DOCUMENT RESUME

ED 115 230 95 IR 002 773

AUTHOR Connolly, A. J.; Dale, Joyce B.
TITLE Determining User Needs as a Basis for the Educational Programming of Large-Scale Projects. Satellite Technology Demonstration, Technical Report No. 0211.
INSTITUTION Federation of Rocky Mountain States, Inc., Denver, Colo.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
PUB DATE 75
NOTE 10p.; For related documents see IR 002 769-793

EDRS PRICE MF-$0.76 HC-$1.58 Plus Postage
DESCRIPTORS Career Education; *Communication Satellites; Curriculum Development; *Educational Needs; Educational Programs; *Educational Television; Evaluation Methods; Evaluation Needs; Information Needs; Instructional Media; Junior High School Students; *Needs; Needs Assessment; Programing (Broadcast); Secondary Education
IDENTIFIERS Federation of Rocky Mountain States; *Satellite Technology Demonstration

ABSTRACT

The Satellite Technology Demonstration (STD) made a needs assessment profile as the first step in the creation of an instructional television series for junior high students, "Time Out!" The suggested sequence for a similar project is: (1) submit a list of potential projects to the appropriate decision-makers; (2) determine through personal contact which programs will have political, social and fiscal support; (3) develop instrumentation and collect data from those who work with the primary audience (teacher, administrators, counselors, parents); (4) develop instrumentation and collect data from a representative sampling of the primary audience; and (5) translate data into a feasible program. STD made the following recommendations; (1) the required personnel, time, and money for a large-scale project can be easily underestimated; (2) instrumentation should be reviewed by the program producers prior to the after field testing so that results can be meaningfully incorporated; (3) teamwork is required between the technical specialist and the program producers; (4) technical specialists should be involved in selection of the sample audience; and (5) a needs assessment profile should never be considered absolute. (NR)

SATELLITE TECHNOLOGY DEMONSTRATION

FEDERATION OF ROCKY MOUNTAIN STATES, INC.

technical report

TR0211

DETERMINING USER NEEDS AS A BASIS FOR THE EDUCATIONAL PROGRAMMING OF LARGE-SCALE PROJECTS

A. J. CONNOLLY

JOYCE B. DALE

INTRODUCTION

The process of identifying both the needs of a target audience and the resources to satisfy those needs often is referred to as a "needs assessment." Much has been written about this process, especially as it relates to local schools that are planning to meet their multifaceted responsibilities. Little, however, has been written about the assessment efforts of large-scale educational projects that are planning to concentrate on one or more subject-matter areas.

This paper focuses on the assessment activities of a large-scale project, the Satellite Technology Demonstration (STD). It also presents a model for conducting a modified, educational needs assessment, based on marketing principles.

PURPOSE

An educational needs assessment represents a major investment in time, staff, and other resources. Project management and curriculum personnel should consider what this assessment can provide before committing resources to it. Generally, a needs assessment should:

1. Identify audience needs and interests in a way that can be translated into programmatic priorities.
2. Identify available resources and prevailing constraints which should be considered in developing programs.
3. Identify specific audience needs within defined program areas.
4. Create involvement of potential users, thus helping to increase user identification with future programming.

The major alternative to making a needs assessment is using consultants and advisory boards to obtain expert opinion. Although this option is generally less expensive, expert opinion, by itself, is not likely to achieve the multifaceted and far-reaching outcomes of a comprehensive needs assessment.

BUILDING THE MODEL

Most people think a needs assessment is done by getting the identified users to fill out a questionnaire. Although this element typically is included, it is not the primary element in the assessment process.

A needs assessment for a large-scale project seldom is confined to primary users. It involves, instead, the acquisition of information from three distinct audiences: (1) decision-makers at federal and state levels; (2) advocates of primary users at state and local levels; and (3) primary users. Each acquisition is one step in the assessment process.

