make modifications in the course as the semester progresses. At the end of a year and after many revisions, all--you, the teacher, the students, and the district director--agree that the course was a success, and it will be continued for at least one more year.

Which change model does this case most closely represent?

____a. Research, Development, and Diffusion

__X__b. Problem-Solving

____c. Social Interaction

____d. Linkage

GOAL 11.2

8. Describe the four roles of the change agent. (11.21)

   a. catalyst - shows the need for change

   b. solution giver - provides a variety of alternative solutions

   c. process helper - helps those concerned test and select solutions

   d. resource linker - brings those with needs together with the resources and solutions

9. List and describe the six stages of the Havelock model of innovation and change. (11.22)

   a. Building the relationship--The change agent must develop a viable relationship with the client system.

   b. Diagnose the problem--The change agent must articulate and analyze the needs and problems of the client.

   c. Acquire relevant resources--The change agent must define and obtain resources that will help solve the problems.

   d. Choose the solution--The change agent must decide how to solve the problem in a way that best fits the client and the situation.

   e. Gain acceptance--The change agent must communicate the solution or the innovation so that others will accept it.

   f. Stabilize and ensure self-renewal--The change agent must ensure that the innovation can be maintained and renewed.

10. Describe the four considerations for establishing a successful first encounter with clients and the community. (11.23)

    a. friendliness - The change agent must convince others that his intentions are to help them.

b. familiarity - The change agent must prove that he is like his clients--in appearance and manner.

c. rewardingness - The change agent should do something for his client as soon as possible.

d. responsiveness - The change agent should be a good listener and show his client that he cares.

11. List the six danger signals that indicate a successful relationship may not be possible. (11.24)

a. There is a long history of unresponsiveness to change.

b. The user wants to use the change agent as a pawn.

c. The user is already committed to a particular position.

d. The user is powerless in his own house.

e. The user shows many signs of pathology or major incapacity.

f. The user makes a negative response to a well-managed initial encounter effort.

12. Describe three ways to diagnose a client's problem or need. (11.25)

a. Identify the problems.

b. Identify the opportunities.

c. Look at the client as a system.

13. Describe the nine mechanisms that can be used for acquiring information and relevant resources. (11.26)

a. Interview the person who states the problem.

b. Interview key informants who know about the problem.

c. Interview a spokesman or a group of spokesmen.

d. Visit problem locations and observe the problem firsthand.

e. Gather hard data as evidence of the problem.

f. Organize meetings and workshops where problems can be discussed.

g. Hire an outside agency to study the problem and conduct a needs analysis.

h. Use an outside team to conduct a workshop to solve the problem.

i. Educate the client system so that they can conduct a needs analysis.

14. Describe the four steps that should be completed before a solution to a particular problem is decided upon. (11.27)

a. Derive implications from research to determine findings regarding particular problems.

b. Generate a range of solutions or ideas that might be acceptable.

c. Test and evaluate the feasibility of the solutions to determine which is most appropriate.

d. Adapt the best solution so that it fits your particular needs.

15. List and describe the six phases in the process of individual adoption. (11.28)

a. Awareness--The user knows there is a problem and a solution or innovation that might solve the problem.

b. Interest--The user is concerned about the problem and shows interest in the innovation.

c. Evaluation--The user makes a judgment regarding the innovation.

d. Trial--The user is willing to try the innovation.

e. Adoption--The user approves of the innovation and adopts it as a practice.

f. Integration--The user adopts his system so that the innovation is totally integrated into the standard practices and procedures of everyday life.

16. Explain how the change agent can expedite each of the six phases of the adoption process. (11.29)

a. Awareness--The change agent can describe the problem and point out the consequences.

b. Interest--The change agent should encourage the client to actively search for solutions.

c. Evaluation--The change agent should demonstrate the innovation.

d. Trial--The change agent should continue to demonstrate the innovation and provide additional data as required.

e. Adoption--The change agent should assist those adopting the innovation by providing supplies or services as necessary.

f. Integration--The change agent should nurture the integration of new skills and practices into everyday procedures.

17. Describe six procedures that help to ensure that a program will be maintained. (11.210)

a. Continual reward should be given to the user.

b. Time should be provided so that the innovation can be practiced until it becomes a routine procedure.

c. The innovation should be structurally integrated into the system.

d. The innovation should be evaluated on a continuing basis to ensure its appropriateness.

e. The innovation should have a maintenance system to ensure that all components are in order.

f. There should be a continuing adaptation capability so that changes in the user system are reflected in the innovation.

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