DOCUMENT RESUME

ED 426 238 CE 077 897

AUTHOR Knox, Alan B.

TITLE Evaluating Adult and Continuing Education. Information Series No. 375.

INSTITUTION ERIC Clearinghouse on Adult, Career, and Vocational Education, Columbus, OH.

SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.

PUB DATE 1998-00-00

NOTE 71p.

CONTRACT RR93002001

AVAILABLE FROM Center on Education and Training for Employment, 1900 Kenny Road, Columbus, OH 43210-1090; Web site: http://ericacve.org/pubs/ (order no. IN 375, $7; quantity discounts available).

PUB TYPE Guides - Non-Classroom (055) -- ERIC Publications (071)

EDRS PRICE MF01/PC03 Plus Postage.

DESCRIPTORS *Adult Education; *Continuing Education; Data Collection; Educational Planning; Evaluation Criteria; *Evaluation Methods; Needs Assessment; *Program Evaluation; Staff Development

ABSTRACT

This monograph reviews and synthesizes highlights from relevant writings on evaluation and suggests interpretations and applications for practitioners who plan and conduct various types of educational programs for adults. It suggests that planning and conducting effective educational programs for adults entails contributions by various stakeholders including participants, instructors, coordinators, policymakers, and funders. Concepts, procedures, and examples from evaluation reports are used to represent eight aspects: needs, context, goals, staffing, participation, programs, materials, and outcomes. Many evaluations focus on just one or two of these aspects. Conducting a program evaluation entails many decisions that can be grouped into eight broad action guidelines. The guidelines pertain to purpose, stakeholders, planning, coordination, sources, data collection, analysis, and utilization. Many examples contain enough detail to portray the actual evaluation project and not just illustrate a guideline. Readers can use this overview to clarify basic evaluation concepts and procedures, locate publications likely to provide detailed assistance, and use suggested guidelines to conduct evaluations on selected program aspects of interest. Selecting a program on which to focus should entail selecting an issue of importance, being responsive to stakeholder interest, and considering available expertise and resources for evaluation. (Contains 113 references.) (SK)

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Evaluating Adult and Continuing Education

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by
Alan B. Knox

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Evaluating Adult and Continuing Education

Information Series No. 375

Alan B. Knox
University of Wisconsin-Madison

ERIC Clearinghouse on Adult, Career, and Vocational Education
Center on Education and Training for Employment
College of Education
The Ohio State University
1900 Kenny Road
Columbus, Ohio 43210-1090

1998

Funding Information

Project Title: ERIC Clearinghouse on Adult, Career, and Vocational Education

Contract Number: RR93002001

Act under Which Administered: 41 USC 252 (15) and P.L. 92-318

Source of Contract: Office of Educational Research and Improvement
U.S. Department of Education
Washington, DC 20208

Contractor: Center on Education and Training for Employment
The Ohio State University
Columbus, Ohio 43210-1090

Interim Executive Director: W. Michael Sherman

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Foreword

The Educational Resources Information Center Clearinghouse on Adult, Career, and Vocational Education (ERIC/ACVE) is 1 of 16 clearinghouses in a national information system that is funded by the Office of Educational Research and Improvement (OERI), U.S. Department of Education. This paper was developed to fulfill one of the functions of the clearinghouse—interpreting the literature in the ERIC database. This paper should be of interest to adult and continuing education teachers, program administrators, and students.

ERIC/ACVE would like to thank Alan B. Knox for his work in preparing this paper. Dr. Knox is a professor of continuing and vocational education at the University of Wisconsin-Madison; he served as department chair from 1992-1996. He has written more than 100 articles, books, and monographs; served as consulting editor with Jossey-Bass for books on adult and continuing education; and was the first editor-in-chief of the *New Directions for Adult and Continuing Education* quarterly sourcebooks. Among his books are *Developing, Administering, and Evaluating Adult Education* and *Strengthening Adult and Continuing Education: A Global Perspective on Synergistic Leadership.*

The following people are acknowledged for their critical review of the manuscript prior to publication: Grover J. Andrews, interim director, University of Georgia, Center for Continuing Education; Larry Condelli, project director, American Institutes for Research, Pelavin Research Center; and Cynthia J. Zengler, program specialist, and Morgan V. Lewis, research scientist, Center on Education and Training for Employment. Susan Imel coordinated publication development, Sandra Kerka edited the manuscript, and Janet Ray served as word processor operator.

W. Michael Sherman
Interim Executive Director
Center on Education and
Training for Employment

Executive Summary

Planning and conducting effective educational programs for adults entail contributions by various stakeholders including participants, instructors, coordinators, policy makers, and funders. They each make informal evaluative judgments. Sometimes reliance on such informal evaluation is insufficient because judgments may be based on inadequate information and are not shared with people who might use them to plan, improve, or justify the programs.

This monograph reviews and synthesizes highlights from relevant writings on evaluation and suggests interpretations and applications for practitioners who plan and conduct various types of educational programs for adults.

In this monograph, concepts, procedures, and examples from evaluation reports have been selected to represent eight aspects: needs, context, goals, staffing, participation, programs, materials, and outcomes. Many evaluations focus on just one or two of these aspects. Conducting a program evaluation entails many decisions that can be grouped into eight broad action guidelines. The guidelines pertain to purpose, stakeholders, planning, coordination, sources, data collection, analysis, and utilization. Many examples contain enough detail to portray the actual evaluation project and not just illustrate a guideline.

Readers can use this overview to clarify basic evaluation concepts and procedures, locate publications likely to provide detailed assistance, and use suggested guidelines to conduct evaluations on selected program aspects of interest. Selecting a program on which to focus should entail selecting an issue of importance, being responsive to stakeholder interest, and considering available expertise and resources for evaluation.

Information on program evaluation in adult and continuing education may be found in the ERIC database by using the following descriptors: *Adult Education, *Continuing Education, Data Collection, Evaluation Criteria, *Evaluation Methods, Needs Assessment, *Program Evaluation, Staff Development. Asterisks indicate particularly relevant descriptors.

Introduction

Each educational program for adults is evaluated *informally* every time it occurs. This happens because the people associated with it make evaluative judgments. Adult participants do so when they assess the likely costs and benefits before they enroll, when they decide whether to persist or withdraw, and when they judge how beneficial the program was after completion. Instructors do so when they decide whether to teach a course or workshop, when they evaluate it in progress regarding possible modifications, and when they evaluate the costs and benefits to themselves when deciding whether to do so again. Coordinators do so when they receive feedback from instructors and participants and decide whether to offer the program again, modify it, or discontinue it. Funders and policy makers do so when they review information about program quality and outcomes and decide whether or not to continue to provide support.

There are several problems with reliance on such informal evaluation. Sometimes such evaluative judgments are based on inadequate information. One purpose of more formal program evaluation is to arrange for more satisfactory evidence to undergird such decisions. A second problem is that such informal evaluative judgments are not usually shared with people who might use them to plan, improve, or justify the programs. Formal evaluations can use informal assessments by various people who have a stake in a program, by validating, correcting, or supplementing them and by communicating conclusions. Thus, program evaluation entails various stakeholders making evaluative judgments about various aspects of program quality and effectiveness, based on evidence, using procedures that encourage use of conclusions for program planning, improvement, and accountability.

People in various roles are stakeholders regarding program planning, implementation, and evaluation. Included are participants, instructors, coordinators, policy makers, and funders. In many educational programs for adults, such stakeholders are unfamiliar with concepts and procedures for program evaluation. Sometimes the image of such evaluation is daunting because they think it has to be complicated, expensive, and risky. They seldom know that there are many evaluation concepts, procedures, and examples available that would enable them to strengthen their program evaluation, with benefits that far outweigh the costs of the formal assessment.

The purpose of this monograph is to review and synthesize highlights from relevant writings on evaluation and to suggest interpretations and applications for practitioners who plan and conduct various types of educational programs for adults. Most such practitioners are in roles as coordinators, instructors, directors, or policy makers. They are associated with all types of providers of educational programs for adults. Included are schools, community colleges, universities, enterprises, labor unions, religious institutions, associations, penal institutions, and community agencies. As part of program development, practitioners can use evaluation for planning, improvement, and accountability. Such evaluation activities could be on any level of effort and could focus on any aspect of the program.

In practice and in writings about evaluation there has been substantial attention to eight broad program aspects. In this monograph, concepts, procedures, and examples from evaluation reports have been selected to explore evaluation of these eight aspects: needs, context, goals, staffing, participation, programs, materials, and outcomes. Most evaluation projects focus on one or two of these aspects. To plan and conduct a specific program evaluation project entails many decisions and actions that can be grouped into eight broad action guidelines. The guidelines pertain to purpose, stakeholders, planning, coordination, sources, collection, analysis, and utilization.

The heart of this monograph addresses applications. Its eight major parts are devoted to these action guidelines, and within each there are an illustrative rationale and various examples from evaluation reports drawn from some of the eight aspects on which an evaluation can focus. In each section, citations to pertinent writings from which the ideas were obtained allow readers to pursue in greater detail both the rationale and procedures.

From books on evaluation and actual evaluation reports (both published and unpublished reports obtained from colleagues throughout the field) ideas and examples were selected that might help practitioners in various provider agencies strengthen their evaluation projects.

Most evaluation projects focus on one or a few aspects or parts of an educational progr..n. In contrast, many writings on evaluation deal generally with the evaluation process and assume that the reader will apply the generalizations to assessing the aspect of interest. The examples for each guideline explain and illustrate how general guidelines (which pertain to decisions such as ways to involve stakeholders or procedures for data collection) apply to planning and conducting a specific evaluation project. Over the years, writings on evaluation have given increased attention to such specific aspects.

The combination of action guidelines and program aspects should enable a practitioner to focus on evaluation issues of practical interest in the local program setting. Various examples are included. They reflect not only action guidelines and program aspects, but also various types of educational programs for adults and the complexity of a project and resources required. In seeking pertinent examples, earlier reports were sometimes included along with more recent publications. In the published materials, the bibliographic citations allow reading in greater detail about concepts or procedures of interest. Also included are some unpublished examples that sometimes can illuminate the process better than reports that people are willing to publish.

Theme and Variations

In this chapter, two examples illustrate the main concepts and procedures regarding evaluation of various types of educational programs for adults. These two examples introduce eight guidelines that constitute the theme of this monograph: evaluation purpose, stakeholders, planning, coordination, sources, collection, analysis, and utilization. In practice, most evaluation projects and reports focus on one or more program aspects: needs, context, goals, staffing, participation, program, materials, and outcomes. Following these two examples, the main section of the monograph is in eight parts corresponding to the guidelines, each of which contains several examples and brief comments that illustrate a few variations on the theme. Four of the guidelines pertain to leadership of an evaluation effort—coordination, purpose, stakeholders, planning. Neither the guidelines that constitute the theme nor the aspects on which the variations focus are linear, but are interrelated components that can be addressed in any sequence.

The first example is based on a rationale for evaluation of adult basic education, which can be readily adapted for use with various types of educational programs for adults (Grotelueschen, Gooler, and Knox 1976). In this example, the fictional viewpoint character is Damon Rodriguez. Coordination of evaluation is one of Damon's responsibilities as associate director of a large urban adult basic education program. His basic planning strategy is to involve various stakeholders in multiple assessments, in an effort to increase their use of conclusions.

Damon included self-assessment to enhance staff selection, development, and placement, which can also contribute to the validity of the conclusions and commitment to utilization. As with all assessment procedures, this had both strengths and limitations. He used complementary assessments such as supervisory review, peer assessments, and feedback from participants. The data collection process was aided by explicit assessment criteria and a comparative database from similar programs. Because teamwork was very important, he conducted comprehensive performance reviews of various staff roles in recognition of multiple influences on staff performance.

His assessment of teacher performance and development included various types and methods of data collection. The purposes for teacher assessment were to improve instruction, reward excellent performance, modify responsibilities, and promote staff development. He tried to separate evaluation for accountability and for improvement, and he recognized various aspects of performance to be assessed and ways of doing so. He reviewed several types of items for self-assessment forms and for guiding observations of interviews with instructors.

One was a general form for an external evaluator to record ratings of the extent of supporting evidence along with comments on commitment to program goals, sensitivity to ethnicity, dedication, personality traits, understanding of participant background, subject matter competence, flexibility, and teamwork. Findings were used to assess program goals and teacher needs. Also, teachers might informally ask participants questions regarding their satisfaction with the instruction, such as teaching methods and materials that help most, those that are least helpful, and suggestions for better types of help.

Another method of evaluation was a self-assessment form with ratings on satisfaction with the following: uses a variety of methods, is prepared and organized, is enthusiastic, encourages active participation, takes teaching seriously, provides thorough coverage of content, strives for mastery learning, and optimizes learning pace.

The resulting evaluation of staff development assessed their educational needs, views of staff development plans, satisfaction with results and benefits, and resource support for staff development. He asked staff members to indicate their general role but otherwise respond anonymously to open-ended questions about aspects of their responsibilities on which they would like staff development help, topics of interest, preferred timing, and anticipated benefits. He and other staff development planners used a listing of responses grouped by role, to appreciate the variety of needs expressed and to decide on more structured needs assessments and likely types of inservice activities. A more structured method was a listing of potential staff development topics, which staff members could rate regarding their relative interest. Topics included understanding participants, selecting and using materials, evaluating participant progress, working with volunteers, improving interpersonal relations, and varying teaching styles.

A follow-up opinionnaire on staff expectations enabled them to indicate their objectives for participating in a staff development activity, aspects of the activity that contributed to and detracted from their achievement of their objectives, the extent to which their expectations changed as a result of the activity, and the extent to which their objectives were achieved.

A follow-up assessment of outcomes after staff members had a chance to use what they learned included both a rating of extent of impact and explanatory comments regarding the following aspects: enhanced knowledge, insights on how to improve practice, greater appreciation of an aspect of teaching, actual use of new ideas, increased networking with other staff, and situational influences that helped or hindered application.

Data collection procedures related to staffing using multiple assessments typically reflect the relative emphasis on performance review or staff development. Goals of teacher assessment can include helping improve instruction, rewarding excellent performance, modifying responsibilities, and promoting staff development. Various items could be used on self-assessment forms and for guiding observations or interviews with instructors.

Once preliminary staff development goals and activities were drafted, staff members rated each goal regarding the importance of the goal to them, the desirability of the proposed activity to achieve the goals, their current proficiency related to the goal, and the likely benefits from achieving the goal.

Another approach was assessment of teacher satisfaction with the staff development procedures they experienced in such areas as usefulness of materials, quality of instruction, appropriateness of methods, responsiveness of activities to staff concerns, thoroughness of coverage, pacing of instruction, and sequencing of activities.

Analysis of data regarding staff assessment entailed reviewing the generalizations that emerged from each of the foregoing multiple assessments, to identify the main conclusions that were common to many of the separate assessments and warranted attention. The details from the separate assessments were then used to formulate a plan of action.

The second introductory example that illustrates additional concepts and procedures related to the basic theme of program evaluation is based on an evaluation report by Kiernan and Brown

(1992). The fictional viewpoint character is Marion Ackerman, who worked for a Cooperative Extension health education program for working women. When planning this program review, Marion recognized that the breadth of such program reviews (such as self-studies followed by site visits) makes the evaluation design and process an especially important influence on utilization. Illustrative influences on use include attention to program issues, clear evaluation purpose, and involvement of stakeholders. Also related to her coordination responsibility for a major program review was provision of resources and commitment to implementation of recommendations.

Marion's approach illustrates a combination of formative and summative evaluation to ensure that program evaluation would be beneficial. The purpose of the formative evaluation was to increase the capacity of the extension education program to benefit participants, to enable staff to evaluate impact, and to identify barriers. The program consisted of four home study lessons provided at work and child care sites on osteoporosis risk reduction for working women. Formative evaluation findings were used to modify sites, marketing, program methods, and evaluation instruments. The staff concluded that formative evaluation was crucial for program implementation. The summative evaluation's purpose was to increase accountability. Following are the evaluation objectives and the variety of evaluation designs and data collection methods that were used:

- To decide on sites for reaching working women, ages 21-34, who were raising children (comparison group design and data collection methods, including demographic information from enrollment forms, and feedback from participants and onsite program managers).
- To assess the appeal of written materials and of two methods of learning, one that involved just reading the materials and one that included a brief motivational meeting (comparison group design regarding two methods, using response sheets for each lesson for participants to record their reactions, four focus groups—each with a sample of participants following the series of lessons, and a meeting with the group of program managers who presented the lessons).
- To assess program impact on participants (participants completed a pre- and posttest to assess knowledge, attitudes, and behavior changes).

- To refine evaluation procedures (analyzed demographic variables, completion rates, errors in pre- and posttest scores, and comments from focus groups.)

These two introductory examples were more comprehensive evaluations than practitioners usually conduct. This was because reports of more modest evaluations are seldom published, and because these two comprehensive evaluations illustrate all of the following eight guidelines. These guidelines each reflect useful concepts and procedures for planning and conducting evaluations; they constitute interrelated components and are not proposed as a linear process of steps to be followed. After each guideline there are comments regarding concepts and procedures Damon and Marion used in the two case examples.

1. **Coordination.** The extent and type of coordination that is desirable varies with the size of the effort, the number of people involved, the program aspect to be conducted, and the extent of teamwork required, but for large projects it is desirable to designate a coordinator.
   a. Damon coordinated the adult basic education evaluation with the help of an external evaluator. Because of the staffing focus, coordination emphasized teamwork.
   b. Marion coordinated a comprehensive review of an Extension health education program, which included attention to resources such as facilities and financial support.

2. **Planning.** Worthwhile evaluations are carefully planned, using designs, methods, and levels of effort that fit the evaluation purpose and resources, with guidelines that reflect experience, standards, publications, and consultant assistance.
   a. Damon and his evaluation planning committee arranged for performance review of people in various staff roles and prepared assessment criteria for use when collecting and analyzing data.
   b. Marion arranged for cooperation from participants and instructors and for focus group sessions with site coordinators.

3. **Purpose.** Clarify the purpose of an evaluation project, to guide planning and implementation, obtain resources and stakeholder support, and ensure that benefits from findings exceed time and money expense for the evaluation.
   a. When clarifying the purpose of the evaluation project, Damon distinguished between formative evaluation for program improvement (such as assessing instructor's educational needs) and summative evaluation for accountability (such as assessing goal achievement and program impact). His main purposes were to reward effective staff performance, improve instruction, and promote staff development.
   b. Marion's intent was to use formative self-study to modify the program, with special attention to increased benefits related to health, appeal of instructional materials, identification of barriers, and assessment of impact for greater accountability.

Continued

4. **Stakeholders.** Early involvement of pertinent stakeholders contributes to responsiveness to issues they care about, useful viewpoints on program features, and their use of conclusions to implement recommendations.
   a. In addition to the participants (learners) Damon included program administrators and other instructors (peers) as program stakeholders involved in the evaluation.
   b. In addition to participants, Marion included program site administrators as prime stakeholders whose future decision making should reflect evaluation conclusions.

5. **Sources.** Decisions about sources of information should reflect issues important to stakeholders, sources credible to them, inclusion of multiple indicators, and use of a preliminary review to select program aspects on which to focus.
   a. Sources of evaluation information (data) that Damon used included participant feedback, peer assessment, supervisory review, follow-up study, and an external evaluator to critique their findings.
   b. Marion used a comparative group design with different instructional materials and obtained feedback from participants and site coordinators.

6. **Collection.** Most evaluation projects use a combination of quantitative and qualitative data collection procedures.
   a. Damon used instructor self-assessment forms, peer observation checklists, and interview guides.
   b. In addition to staff questionnaires, Marion used achievement tests and response sheets regarding participants' reactions to materials.

7. **Analysis.** In practice, analysis of evaluation data varies in formality, perspective, types of data, timing, and use of additional information to interpret findings.
   a. Damon's use of multiple assessments resulted in listings of responses by roles, noting the variety of staff development needs that resulted, and comparisons with evaluation summaries from similar programs. He then had staff members review the evaluation findings and suggest implications for staff development.
   b. Marion's data analysis included comparison of pre- and posttest scores, discussion of findings with groups of program coordinators, and meta evaluation of the evaluation procedures and materials that were used.

8. **Utilization.** Stakeholders are encouraged to use evaluation conclusions by their involvement in the process and by the credibility of the findings, but their involvement should be appropriate to the nature of the evaluation project and to the backgrounds and interests of each category of stakeholders.
   a. Damon combined self-assessment and peer review to produce a plan of action for improved staff performance and development, as a strategy to encourage use of evaluation conclusions.
   b. Marion combined a comparative group design to produce valid findings, with various types of formative evaluation to increase commitment by site coordinators and other stakeholders to use the evaluation conclusions.

In practice, few adult and continuing education program evaluation projects are as comprehensive as these two examples. The foregoing guidelines constitutes a basic theme for evaluation strategies. Following are eight program aspects or decisional areas on which an actual evaluation project might focus.

1. **Needs.** Assessing the unmet educational needs of potential participants in order to plan responsive programs.
2. **Context.** Analyzing the organizational and societal context of a program in order to take into account organizational priorities and resources, other providers, and pertinent trends.
3. **Goals.** Assessing the relative desirability of alternative program goals in order to clarify and select those that are most important for program planning and evaluation.
4. **Staffing.** Assessing expected and actual staff performance in order to guide staffing decisions related to individual and team performance and organizational effectiveness.
5. **Participation.** Assessing initial and continued learner participation and progress as a developmental process that includes preparation, achievement, and benefits in order to guide assistance regarding assessment of prior learning style, encouragement of self-assessment, feedback regarding achievement, and commitment to application.
6. **Program.** Comprehensive evaluation of a single course or an entire set of offerings often includes both self-study and external review in order to shape offerings, improve teaching, increase quality, and obtain accreditation.
7. **Materials.** Assessment of materials effectiveness and learner satisfaction in order to select, develop, and improve all types of educational materials.
8. **Outcomes.** Conclusions from summative evaluation of outcomes, results, impact, and benefits that are of special interest to external stakeholders in order to undergird accountability decisions, and also important for planning and improvement decisions by internal stakeholders.

Application of Guidelines

This chapter reviews literature on each of the guidelines that constitute the basic evaluation theme of this monograph. Each of the eight parts of this chapter focuses on a guideline by presenting several examples that illustrate variations on the basic evaluation theme. (For instance, the part on evaluation purpose begins with examples that focus on staffing and goals, whereas the part on planning begins with examples that focus on participation and outcomes.) Each part concludes with a review of writings and concepts that address additional variations such as needs assessment and contextual analysis.

Purpose

Clarifying the purpose of any evaluation activity helps ensure that the evaluation will be cost beneficial. Efficiency and utilization can be increased by focusing on issues important to the relevant stakeholders. An evaluation activity can be initiated by people associated with the provider agency, or it can be in response to an external influence. Also, evaluation conclusions from other program aspects can contribute to planning, conducting, and interpreting an evaluation (Steele 1989).

Clarification of the purpose of a statewide evaluation of workplace education programs was enhanced by 1-day workshops on the topic attended by program administrators (Jurmo 1993). The initial workshops in various parts of the state, and a follow-up workshop, helped the participating administrators work in teams to develop evaluation guidelines for subsequent use when other people were making decisions about funding their proposals. The specific purposes were to—

- Enable participants to develop evaluation teams in their respective programs
- Enable participants and their teams to collect evaluation information for use in preparation of action plans for program improvement
- Enable participants and their teams to develop effective proposals for external funding

- Develop a corps of practitioners experienced in effective evaluation strategies and methods

These workshops and related activities resulted in capacity building for practitioners regarding evaluation generally, but focused on the guideline regarding clarification of evaluation purposes and the staffing aspect.

A second example of an evaluation approach that emphasizes clarification of the purpose of the evaluation occurred in a Cooperative Extension program. Bennett and Rockwell (1995) emphasize that societal conditions can serve as a major basis for assessment goals. They present an integrated approach to planning and evaluation titled Targeting Outcomes of Programs in which societal conditions are a focus for assessment related to both program development and impact evaluation. Assessment of goals considers the priority of societal needs and opportunities regarding importance and the likelihood that specific conditions will be improved through extension programs. By envisioning desired conditions and identifying discrepancies with current conditions, specific practices can sometimes be identified that would help achieve such desired conditions. Related practice adoption is among the highest aims of extension programs. Assessment questions related to goals include—

- What present conditions will the program help improve?
- What describes the situation once the condition has been improved?
- How will you know if the condition has been improved?
- How will your program address public interests but also consider the private needs of individuals?

Responses to these questions could be used to decide on the relative importance of various societal conditions that an educational program for adults might address through both program planning and evaluation impact. Clarification of the evaluation purpose is also an important guideline for assessment of other program aspects. Following are some brief examples related to needs assessment, contextual analysis, and program review with references to sources of additional details.

Because the concept of needs assessment is often ambiguous, attention to the purpose of this type of evaluation is especially helpful. The recent book by Queeney (1995) provides a useful overview and rationale for the range of needs assessment procedures, such as focus groups, key informants, supervisor evaluations, nominal group, surveys, performance assessments, simulations, and assessment centers. Clarification of the evaluation (needs assessment) purpose can guide selection of procedures that can best serve the purpose.

Contextual analysis is another aspect of evaluation for which clarification of the evaluation purpose is especially valuable. A form of contextual analysis can be used in a workplace setting to decide whether a human resource development program is warranted. For example, the following evaluation procedures might be used for contextual analysis:

- Action research studies combine inquiry with action to solve a problem in ways that have direct application in the work setting. For example, such a project could pertain to collaboration and ways to assess its effectiveness. (See Quigley and Kuhne 1997 for rationale on action research.)
- Case studies typically use various data collection methods to assemble both qualitative and quantitative data to understand specific groups or events that are complex and highly influenced by the context. Benchmarking the practice of similar providers for comparative analysis related to an accreditation self-study is an example.
- Expert reviews occur when the opinions of people with exceptional expertise are obtained through correspondence, questionnaires, personal or telephone interviews, panel discussion, or Delphi Technique (successive rounds of refinement of priorities or a rationale by an expert panel). Expert review is especially appropriate for identifying emerging trends, such as technological developments or public policies that have direct implications for responsive educational programs.
- Literature reviews can be efficient procedures for identifying key traits and characteristics related to work performance. Database searches can identify relevant reports (Brinkerhoff 1987).

The breadth of program reviews makes clarification of the evaluation purpose an essential guideline. The educational program (content and methods) is a usual focus of program evaluation and a major influence on participant achievement. The program to be assessed can be a single course or workshop, or the provider agency's entire range of offerings for a year. The evaluation conclusions can be used to improve the fit among program characteristics such as goals, content, learners, instructor, methods, and resources (Caffarella 1994; Deshler 1984; Rothwell and Cookson 1997; Worthen, Sanders, and Fitzpatrick 1997). Among the reasons for program review are shaping offerings, accreditation, increasing quality, feedback to participants, improving teaching, and embracing reflective thinking.

Assessment can help clarify expectations, encourage autonomy, deepen understanding, diagnose misunderstandings, and judge achievement. For instance, an anatomy instructor used evaluation procedures that encourage participants to demonstrate their understanding and discourage superficial approaches (Ramsden 1992). He did not use multiple choice questions that might reinforce remembering unconnected facts. Instead he used brief essay questions and oral dialogues to encourage learners to explain important principles, subsuming descriptive information. In this way, the teaching function of assessment took first priority.

In another instance, an interior design instructor used personal consultations and other forms of assessment to help participants identify important concepts and do their best, by understanding the problems they were experiencing and to suggest alternative directions. Assessment procedures included asking participants to identify information necessary to translate design into reality, establish an accessible format, evaluate the information, and present a plan concisely as a coherent argument (ibid.).

A number of additional publications are valuable for evaluation of other program aspects. Overviews of needs assessment are provided by Pennington (1980) and by Johnson, Meiller, Miller, and Summers (1987). Cassara (1990) and Ross-Gordon, Martin, and Briscoe (1990) focus on minorities. Examples of contrasting needs assessment purposes and approaches include Naisbitt and Aburdene (1990), Pigg, Carrier, and McDonald (1995), and Sissel (1996). Additional publications that illustrate evaluation purposes related to workplace education include Bernthal (1995), Grubb (1995), Harri-Augstein and Webb (1995), and Mikulecky and Lloyd (1995a). Examples regarding other types of programs include Kerka (1995) on correctional education and Young (1995) on liberal education.

Summary

Clarification of the purpose of an evaluation is worthwhile. Such clarification may be straightforward when instructors are assessing aspects of their individual courses, but the purpose may be unclear when an entire set of program offerings are evaluated or when an evaluation report is required as a condition of external funding. Involving stakeholders in planning and conducting an evaluation can focus it on expectations and benefits that they value, respond to both educational needs and social conditions, and contribute to institution building and use of evaluation conclusions. A focused evaluation purpose can ensure that the benefits of the evaluation warrant the costs, and it can guide the selection of evaluation procedures that fit the evaluation purpose and program characteristics.

Stakeholders

A crucial consideration in effective program evaluation is the **involvement of stakeholders**. Stakeholders include participants, instructors, coordinators, policy makers, accreditors, and funders. Such involvement can occur for prospective, current, and former participants. Early involvement by stakeholders in planning an evaluation contributes to decisions on the extent of effort and stakeholder involvement, the responsiveness of the evaluation to issues important to stakeholders, useful viewpoints on program features, and use of the conclusions to implement recommendations. Leadership on behalf of evaluation should give equal attention to technical procedures related to data collection and analysis and to interpersonal relations to obtain and maintain cooperation (Patton 1986).

Because multiple external stakeholders are typically related to contextual analysis, their involvement in such an evaluation is especially important (Knox and Associates 1980). For example, contextual analysis was a major part of a comprehensive analysis of a pilot community arts project. In 1986, a visual artist served for 4 weeks as a community arts developer in southeastern Colorado, funded by the state council on arts and humanities. Resources for the evaluation, conducted by Jones (1988), included staff support, a minimal budget, and some in-kind contributions.

The program goals were that the artist and community should be mutually challenged and enriched, that the artist serve as a catalyst, and that the arts contribute to community development. The evaluators looked for possible change among multiple social systems including the artist, arts council, local artists, and the community.

The evaluation included triangulation using six approaches: interviews with key participants, surveys of representative households before and after the residency, informal interviews on the street, direct observations of arts activities, a short questionnaire left in local businesses, and monitoring of the local newspaper. The evaluators concluded that all systems were affected. The evaluation report indicated that a better understanding of a community development project can be gained from a modest investment in evaluation (ibid.). Findings from evaluation of such a pilot project can be very useful for addressing likely situational and environmental influences in subsequent program offerings.

Stakeholder involvement is especially important for program reviews. Most evaluations of entire educational programs include various components and stakeholders. Because of the resulting complexity, interpersonal relations to win and maintain cooperation from multiple stakeholders are a major influence on the success of the evaluation (Patton 1986). Sometimes a program review includes a self-study by internal stakeholders and a site visit on behalf of external stakeholders. Quality assessment typically includes various stakeholders. For example, the Minnesota Extension Service decided to address quality improvement by use of a questionnaire to assess quality by comparing expectations of participants and staff with perceptions of performance (Chen, Krueger, and Leske 1993). The evaluation focused on two gaps: between participants' expectations and staff perceptions of participants' expectations and between participants' expectations and their perceptions of received service. The evaluation procedures included sampling, instrumentation, administration, and analysis. Questionnaires were sent to Extension staff and to participants on county extension mailing lists.

Return rates were as follows: 92 percent of 261 county educators, 85 percent of 19 administrators, 86 percent of university department heads, and 66 percent of 500 participants. The modified instrument was well received in instrument development and field testing, indicating acceptable face validity. Although there were statistically significant discrepancies between staff perception of participant expectations of service quality and participants' actual expectations of service, the differences were small and not of practical significance. The participants' expectations of excellent service were higher than their perceptions of received service for almost all questions, but the differences for only three items were of practical significance (responding quickly to community crisis, providing current and accurate research based information, and informing participants about service).

Involvement of stakeholders is also an important guideline for assessment of other program aspects. Following are some brief examples related to goals, participation, and outcomes, with references to sources of additional details.

When assessing program goals, stakeholders can assist in recognizing the influence of various stakeholders on program priorities, considering the range of stakeholders who contribute to goal setting, and implementation of recommendations (Patton 1986). For example, an affinity process can be used to seek agreement on goals. When stakeholders have diverse ideas about program goals, an affinity diagram process can be used to identify major themes that connect related ideas, with a minimum of discussion. The basic process is as follows: assemble appropriate stakeholders; select an important issue for resolution; state the issue generally to encourage ideas about future goals; and brainstorm many ideas on Post-it® slips until there are no additional suggestions. Place Post-it® slips for each suggestion on several large sheets of paper. Members can help group similar Post-its®. Continue until group members are satisfied with the groupings. Finally, write a concise phrase that summarizes the meaning of each set of Post-its®, which is sufficiently clear that people who did not participate will understand it, and place the phrase at the head of the set of Post-its®.

Another example of involvement of stakeholders is action research in practice settings, which can contribute to participation assessment. Action research uses evaluation as an ongoing part of a cycle of problem posing and problem solving to achieve program improvement (Quigley and Kuhne 1997). Practitioners both guide the action research and use the conclusions. Developing an action research project can be conceptualized in three phases: planning, action, and reflection (each of which includes evaluation). The planning phase includes the first three steps. Step one is understanding the problem (state briefly why it exists, prior students, worth working on, evident causes, initial ideas). Step two is defining the project (proposed project, when to begin, managing process and results, needed materials, needed approvals, gaining cooperation, who will help assess). Step three is selecting the measures (specify baseline and criteria for success, timeline for evaluation, methods for data collection, potential deterrents). The action phase (step four) is the implementation of an action and observation of the results (following plan, data collection that closely monitors progress, continued cooperation, data summary). The reflection phase includes steps five and six. Step five is evaluating the results (conclusions about the problem and intervention, relation to criteria for success, opinions about the project). Step six is reflecting on the project (replication, a second or third cycle of the project). The action research approach illustrates the many connections between evaluation and participation in staff development and program improvement, which extends from initial engagement through learning activities to application.

A third example of involving stakeholders pertains to assessment of outcomes. Such impact evaluations sometimes pertain only to improved performance by individual participants as they apply what they learn. In such instances they can report on the benefits they receive. However, some impact evaluations also include assessment of benefits reported by other people associated with participants in group, organizational, or community settings. Their early and appropriate involvement in outcomes evaluation can both strengthen the assessment and enhance their use of conclusions. Assessing benefits to such stakeholders can be challenging, but can become more feasible by attention to comparison group, elapsed time, pre-post measures, time series, costs and benefits, and use of evidence. Sometimes, the evaluation goal allows a simple procedure, such as sending a questionnaire regarding general satisfaction with program elements to participants, instructors, coordinators, work supervisors, and community organization leaders (Grotelueschen, Gooler, and Knox 1976).

Additional examples can illuminate ways to involve stakeholders when the focus is on other program aspects: Rothwell and Cookson (1997) on self-assessment by instructors, Brinkerhoff (1987) on assessment of participants and people in related roles, Braskamp and Ory (1994) on staffing assessment, Caffarella (1994, pp. 128-132) on a participant questionnaire as part of a program review, and Knox (1979b) on assessment of impact. Additional examples of evaluation that is responsive to stakeholders include St. Pierre et al. (1995) on family literacy, Dodrill (1995) on teleconferencing, and Wagner (1995) on distance education.

Summary

Early involvement of multiple stakeholders in evaluation can contribute to decisions about the extent of their involvement, responsiveness to their viewpoints, and ways to encourage their use of conclusions. More comprehensive evaluations entail multiple social systems and both internal (staff) and external (funders) stakeholders. Evaluation leaders should devote equivalent attention to t .chnical procedures and achieving cooperation. Stakeholders may be interested in benefits at individual, group, organizational or community levels. Action research constitutes a major evaluation strategy.

Planning

Typically, **worthwhile evaluations are carefully planned**, using designs, methods, and levels of effort that fit the evaluation purpose and resources. Guidelines for planning a specific evaluation can come from various sources including experience, standards, publications, and consultant assistance (Patton 1986; Sanders 1994; Worthen and Sanders 1987; Worthen, Sanders, and Fitzpatrick 1997).

Actual planning procedures reflect the contingencies of the specific situation such as program history, quality, stakeholder support, available resources for evaluation, evaluation expertise, and concern about program improvement. The following example illustrates planning of an evaluation project in order to obtain findings to enhance learner enrollment, persistence, reflection, achievement, and application.

Two consecutive demonstration projects on education and family literacy instruction were evaluated regarding process and impact, with findings relevant to encouraging participation (Garcia, Hasson, and Le Blanc 1997; Garcia, Hasson, and Younkin 1992). The objectives were to improve the English language proficiency of limited English proficient Hispanic parents and their elementary students, increase their adjustment to a new society, and enable parents to become more active in their children's education. The 60-70 hour program included instruction related to literacy, life skills, parenting, school involvement, and communication.

In the 1989-92 project, evaluation included review of program and ongoing evaluation records, interviews with project staff, a demographic questionnaire, pre/posttests, and parent surveys. Specific instruments included life skills achievement, literacy placement, civics inventory, parent understanding of schools, and parent survey of parent involvement with their child's educational progress. Evaluation questions pertained to program process and to significant increases in literacy, parenting, civic involvement, and parent involvement.

The 1992-96 project was similar and built on the previous one. Placement and assessment instruments were developed and field tested, including criterion-referenced testing and portfolio assessment. The evaluation report described the participants' backgrounds, and reported significant improvements on all indicators of parent involvement and language development. Project materials and systematic planning were made available for use elsewhere. The evaluation part of the project guided program decisions, increased program responsiveness, and contributed to the applicability of the program and materials elsewhere.

Systematic planning is especially important for major evaluation studies of outcomes. Such impact assessments can be for purposes of accountability, improvement, or planning and can focus on any combination of participants, instructors, topics, or contents. An important early planning decision is the general evaluation design or approach to use. Alternative approaches include nonexperimental (self-study, external review), quasi-experimental (time series, comparison group), and experimental (random assignment of participants to treatments). Possible designs include objectives-based, case study, systems analysis, expert review, follow-up, cost benefit, and analysis of practice adoption (familiar in Cooperative Extension programs). Planning for a specific outcome evaluation design tends to reflect attention to benefits to individuals, groups, organizations, or communities.

An impact assessment of Cooperative Extension programs illustrates an approach to planning an outcomes assessment (Forest and Marshall 1978). A representative Wisconsin county was selected for an impact study, in which local efforts were supplemented by state staff and contracted telephone interviewing. Local stakeholders were involved to increase understanding, cooperation, and use of conclusions. The impact assessment covered all aspects of Cooperative Extension programs in the county. Many additional sources of data were used: reports, documents, and records covering several years. Several hundred leaders and 1,000 residents were interviewed, with the conviction that perceived value based on multiple contacts is understandable and relevant to Extension decisions, and phone interviews are much less expensive than observation and personal interviews. Interviews covered levels 3-7 of the Bennett and Rockwell (1995) hierarchy: participation, reactions, achievement, practice, and end results.

Improvements to which extension was reported to have contributed pertained to economics, government, health, abilities, environment, and educational opportunities. Before reporting on findings, groups of stakeholders were asked to establish standards that should be attained by extension programs. This increased their interest in interpretation of findings and allowed comparison of actual impact with desired impact. Extension staff and leaders in Wisconsin and other states were asked to evaluate the evaluation and indicate how they used the reports. All of these features reflected the initial plans (Forest 1979; Forest and Marshall 1978).

Planning considerations vary with other program aspects. Following are some examples related to needs assessment, program review, and outcomes. Although much needs assessment is informal, it tends to be more useful when the process, evidence, and conclusions are made more explicit and when several types of evidence are included to provide some cross-validation. Planning can be strengthened by considering various needs assessment procedures and selecting those best suited to the situation (Queeney 1995). More formal needs assessments are preferable when there are unfamiliar participants and objectives. Decisions about the extent of a needs assessment effort reflect available resources and preferred procedures.

Some needs assessment plans can be quite modest. For example, one of the most valuable types of information for an instructor is about the learners' current proficiency regarding the content. Brief diagnostic inventories such as multiple choice questions and open-ended questions can be completed at the beginning of a unit. It previews for participants the main concepts to be learned and for the instructor it helps specify the range of participant backgrounds, the most helpful starting points, and a baseline for assessing subsequent achievement. Their responses can be grouped by level of current knowledge. A summary of responses can be shared with participants and they can meet in small representative groups to agree cooperatively on correct answers (Angelo and Cross 1993).

Another method is assessment of unclear concepts, as an educational program progresses, in order to discover efficiently the ideas that participants found unclear, confusing, or hard to understand so that the instructor can address these emerging needs in the next program segment. Following a reading, discussion, presentation, or case analysis, participants are asked to write in a few words or phrases the main points or ideas that they found most "muddy" or unclear. This technique is especially useful after presenting large amounts of new information. The instructor can read the written comments and sort them in piles of related comments. This summary can help the instructor devote some time to clarifying the most confusing concepts, in the next program segment (ibid.).

Planning for a program review is usually for the purpose of improving the fit among program characteristics such as goals, scope, content, learners, instructors, methods, and resources. A preliminary review of such characteristics can guide specification of the issues on which to focus an evaluation project.

An example of planning a program assessment occurred in a Sunbelt state's Cooperative Extension Service in which turfgrass for golf courses and residents was a major economic consideration (Wright 1984). A county extension adviser with this specialty developed a monitoring system that served several purposes. One was to obtain information from the professional turf managers and homeowners who participated in the turfgrass education program regarding the extent to which they were following recommendations. Information was available from copies of soil test reports that were sent routinely. Additional sources of monitoring information came from phone inquiries to Extension regarding pertinent problems and phone interviews by the adviser and members of a turf grass committee, with a sample of people who had their soil tested recently. Most of the monitoring information was from outside Extension, and included program impact and environmental influences. Considerations related to use of monitoring systems include adaptability, burden, and resources. The utility of monitoring is related to routine data collection and use of conclusions. The process can be of special benefit to practitioners who learn about program functioning.

In contrast to more major impact studies with extensive resources, sometimes an instructor wants to evaluate the outcomes of a course or workshop in order to both assess impact and guide improvements. For instance, evaluation of the results and benefits of the program and its components might include the following planning procedures:

- Review expected outcomes and satisfaction with methods, to clarify the rationale for both the evaluation and use of conclusions.
- Locate reports on pertinent studies with similar outcomes and methods, to note findings and evaluation procedures.
- Review the resulting overview, and if it is sufficient for decision making use it, but if not, proceed with the evaluation.
- Decide on summative evaluation goals, indicators of impact, and preliminary rationale for relations between methods and outcomes.
- Characterize alternative methods to be studied.
- Describe content, learners, and context related to methods.
- Design a basic and efficient impact study likely to answer the main questions about outcomes.

- Use the preliminary review of past experience and literature, and a pilot study, to conduct the outcomes assessment, and then use findings to improve instruction with formative evaluation to guide ongoing improvement.
- Collect data, using existing instruments where satisfactory and perhaps develop valid instruments and procedures that do not disrupt the program.
- Analyze data, by comparing method effectiveness in relation to indices of impact.
- Draw implications for improvement.

An even simpler assessment of impact could be related to participant use of a work-related learning plan to guide individualization. Participants might help plan a results evaluation related to some shared goals, which might include a set of rating scales on extent of implementation as viewed by participants, peers, and supervisors. Participants who use these rating scales in parallel evaluations can compare their findings and then discuss variation in program success and related influences.

A follow-up study can be combined with participants' early written projection of their expected outcomes, related to implementation. After the program and sufficient elapsed time, a copy of their expected use of what they learn could be sent to participants along with a reply form on positive and negative results of their implementation efforts. Their willingness to respond might be enhanced by the prospect of receiving a summary of implementation experiences of all those who respond (Knox 1986).

Planning evaluations related to other program aspects reflects variations related to such focus. For example, contextual analysis can be very broad to include attention to societal influences and other providers, so standards and examples of past contextual analysis can be especially helpful (Forest and Marshall 1978; Joint Committee on Standards for Educational Evaluation 1994). Careful planning is essential for successful use of an assessment center for evaluation of participation (Queeney 1995). A rationale should guide evaluation and improvement of educational materials (Flagg 1990). Askov, Van Horn, and Carman (1997) recommend using guidelines, involving participants, and using appropriate procedures for adult basic education participant assessment. Follow-up audits can be used to assess the impact of enterprise skill training (Brinkerhoff 1987).

Examples that illustrate various forms of evaluation planning include the following: "HRD Evaluation Issues" (1996), Johnson

(1997), Mikulecky and Lloyd (1995b), and Shapiro (1995) on workplace education; Bruder (1997) on medical education; ***Celebrating Excellence*** (1995) on alternative degree programs; Russon et al. (1995) on Extension programs, and Ziegler and Sussman (1996) on literacy.

Summary

The foregoing examples illustrate planning for evaluation projects that vary greatly in purpose and scale. Shared features of effective planning include—

- Matching project scale to purpose and resources
- Building on related reports and expertise
- Reflecting local contingencies in evaluation plans
- Involving stakeholders in evaluation planning and interpretation to encourage use of conclusions
- Using sound evaluation design and procedures to produce valid findings
- Building on previous evaluations of the same program

Coordination

Coordination of an evaluation project varies with the size of the effort, the number of people involved, and program aspects to be evaluated. However, there are some basic ideas about **managing an assessment** that apply more generally. Even modest evaluations benefit from teamwork, but for larger and more complex assessment projects, it is desirable to designate someone to coordinate the effort. Following are some suggested guidelines for coordination that results in sound planning and implementation (Grotelueschen 1980):

- Seek agreement on the main purpose and focus of the evaluation.
- Keep the evaluation project as small and manageable as possible, consistent with the purpose.
- Recognize the importance of both valid information and sound interpretations.
- Share examples to illustrate concepts and procedures.
- Involve and obtain cooperation from stakeholders by being responsive to issues important to them.
- Identify and obtain sufficient expertise and time devoted to evaluation.
- Obtain necessary resources.

- Encourage use of conclusions and recommendations, by attention to benefits, facilitators, and barriers.
- Recognize and address situational influences.
- Use existing information when feasible.
- Minimize disruption to the program.
- Use prior agreements and negotiation to minimize conflict.

The following two examples illustrate coordination concepts and procedures for evaluation projects focused on needs assessment and on outcomes. Many types of educational needs assessment can be conducted by an instructor or coordinator with little additional assistance. Familiarity with evaluation standards (utility, feasibility, propriety, accuracy) can enhance small-scale needs assessments. A coordinator can also encourage continuous assessment to monitor responsiveness to learner needs.

For larger needs assessments for which coordination is important, a collaborative approach can be beneficial. Such a collaborative approach is illustrated by the following plan for conducting a needs assessment (Green and Associates 1984). The chair of a health occupations association committee on continuing education initiated a joint effort with the director of a university center engaged in continuing education research and outreach. The association had concluded that conducting a needs assessment was of high priority for planning continuing professional education activities for members of the association and of related health care occupations. There was an early commitment to collect data from various sources in order to produce findings relevant to the objectives and activities of educational activities by various continuing education providers that entailed various ways of learning. The joint coordination by an association committee chair and a university center director contributed to a needs assessment useful to both association members and practitioners in related health occupations, any of whom might be served by various continuing education providers.

The needs assessment plan that they prepared specified the contributions they and other people would make to conducting the needs assessment. Included were the intended recipients of the needs assessment report (members of the health occupations, association leaders, educators, and potential providers of continuing education) and the types of decisions they might make (priorities regarding topics, learning methods, special emphases, and attention to both acquisition and application of enhanced proficiencies). The plan also included data collection by mailed questionnaire to members of the association and related occupations, regarding their characteristics, past educational participation, interest in topics and arrangements, and perceived facilitators and barriers to participation. In addition to interviews with members and others, and data analysis procedures, the plan included specifying the recipients of the report, encouraging completion of the questionnaire, and encouraging dissemination and use of finding to improve continuing education opportunities. Coordination of such an evaluation project is important at planning, implementation, and utilization stages.

Coordination of an impact study is typically complex, as reflected in the following example related to continuing medical education. The level of educational effort that it takes to produce a desired impact is one conclusion that can result from evaluation of outcomes. Coordination of this project contributed to convincing conclusions. A 4-year study of educational interventions with 1,000 primary care physicians at multiple sites in Michigan explored the impact of voluntary action-oriented continuing medical education on improvement of ambulatory medical care delivery (Knox 1979b; Payne et al. 1978). The essence of the educational intervention was that physicians must perceive recommended changes as useful, there must be sufficient encouragement of changes to sustain initial commitment to change, and there must be sufficient time for the changes to be made and stabilized.

The first level of intervention was minimal, almost a control group, which consisted of dissemination of information about effective performance to the physicians. The second level consisted of several day-and-a-half workshops that included discussion of problem-solving procedures and implications for planned change. The third level added consultations with hospital administrators to help plan ways to increase staff involvement in making clinical changes and management of ambulatory services. The first level (reporting) intervention produced minimal change in performance. The second level (seminar) intervention produced significant improvements. The addition of a third-level intervention almost doubled the improvement. The coordination of such field trials typically entails preparation of a detailed plan or proposal, acquisition of external funding, arrangements for learner participation in the alternative educational activities, collection and analysis of data regarding educational process and outcomes, and reporting. Usually, support for such an evaluation is an adjunct to a larger demonstration project.

Variations on the coordination theme are reflected in the following examples related to contextual analysis, goals, and program review.

Coordination of contextual analysis (usually by a program administrator) can be enhanced by special attention to cooperation, resources, and stakeholder influence. Cooperation is especially important for contextual analysis in relation to agency staff, information sources, and stakeholders, because of diverse influences on a program and the desirability of shared understandings. Resources to conduct contextual analysis include expertise, time, money, and in-kind contributions. It may take creative efforts to attract sufficient resources for the purpose or to limit evaluation goals to available resources. A coordinator of an evaluation can try to minimize distortion of contextual analysis conclusions due to great differences in power among stakeholders. Most evaluations entail value judgments, which may lead to conflict when a contextual analysis reaches the conclusions and recommendations stage. Illustrative issues include parent organization priorities contrary to a preferred agency mission and cooperative versus competitive relationships with other providers in the service area.

One role in evaluation coordination is reducing obstacles to contextual analysis. For example, evaluation of management development programs is critically important because the connections between education, performance, and benefits to the enterprise are indirect. Contextual analysis can contribute to the rationale and justification for such programs. Among the obstacles are reluctance to evaluate, lack of resources, lack of know-how, low credibility, and difficulties using traditional research methods. The following coordination strategies are suggested for management development specialists to overcome these obstacles (Rothwell and Kazanas 1993):

- Overcome reluctance to evaluate by making a commitment to such evaluation and letting people know why and how it is done and the benefits related to the organization's strategic plan and individual career development.
- Overcome lack of resources by publicizing results, adapting methods based on available resources, finding out what stakeholders want to know to make decisions, and providing evaluation as cost effectively as possible.
- Overcome lack of know-how by increasing knowledge about evaluation in management development specialists and stakeholders, through reading about and visiting excellent management development programs to find out about their evaluation procedures.
- Overcome low credibility by involving stakeholders in the evaluation process, including both producing and using conclusions.

- Overcome difficulties with traditional research methods by matching methods to stakeholder requirements.

Assessing the desirability of program goals is sufficiently unusual that coordination of this aspect of evaluation is seldom viewed as an established part of someone's role. Evaluation coordinators can help people decide how much effort to devote to assessing goals. Following are two examples regarding human resource development in enterprises that illustrate quite different levels and pace of assessment.

An airline was on probation because of maintenance procedure violations. If more violations occurred in the next 6 months, their operating license might be suspended. They hired a consulting firm to study guidelines and procedures along with employee knowledge, skills, attitudes, and actual practices. There was evidence of unsatisfactory supervisory monitoring and feedback, as well as low worker morale and motivation. Thus, a supervisory training program was proposed and specific objectives for improved supervisory performance were agreed upon by supervisors and their managers. Evaluation coordination helped to identify goals.

A contrasting coordination role was illustrated by a fastener manufacturing company that was doing well with strong sales and secure budgets in various departments. The manager of human resource development noticed increasing mention of new types of fasteners. At a meeting of other department managers he discussed this, and they agreed that the company was doing well, but its product line was limited. No one was really up on emerging trends, and they decided to list likely trends for discussion at their next meeting. At that time they prepared a set of expertise goals for key personnel. They then asked the human resources development manager to identify learning opportunities on building trends and fastening systems relevant to their business.

These two scenarios suggest quite different approaches to assessing goals. The airline confronted an urgent operational problem that threatened its existence, one that warranted coordination of an early comprehensive and accurate assessment of potential goals to ensure an effective educational program. By contrast, the manufacturing company was functioning well, which warranted a systematic but more modest and leisurely approach to exploring future directions to maintain organizational health (Brinkerhoff 1987). Coordination of a program review entails consideration of involving stakeholders in a feasible process that often includes self-study, external review, and sometimes meta evaluation Feasibility concerns for coordination of program evaluation include planning, manageable scale, simplicity, use of expertise, and timing. Both program relationships and utilization of findings are major issues in coordination of a program review. Someone should coordinate a self-study (such as accreditation), which can contribute to cooperation from stakeholders closest to the teaching/learning transactions. During self-study planning, coordination can include obtaining stakeholder understanding, suggestion, and commitment. During self-study data collection and analysis, coordination can include monitoring, assisting, pilot testing, encouraging, validating, and disseminating. Coordination of external reviews of a program can include liaison with a self-study, selection of external reviewers, and monitoring reviews and reporting.

Even small-scale program evaluations can be enhanced if coordinators provide guidelines, identify people to help, share examples, suggest peer review, discuss progress, and respond to requests. Especially throughout more complex program evaluations, encouraging utilization can be enhanced by attention to appropriate reporting methods for the recipients and feasible recommendations that fit other plans and activities.

Central to a program review is assessment of program design and implementation related to the teaching/learning transaction. When conducting a program review, it is helpful for coordinators to have criteria to guide data collection and analysis. The following example illustrates such criteria for evaluating the quality of the educational process for continuing education for the health professions that pertained to program design and implementation. Regarding instructional strategies, the following criteria were listed:

- Sequence content to help learners meet learning objectives.
- Ensure that instruction includes enough examples of concepts to be learned.
- Provide opportunities for active involvement, especially if changing attitudes is an objective.
- Provide opportunities for practice, especially if development or maintenance of skills is an objective.
- Give participants feedback on their progress.

Regarding implementing programs, the following criteria were listed:

- Implement educational activities as designed.
- Ensure that instruction occurs in a manner, time, and place convenient to participants.
- Help participants obtain resources to meet educational objectives.

Such criteria could help coordinators guide evaluation of program planning and implementation, including the teaching/learning transaction and the stakeholders most directly involved in the process (Green and Associates 1984).

Additional examples of coordination pertain to use of quality circles as part of a program review (Angelo and Cross 1993), assessment of educational materials (Duning, Van Kekerix, and Zaborowski 1993), evaluation of outcomes (Condelli and Kutner 1997; Kirkpatrick 1994), and workplace literacy (Askov and Catalfamo 1997; Burkhart 1996; Carman 1995; and Jurmo 1995).

Summary

The following features are characteristic of effective coordination:

- Designate someone to coordinate large evaluation projects.
- Prepare a detailed and manageable plan.
- Obtain necessary resources and funding for the evaluation.
- Use a collaborative approach to obtain stakeholder cooperation.
- Deal with situational influences and reduce obstacles.
- Implement and monitor the evaluation project.
- Encourage ongoing evaluation.

Sources

There are many potential sources of information for evaluation of educational programs for adults and many designs that reflect collection and analysis of data from these sources. When **deciding which sources to use** in a specific instance, a major consideration is the evaluation issues that are important to stakeholders and the sources likely to be credible to them. Another consideration is provision for multiple indicators and perspectives that can contribute to the validity of the findings. Information could come from documents, individuals, and groups. A third consideration is the usefulness of a preliminary review of program characteristics that can identify important connections with the program aspect on which an assessment is focused. Such characteristics include agency goals, course objectives and methods, participant characteristics, evidence of program quality and results, and resources. Conclusions from various aspects of evaluation can contribute to this preliminary review.

The following two examples illustrate concepts and procedures regarding evaluation sources and designs for projects focused on contextual analysis and program review. A published literature review that critiqued many research reports on an aspect of continuing education, in a form useful for contextual analysis, illustrates a source of evaluation informarion. A book by the American Medical Association (Davis and Fox 1994) is such an example. It was based on two North American conferences that assembled scholars related to continuing medical education to identify broad topics, assemble teams to review scholarly writings on the topics, share their critiques, and report their critiques in a book on *The Physician as Learner.*

The introduction provides an overview of forces in the external environment that affect continuing medical education: patient characteristics and expectations, new medical knowledge and technology, recertification, government, insurance systems, managed care, and varied providers of continuing medical education. This introduction provides a broad perspective for analyzing the context of a specific continuing medical education program, and it suggests and clarifies variables likely to be pertinent. Chapter 5 on developmental perspectives on learning, and especially the section on life span theory, explains how career development and learning is shaped by a person's environment related to family, occupation, and community.

Chapter 11 on participation in continuing medical education notes the breadth of learning activities and the transactional nature of participation reflecting the participant, provider, and societal context that facilitate and deter initial and ongoing participation, persistence, and application. The proposed model includes external influences and the context of medical practice, such as patient characteristics, technological change, managed care, and continuous quality improvement. Conclusions from such publications can be used to design an evaluation proposal and interpret findings.

Because program reviews include various components, the sources of assessment information are correspondingly broad. This scope is illustrated by typical self-studies and external reviews. Components might include goals, program offerings, context, course quality, materials, effectiveness of teaching, course improvement, provision of resources, collaboration, and program benefits. A preliminary review of such components can guide specifications on which to focus the program review and thus the main sources of information to use.

The following example of discrepancy analysis of a literacy program illustrates one way to obtain information from multiple sources (Knox et al. 1974). The formative evaluation purpose and multiple role perspectives for program evaluation make discrepancy analysis a useful assessment approach. This typically entails using separate data collection instruments for each stakeholder role, but combining the data for analysis purposes. Most items obtain information about both intended (desired, should) practice and current (actual, is) practice, so that discrepancies can be recognized. For many program characteristics that are assessed, information can be collected from various stakeholders and sources (participants, instructors, observers, coordinators, director, and program records).

For instance, a participant questionnaire might include items on reasons for attending, actual benefits, supportive climate, and difficulty level. Instructor questionnaire items might ask about desired and actual characteristics regarding responsibility for assessment and orientation of participants, topic emphases, methods of instruction, and program goals. An observer's rating form on course interaction might rate teacher's responsiveness, formality, and encouragement; students' attentiveness and active participation; and facilities and equipment. Program coordinators and the director might respond to questions similar to the instructor's, including how participant achievement is and should be evaluated. A program statistics form might be used to rate information from program records, such as numbers and characteristics of participants, instructors, facilities, courses, and finances. Such items yield both quantitative and qualitative data. All stakeholders are asked for their suggestions for improvement. Displaying responses in a matrix (for comparisons related to role) can lead to identifying shared views and differences of opinion, each of which might be useful for strengthening the program. Discrepancies readily lead to recommendations for improvement (ibid.).

Various evaluation designs and sources of information are reflected in the following examples related to needs assessment and outcomes. Potential participants are the prime source of useful data for needs assessment. An additional source is writings about adults as learners (Merriam and Caffarella 1991). The resulting generalizations can help in designing the assessment, deciding what information to collect and how to do so, and interpreting findings from the actual needs assessment. Another source is other people associated with the potential participants who are knowledgeable about the proficiencies they want to acquire. These other associates and experts can provide additional perspectives that can enrich the resultant understanding of unmet educational needs. It is usually efficient and minimally disruptive to begin with accessible sources, and then supplement them to obtain sufficient evidence to achieve the purposes of a needs assessment. The use of information from multiple sources (such as potential participants, other people, reports) allows identification of common themes and distinctive perspectives.

Evaluation of program impact tends to be of special interest to external stakeholders, so they are an important source of information, especially at the planning stage so that the assessment addresses issues that they value. Because impact pertains to performance and results, participants and people associated with them as they use what they learn tend to be major sources of evaluation data. Self-studies and follow-up studies typically draw from multiple sources.

Use of multiple sources of evaluation data is illustrated by the following example of an assessment of a pilot effort (Brinkerhoff 1987). A furniture company had experienced declining sales and profits for some years, but prospects for an improved economy and new markets led to companywide productivity studies. As a result, a decision was made to capitalize on the coming strong market by instituting a team production approach. The director of human resource development agreed to provide team building and project management training, which an employee survey and literature review indicated were crucial for a product team approach.

A pilot program was begun with the first three product teams. After 1 year, a review of company profits and customer satisfaction was very positive, and a survey of team performance showed correct use of training content. A high-level review panel recommended extension of team training to all product teams, based on the foregoing impact evaluation and data that indicated that training costs were less than 3 percent of total production costs.

Several additional readings provide more details regarding designs and sources of evaluation data for contextual analyses. They focus on environmental scanning (Naisbitt and Aburdene 1990; Simpson 1989), performance assessment (Campbell 1995), professional education (Delaney 1997; Stake and Migotsky 1995), workplace literacy (Mikulecky and Lloyd 1996), and sampling from extension populations (Verma and Burnett 1996).

Summary

Evaluation designs can obtain data from many sources. One is documents (organizational records, research reports). Another is individuals and groups (participants, instructors, observers, administrators, and policy makers). It is desirable to include multiple indicators, especially those most likely to be credible to stakeholders. It is efficient to conduct a preliminary review and then select the most promising variables. Categories of information include goals, offerings, context, quality, materials, achievement, teaching, resources, collaboration, and benefits. A useful design is discrepancy analysis, which compares actual with desirable features.

Data Collection

Most evaluation projects regarding educational programs for adults use a combination of **data collection procedures.** They often include collection of both quantitative and qualitative data to reflect attention to both "how much" and "why." The specific data collection techniques can be distinguished by whether they obtain data from documents, individuals, groups, or observation. Each method of obtaining evaluation information has strengths and limitations. One consideration when selecting the data collection methods to use in a specific instance is to minimize intrusion. Illustrative data collection procedures include observation checklists, performance ratings, tests, interviews, questionnaires, performance appraisal, document content analyses, case study, portfolio, performance records analyses, productivity measurement, performance audit, cost-benefit analysis, return on investment, focus groups, and external review.

The following two examples illustrate concepts and procedures regarding collection of data for evaluation projects focused on specification of goals and needs assessment. The process of data collection for contextual analysis is illustrated by an approach to environmental scanning for continuing education that was used at the University of Georgia (Simpson 1989). The scanning and futures forecasting procedures used to understand relevant emerging trends in the state sought to identify early signals to guide program planning and organizational relations. Planning for scanning by the continuing education division included administrative commitment to costs and benefits, clarification of organizational mission and the purpose of scanning, and provision of a coordinator whose role included reinforcement of staff commitment to the process. An early orientation workshop emphasized voluntary and open staff involvement as the participants discussed the mission of the division, the value of environmental scanning, trial use of scanning procedures, and their willingness to volunteer to help with the scanning effort. The detailed design of the scanning process (beyond broad, voluntary participation) included explanation of responsibilities and procedures for use of a taxonomy to select and code content of publications and media. The four major taxonomy categories were social, technological, economic, and political (STEP) trends and events. Each scanner reported on specific media and prepared single-page abstracts that also assessed implications for the division. At least three times per year, interested staff members reviewed abstracts to identify a manageable number of themes (about 6-10) and to discuss ramifications for planning. The analysis methods included Delphi procedures, cross-impact analysis, and scenario development. In addition, there was documentation of actions taken in the division as a result and feedback to staff to encourage use of conclusions and continued cooperation. Recently, the Internet has allowed rapid review of current information, but selection, summary, and use of such data are continuing concerns.

Data collection related to goal assessment is illustrated by the following examples of Cooperative Extension annual plans of work and long-range plans. Such long-range organizational plans and individual plans of work should include attention to goals, which can be assessed by various stakeholders regarding desirability and feasibility. This was illustrated by the Texas Agricultural Extension Service in their assessment of the quality of county plans of work, in the context of their assessment of Extension's long-range planning for the '90s (Marshall 1990). In each county, staff, program council members, and other leading citizens participated in study groups to analyze critical issues of high priority for county extension programs, so that time and resources would be devoted to the issues of greatest concern. Statewide staff development programs were provided to help implement and evaluate the 1987-90 long-range issue-based Extension programs to help ensure that the programs would be in the mainstream of a changing society. This included help in preparing annual plans of work to indicate goals, procedures, time, and resources to be devoted to address the selected issues.

In December 1989 and January 1990, a Texas A & M professor/ extension program development specialist surveyed district extension directors and county extension agents to assess the quality of county annual plans of work. Questionnaires were returned from all 28 district directors and ,2 of a representative sample of 100 county agents who received them, which was generalizable to the 650 agent positions in the state. In the 15-item questionnaire for staff in each role, criteria related to goals and the quality of the plan of work included the following: goal and subject matter to be taught are closely related, situation is stated as a basis for goal and activities, and the program is relevant to a current critical issue in the county. Because people other than the specialist use annual plans for performance review, the response rate was high. The critique of the plans of work was part of a decade-long effort to improve reporting in relation to planning and budgeting including sound comparisons from year to year, and the findings from the survey helped improve reports.

The specialist had the main responsibility for planning and conducting the survey and reporting the results. The main resource was printing and mailing questionnaires, and especially more than a month of the specialist's time over a 3-month period. Extension staff at state, district, and county levels viewed assessment of reporting as important, so cooperation was forthcoming.

Additional data collection concepts and procedures are reflected in the following examples related to goals, participation assessment, and outcomes evaluation. The first example illustrates the use of focus groups for data collection and encouraging commitment to use of findings. They are especially applicable when potential participants are at locations where small groups can readily meet for a session of an hour or two. Focus groups were used in a large enterprise with staff in multiple locations. The enterprise director of training assessed almost two dozen focus groups in about 10 regions in which staff members were located.

The total evaluation project obtained information from several sources, in addition to focus group members. External information included benchmarking with data from similar organizations and an opinion survey, which contributed to some preliminary goals or production tasks for individual roles and work groups. Because such explicit goals and global measures had been lacking, the focus groups provided an opportunity for staff members to comment on the preliminary goals, which could increase acceptance of the goals as part of performance review and staff development activities.

Coordinating the use of focus groups was difficult and occurred during several months for planning and implementation, with the focus group meetings occurring during several weeks. A survey could have taken less time and money, but the likely response rate and buy-in by staff members was low. Commitment of adequate resources was essential. The director served as facilitator of several focus groups and coordinated the selection and supervision of other people who served as facilitators and recorders. The director worked with an external vendor and helped prepare guidelines for focus groups. The decision to use focus groups for evaluation should be based on the conclusion that it is an appropriate method to use and on a commitment of sufficient time and money to plan and conduct the focus groups so that they are effective.

The following example illustrates use of evaluation questions, focused on goals, to enable stakeholders to assess desirability of goals related to participants, instructors, topics, and contexts. Evaluation of goals can be for purposes of planning, improvement, or accountability, and questions about the soundness of goals and desired modification, can emphasize participants, instructors, topics, or contexts. Following are illustrative questions for each of these perspectives and elements (Grotelueschen 1980).

	Participants	Instructors	Topics	Contexts
Planning	Have various potential participants achieved their expectations?	How might desirable instructional goals be attained?	Is a proposed topic relevant to proposed goals?	Are proposed goals consistent with the agency image?
Improvement	How could program goals better correspond with learner objectives?	Would a revision of some instructor aims better align them with related program aims?	Would other topics better contribute to achieving goals?	Does current knowledge of the setting suggest modification of the goals?
Justification	Are the educational goals appropriate for these participants?	Are the instructional purposes compatible with the program goals?	Is this the best topic to achieve program goals?	Were the attained goals educationally important?

Participation assessment questions can obtain information about participants' expectations, achievement, and application. They can be answered from information derived from questionnaires, tests, interviews, focus groups, documents, observations, and portfolios. Much of assessment related to participants' progress has focused on satisfaction and on work-related education. By contrast, the following example is one of the few reported on evaluating liberal adult education. In a detailed research report by the Center for the Study of Liberal Education for Adults, Miller and McGuire (1961) documented the rationale, procedures, and instruments from a project of several years to evaluate various types of liberal and general education programs for adults. The emphasis was on continuing higher education, and a major purpose was to develop evaluation instruments (tests, questionnaires, simulations) that participants and instructors could use to assess achievement. The following example focuses on this purpose, which can enable participants to monitor their progress in mastering content (that can be amorphous) and enable instructors to assess learner achievement and use conclusions to increase program responsiveness.

The authors worked with almost 100 continuing higher education practitioners (engaged in liberal adult education) and evaluation experts in developing a rationale and drafting evaluation instruments (many of which were included in the report). An initial stage was to select widespread liberal adult education objectives to guide evaluation procedures. Included were development of new interests, increased knowledge of pertinent concepts, analysis of personal and social attitudes, appreciation of intellectual and aesthetic values, critical thinking, making informed judgments, understanding relationships, and empathy for divergent viewpoints.

The project rationale acknowledged the lofty goals of liberal education but asserted that program objectives can be stated in more specific terms than is usually the case, to specify the types of intellectual behavior that indicate that the program is achieving its purpose. In the development of evaluation instruments, three criteria were used: realism, interest, and flexibility. It was assumed that liberal adult education programs likely to help participants achieve the intended objectives would have features related to enhanced proficiency.

In the various content areas, the following progress was reported:

- Defining the area regarding concepts, issues, information, and materials of special importance to adults
- Identifying important objectives for actual programs in the area
- Drafting evaluation instruments and suggesting additional types of instruments and procedures for future development (emphasis was given to case analysis)
- Initiating small-scale field testing of some of the instruments

The following highlights illustrate the development of evaluation instruments to collect data and their pertinence to assessment of participation. Participants complete an evaluation instrument part way through an educational program and receive feedback regarding their responses and those of other participants, and they discuss the conclusions in relation to their current understanding several times during the program. The resulting feedback can be used by participants (and in summary form by the instructor) to guide the developmental process of learning to make moral decisions. Case situations were developed as the basis for evaluation questions. The evaluation intent is to encourage participants to reflect on the fit between specific instances and general principles, and to reflect on the assumptions and implications of various courses of action that address material and ethical issues. Such feedback can be of educational value at various stages of a program (Miller and McGuire 1961).

Follow-up studies are one way to assess extent of utilization. The following example illustrates use of a verified interview to assess administrative change (Hentschel 1979). A 15-hour simulation workshop for administrators on evaluation procedures was assessed by verified personal follow-up interviews to find out the extent to which past participants actually used the evaluation techniques from the workshop simulation in their subsequent work. An inventory of nine specific evaluation activities included in the workshop content was covered in personal interviews in their offices before the workshop and 10 months afterwards. When administrators referred to use of evaluation techniques, the interviewer asked about examples, which administrators often shared for verification. Scoring gave weight to verified activities. Pre and post scores of workshop participants were compared with those of a comparison group of administrators who expressed interest in the workshop but who did not attend. There was no significant change in scores for the comparison group, but a significant improvement for the participants.

Additional readings with more details on data collection include Salant and Dillman (1994), Krathwohl (1993), Gall, Borg, and Gall (1996), and Miles and Huberman (1984). Other examples pertain to English as a second language (Burt and Keenan 1995; Burt and Saccomano 1995), interactive television for health education (Byers et al. 1996), leadership development (Earnest 1996), family life (Fetsch 1997), self-help guides (Fleischman 1995), staff development (Neal 1997), literacy (Ntiri 1996), training (Phillips 1996), and participation satisfaction (Popham 1997).

Summary

There are many potential sources of evaluation data: interview, focus group, performance audit, portfolio, questionnaire, document analysis, and observation checklist. It is desirable to use some combination of such sources to collect both quantitative and qualitative data. Specific questions can address expectations, achievement, and application. Effective evaluation data collection minimizes intrusion and disruption of the program.

Analysis

In practice, **analysis of evaluation data** varies greatly in a number of ways. One is formality. Sometimes data analysis is very informal, as when an instructor quickly reviews a set of participant tests or opinionnaires and draws some general impressions of learner achievement or satisfaction. Increasing levels of formality of data analysis reflect the importance of greater validity and specificity of conclusions. A second variation is the number of different perspectives on program expectations, quality, and effectiveness to be included in the data analysis. For example, data could be analyzed to compare assessments of the effectiveness of an instructional procedure by multiple stakeholders such as instructor, participants, peers, and a coordinator. A third variation involves the types of data to include in one data analysis, such as judging staff performance based on both qualitative data (self-assessments, themes from open-ended comments by participants), and quantitative data (scores from rating scales used in peer review, percentages based on participant achievement and persistence). A fourth variation is the number of points in time at which data were collected to allow time series data analysis to understand trends, such as in participant progress or instructor improvement. A fifth is the use of information to interpret the findings, such as generalizations from a literature review or findings from similar evaluation studies of comparable programs.

There are many texts that explain and illustrate data analysis procedures. Worthen and Sanders (1987) and Worthen, Sanders, and Fitzpatrick (1997) provide an overview. More specific procedures for analysis of quantitative data are explained in Gall, Borg, and Gall (1996), Hopkins, Glass, and Hopkins (1987), and Krathwohl (1993). More specific procedures for analysis of qualitative data are explained in Guba and Lincoln (1981, 1989), Lincoln and Guba (1985), Miles and Huberman (1984), and Strauss and Corbin (1990).

Two examples illustrate concepts and procedures regarding data analysis focused on staffing and participation. Comparable information related to teaching in similar programs can contribute to analysis of staff performance, as illustrated by a report on comparative data for evaluating extension teaching. In 1989, the Ohio State University established a system for evaluating extension teaching for purposes of improvement, performance appraisal, and promotion and tenure. Data collection instruments were developed for use by participants, peers, supervisors, and subject matter experts (Spiegel 1992).

A nine-item questionnaire was prepared to obtain feedback from groups attending Cooperative Extension programs. The items about the instructor pertained to the following: well-prepared, interested in helping, respect for all, stimulated learnings, clear answers, application of content, clear explanations, held attention, and helpful information. Participant responses were on a five-point agree/disagree scale. Participant responses were obtained for a variety of extension staff, which created a database that contributed to interpretation of summaries for a staff member, by allowing comparison with summary information for similar staff regarding role, content speciality, years of experience, and size of learning group. The instructor completed a form to accompany the participant questionnaires, which provided background information about the instructor and session, along with teaching methods.

Other instruments were on one-to-one instruction and feedback from peers and experts. Extension instructor use of one or more of these instruments, and normative information to help interpret tabulations, illustrates an innovative use of evaluation for staff review and development (Spiegel 1992). Comparative information from the database allowed analysis and interpretation of individual staff performance.

Another approach to data analysis is illustrated by the following example of portfolio review as participation and empowerment evaluation (Miller and Associates 1993). One part of a large parent education project used a community development approach. Portfolio assessment was used as a supplementary way of presenting the evaluation plan results. Local program portfolios and panel reviews of the portfolios were central to the assessment. Staff development was a major outcome. Portfolios contained descriptions, documents, data, and statements arranged to best represent a project. Portfolios differed greatly, but fit their projects, by explaining the project and giving perspective to the evaluation results.

Preparation of portfolios was only half the evaluation review process. The other half was getting people to read and use the information. This was accomplished by organizing review panels of knowledgeable people who were diverse in backgrounds, viewpoints, specialties, ethnicity, and region. Panelists received 2 hours of orientation and devoted 4 days to the review. The orientation covered review tasks and timing, ideas about value and worth, statement of goals, and the general contents of portfolios. The review process was structured by each panel with panelists working both alone and together. A panelist completed a one-page summary report on each portfolio, which included open questions on especially valuable features and on suggestions for the project. Although no interrater reliability was reported, similar projects had reported over 90 percent agreement by panel members. The portfolio review process revealed that a major outcome of the project was staff development, which is relevant to assessment related to participation (Miller and Associates 1993). Portfolio review is a form of analysis that can be used for various evaluation purposes.

Additional data analysis concepts and procedures are reflected in the following examples related to needs assessment, program review, and materials assessment. Following are some ideas regarding data analysis for purposes of needs assessment. Analysis procedures vary with the type of data (quantitative or qualitative) and the purpose of the needs assessment (self-assessment or for marketing purposes). Sometimes, analysis consists of identifying from various types of data, common themes that help specify needs and reduce the risk of program failure due to unresponsiveness. For quantitative data, typical procedures include frequency distributions, validity checks, cross-tabulations, data reductions, and multivariate analysis. For qualitative data, typical procedures include inductive classifications, code themes, form working hypotheses, test concepts with specific passages, confirmation checks, and use of quotes to illustrate insights. It is desirable to use cross-validation across multiple sources to identify common themes. It is also important to recognize that interpretation combines facts and values. As stakeholders judge the soundness of conclusions it is helpful for them to use such criteria as relevance, usefulness, and precision. The needs assessment conclusions can also be compared with those from similar needs assessments.

Evaluation of the overall program usually includes perspectives of various stakeholders and inclusion of various types of data. This typically occurs when a self-study is followed by an external review. Doing so might include both quantitative and qualitative data. Quantitative data analysis typically includes attention to sampling, valid instruments, tabulation, data reduction, associations, multivariate analysis, and significance. By contrast, qualitative data analysis can include analytic induction based on natural language narratives to identify themes, suggest explanations and test them with additional information, cross validation, and verification by subjects. Discussion of interpretation of the data analysis can include evaluation about achievement of evaluation objectives, ethical issues, value of conclusions, stakeholder review, and comparison with similar evaluation reports. A usual result of a program review is some commendations of favorable features and recommendations about desired improvements. The details of the evaluation report provide a rationale and justification for the recommendations. For many program reviews, involvement of stakeholders is essential for both the soundness of the conclusions and the likelihood of implementation of the recommendations (Patton 1986).

Data analysis related to instructional materials can sometimes be closely connected with their use (Ference and Vockell 1994). For example, when introducing new print materials or simulation activities based on case materials, such evaluative activities as peer review, participant critique of materials, and instructor appraisal of how well materials are working can serve both refinement of the materials and their broader assessment. This can be enhanced when the same materials are used by various instructors and their participants, if there is provision for sharing these assessments in a type of meta evaluation. The emergence of electronic methods such as computer-based education makes it feasible to accumulate and analyze data about use and achievement and to do so longitudinally over time. The evaluation of materials can also focus on the relative effectiveness of alternative materials, regarding achievement, motivation, and application. The essence of data analysis is conclusions relevant to the evaluation purpose and warranted by the data.

More detailed sources of suggestions about data analysis are available regarding specific program aspects. For needs assessment, reviews of pertinent publications can be especially useful (Houle 1992; Kasworm 1983; Merriam and Caffarella 1991; Pennington 1980). For staffing assessment related to adult basic education, many examples are provided in Grotelueschen, Gooler, and Knox (1976) and in Knox and Associates (1974). Other examples include management development (Brown-Wright 1996), employment retraining (King et al. 1995), and portfolio assessment (Johnson and Bergman 1996).

Summary

Evaluation data analysis may be formal or informal, but usually reflects various viewpoints. To do so typically includes analysis of various types of data. Quantitative data analysis procedures include frequency distributions and cross-tabulations as well as multivariate analysis. Qualitative data analysis procedures include inductive classifications, coding themes, and confirmation checks. Normative data such as a comparative database can contribute to interpretation of conclusions. Time series analysis of longitudinal data is especially useful for understanding trends. Useful evaluation analysis results in commendations regarding favorable features and recommendations regarding desirable improvements.

Utilization

A fundamental reason for conducting almost any evaluation is to **have the conclusions used.** Following are general suggestions that apply to assessment of most program aspects. Stakeholders are encouraged to use conclusions by their involvement in the process and by the credibility of the findings. The type and extent of involvement should be appropriate to the nature of the evaluation project and the backgrounds and interests of each category of stakeholder. Credibility depends on the purpose and design of the evaluation in relation to the issues it addressed and the resources devoted to the evaluation. Utilization of assessment conclusions and recommendations can be for purposes of planning, improvement, or accountability. Winning and maintaining stakeholder cooperation for evaluation is as important as mastery of evaluation procedures (Patton 1986).

The following two examples illustrate concepts and procedures regarding use of conclusions, focused on participation and staffing. Utilization of evaluation conclusions related to participation is especially dependent on the assessment process, along with later efforts to encourage use. Use of findings to encourage participant enrollment and reflection also contribute to application. As participants receive useful feedback about their achievement and progress, they can increase their receptivity to subsequent assessment related to their participation and application of what they learn.

An approach to assessment related to participation is illustrated by the following example on workplace literacy education for union members. With funding from the U.S. Department of Education's National Workplace Literary Program, a collaborative worker literacy program for health care paraprofessionals was conducted by

City University of New York and the New York City Central Labor Council (Perin 1992). Evaluation was related to several aspects of participation. Program applicants were screened for entry using a writing assessment used for assigning college students to remedial classes. The program was similar to college remedial courses, but was contextualized regarding health care content.

Literacy level was assessed in two ways: by simulated college placement tests in reading, writing, and math and by teacher ratings. Both assessment methods showed gains for writing; the tests showed gains for math but not reading; and teacher ratings showed gains for reading but not math. The follow-up survey in the third and fourth month after the program reported that 65 percent of a sample of 967 participants had been accepted to a college, mostly to study in health fields. Many passed college placement tests in reading, writing, and math. The labor unions were active partners in the program and continued their use of the instructional materials beyond the funded project. The evaluation report included recommendations to select teachers committed to the program's dual emphasis on health and literacy, increase teacher's involvement in curriculum revision, and increase staff development on the dual emphases of health and literacy. This strategy used involvement by stakeholders to encourage their use of conclusions.

Staffing assessment can contribute to organizational benefits, by encouraging organizational vitality, change, and teamwork. This is similar to the basic rationale for quality improvement with its emphasis on structural influences, data-based decisions, teamwork, and communication in which staff members have responsibility for both doing their job and learning how to do it better. Action research, which involves continuing education staff members in evaluation and utilization, provides an especially promising vehicle for both assessment and improvement.

A way to encourage utilization is to make sure that assessment questions are pertinent. Questions to guide evaluation regarding staffing might include—

- Why is the assessment being initiated?
- What are the sources and types of questions to guide the evaluation?
- How will use of evaluation conclusions be encouraged?
- What are the fall-back options in case there are difficulties with the plan?

In addition to reporting and sharing evaluation conclusions to encourage utilization, assessment can include some aspects of meta evaluation, by use of evaluation standards to critique and strengthen the assessment process. The findings from similar staff evaluation projects can be used to interpret findings (Grotelueschen 1980; Sanders 1994).

The following examples illustrate how to encourage utilization related to various program aspects. Early understanding of guidelines for needs assessment and encouragement of stakeholder involvement can contribute much to use of conclusions. This is especially so for potential participants and practitioners who might use findings to plan and conduct effective and responsive programs. The following example of an assessment center and practice audit illustrates an indepth form of needs assessment. Assessment centers and indepth practice audits are among the most complex and expensive forms of educational needs assessment. Typically, they entail 1-3 days and a variety of assessment procedures to yield a comprehensive evaluation of needs and potential professional development. Phase 1 involves organization of a team to guide the assessment. Phase 2 is the identification of professional proficiencies and practice standards. Phase 3 is the construction of assessment materials, which includes both assessment techniques and content related to specific occupational practice standards. Phase 4 entails use of these assessment materials in an assessment workshop. Phase 5 includes analysis of the assessment results to identify individual needs by comparing current proficiency (from assessment process) with desired proficiency (from practice standards). Phase 6 is provision of continuing education activities that are responsive to the identified needs. Phase 7 involves ongoing evaluation of the programs regarding meeting needs and improving practice (Queeney 1995). The thoroughness and investment in an assessment center contribute to commitment to use conclusions.

Because evaluation of situational influences can identify conflicting expectations, special attention should be given to external stakeholders. Attention to reporting and utilization is important throughout the assessment process. When identifying stakeholders, find out the issues that concern them and the forms of reporting most likely to promote use of conclusions. Evaluation standards can be used for meta evaluation to critique and improve the contextual analysis. Reporting should be responsive to stakeholders and audiences, avoid unnecessary complexity, and encourage utilization.

Organizational expectations can be a major consideration when evaluating an executive education program. One way to assess program goals is to compare them with expectations of the parent organization. Following are questions that can be asked about organizational expectations for an executive education program (Vicere 1996). The conclusions could be used to modify goals and/or interpret goals to organization members to improve the fit between program goals and stakeholder expectations. This would promote utilization. Answering such questions can contribute to utilization of the total evaluation conclusions.

- Does your organization recognize executive education as a competitive capability that can assist in the development and revitalization of both individual leaders and the overall organization?
- Do your organization's executive education programs focus on building both the individual talents of leaders and the collective knowledge base of the organization?
- Do your organization's executive education programs blend experience, training, education, and other forms of challenge into a learning process?
- Does your organization use the real-time discussion of real-life business issues as part of your executive education process?
- Does your organization recognize the power of executive education as a force for individual and organizational development?

The foregoing example regarding organizational expectations also applies to evaluating goals and priorities. The emphasis in encouraging use of conclusions from evaluation of the desirability of goals varies with the intended use for planning, improvement, and accountability. Timing is also important so that conclusions are available when stakeholders are ready to use them.

Conclusions from evaluation of goals, policies, and priorities can be useful in various ways. Included are decisions about program emphasis, participant attraction, staffing, collaboration, community support, resource allocation, and organization. If the results of such evaluations include anticipated benefits and desired future directions valued by stakeholders, and at least suggest implications regarding likely costs and implementation, utilization related to the following decisions can occur gradually as stakeholders start to address action plans.

One outcome of evaluation related to participation is use of findings to conduct marketing efforts to attract and retain participants. Following is an illustrative list of such uses:

- Establish a marketing-related research base (evaluation).
- Write advertising copy that emphasizes participant benefits from enrollments (including evaluation to increase effectiveness).
- Integrate marketing concepts into daily routine (including assessing audience response).
- Promote a comprehensive service orientation (including assessment of client satisfaction, ongoing evaluation, and identification of market niches).
- Design marketing activities to enhance image of provider organization (including evaluating the fit between marketing activities and provider mission and goals).
- Price programs and services competitively (including assessing client expectations and desirable fees in relation to alternative programs and cost recovery goals).
- Develop an effective marketing mix of ways to communicate with potential participants (including ongoing assessment).
- Obtain professional assistance with graphic design. (Use past evaluation to guide design and ongoing evaluation to assess its impact).
- Track results. (The communication model of sending information and receiving a response that underlies marketing practice lends itself to such ongoing evaluation.)
- Continuously analyze common marketing mistakes, to minimize them. (This is a special aspect of evaluation focused on improvement.)

Most of the ideas about marketing emphasize attracting participants, but many of them apply also to retention. Program quality and responsiveness are especially important for retention, and evaluation conclusions can be useful for this purpose (Cookson 1989; Simerly 1989).

The following example illustrates a way to increase utilization of evaluation conclusions by monitoring program implementation (Brinkerhoff 1987). The extent and type of evaluation should reflect program characteristics and assessment purposes in various enterprise human resource development programs. For instance, monitoring a 3-hour workshop for supervisors on a new performance appraisal system might include the following evaluation activities:

- Comparison of actual participants with those intended
- Instructor notes during the session on suggestions for improvements next time
- A brief opinionnaire completed by participants

This minimal assessment seems warranted for a brief, well-developed, frequently repeated workshop, because it encourages accountability and responsiveness, notes whether it was implemented as planned, and captures ideas for revision.

By contrast, when a new intensive 3-day workshop for sales personnel on the new product line was carefully planned for delivery at branch locations throughout the world, an elaborate evaluation system was provided (ibid.). It included—

- Records of preparation and attendees at each location
- Participant reaction forms completed at the end of each day
- A knowledge inventory completed at the end of the second day, with both a group summary, and scores given participants as feedback to guide their study during the final day.
- A multiple-page feedback form completed by the coordinator of each session/location, covering documentation and suggestions for revision

This elaborate assessment system was focused on quality control of a major program at decentralized locations. Conclusions allowed central office educators to monitor implementation, provide assistance where needed, and revise subsequent programs.

When the need for a program arises suddenly, the evaluation may be more extensive and detailed to identify discrepancies between plan and implementation of an experimental program. For instance, in response to an upsurge in accidents, an experimental safety education program was provided for supervisors (ibid.). New safety procedures and materials to explain them were used and assessed in the following ways:

- Participants completed a detailed end of session form, which was quickly summarized for use in a postsession meeting of participants.
- Participants met after each session to discuss reactions to the program, which were noted for later analysis.
- Two observers attended sessions and noted departures from the plan and participant interactions and reactions.

Because of the experimental program, detailed information helped to identify discrepancies, which served as opportunities for the educators to improve the program. These examples suggest the various strategies that may be required to encourage utilization.

Publications with additional suggestions regarding utilization of conclusions include Patton (1986), Knox (1979a), Caffarella (1994), and Brinkerhoff (1987). Other examples focus on community leadership (Earnest et al., 1995), management development (Ezzeddine and Holland 1996), family literacy (Tao et al. 1997), and use of radio (Wright et al. 1996).

Summary

Following are some ways to encourage utilization:

- Involve stakeholders appropriately in the evaluation process
- Encourage ongoing cooperation
- Provide a rationale for evaluation importance and procedures
- Ensure credibility of conclusions by use of pertinent evaluation questions and fit with the evaluation purpose and design
- Recognize that evaluation conclusions can be used for program planning, improvement, and accountability

Conclusion

The foregoing review of evaluation concepts and procedures can be used in various ways by practitioners to strengthen educational programs for adults. One way is to select one or more aspects of the total program on which to focus an evaluation. A second is to review some broad action guidelines to use when planning and conducting a specific evaluation project. A third is to identify some pertinent writings to consult for greater detail on rationale and procedures. A fourth is to consider various examples that illustrate sets of interrelated decisions that constitute strategies for evaluation.

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