Decision-makers initially are addressed to determine both their priorities and their preferences. In the field of education, decision-makers at the federal level generally represent departments and agencies, such as the Department of Health, Education, and Welfare; the United States Office of Education; the National Science Foundation; and the National Institute of Education. Their counterparts at the state level would be the state departments and their various divisions. Although small in scale, this first step in the assessment process enables Project personnel to identify areas of potential support; it also gives them a feeling for the larger and more costly assessment efforts which follow.

Advocates are persons who have direct responsibility for working with primary users. In education, this population primarily consists of teachers, administrators, counselors, and parents. The breadth of the advocate population makes it important to have clearly-defined areas (obtained in Step 1) toward which an investigation can be directed. Its size also makes it necessary to work with a sample population, preferably stratified by type of responsibility.

If the decision-makers contacted in Step 1 are aware of their constituents, their priorities normally will represent needs which are perceived and supported by the advocate population. In these instances, the information from the advocate population will support the decision-makers' priorities, as well as assist Project personnel in focusing on specific aspects of selected subject areas.

The primary users (students) form a population that is characteristically large and complex. Often, students are not only unsophisticated, but also unreliable; they have difficulty separating "wants" and "needs." For these reasons, the assessment activity at this level must be directed at specifics; at carefully-identified priorities, established in the previous steps. A sampling procedure often is used to make the assessment.

IMPLEMENTING THE MODEL

The three-tiered assessment model, presented above, resulted from the STD's efforts to provide an empirical data base for the student series titled "Time Out!" This section discusses the STD's needs assessments and the information they produced.

Step 1: Meetings with Decision-Makers

Meetings with decision-makers began in the fall, 1971, when Project representatives held a series of think-sessions with federal and state leaders to discuss several proposed programming alternatives. These discussions resulted in the designation (by January, 1972) of two subject areas: Early Childhood and Career Development.

Early Childhood, particularly as it relates to the responsibilities of caretakers (preschool instructors and parents, for example) was identified as a primary subject area. But fiscal cutbacks, later in the Project, caused program development in this area to be discontinued.

Career Development, as an academic discipline, had the support of decision-makers at all levels and also possessed good potential for federal fiscal support. Once the selection of Career Development had been made, the STD began a comprehensive literature search and a subsequent review of content models and related resources. Initial plans were developed to design programs for grades "K" to 12.

In April and May, 1972, the Project sponsored a series of meetings with leading educators (administrators, curriculum-development specialists, vocational-education specialists, and selected media personnel) in the participating Rocky Mountain states. Feedback from these meetings resulted in a Project decision (early in 1973) to reduce the focus of

the programming to in-school adolescents. This decision was based largely on the fact that many states already had developed instructional programs on careers for both elementary and senior high students. On the basis of need, junior high students appeared to be the most neglected in this subject area.

In addition to providing information on audience needs, regional meetings resulted in an initial listing of 100 goal statements on Career Education. By summer, 1973, these statements had been used selectively by STD content personnel and consultants to develop an initial content structure, containing 28 "career concepts" and including awareness, assessment, communications, information-gathering, interdependencies, and decision-making.

Step 2: Data Collection from Advocate Populations

In October and November, 1973, the STD developed and used a series of testing instruments, based on the career concepts, with a sample population of 818 advocates: 235 teachers; 110 counselors; 147 administrators; and 326 parents. The sample contained representatives from the eight states participating in the Demonstration. Respondents were asked to rate the importance of each of the 28 concepts in terms of perceived adolescent needs.

The ratings indicated that all subpopulations of the advocate sample agreed that the 28 concepts were important; that they addressed adolescent needs. Further, the presence of existing career development programs in some schools did little to alter the ratings.

Step 3: Data Collection from Primary Users

A primary user sample was developed and used along with the advocate sample. Like the advocate sample, the primary user sample contained representatives from two or three communities in each of the eight participating states. At least one rural community was used; one urban. An additional requirement was the need to obtain a substantial representation among minority groups.

The selection guidelines led to a primary user sample of 2,578 adolescents -- ranging in age from 12 to 17, with a mean age of 14.7. As desired, the sample included a sizable group of Mexican Americans and Native Americans.

The students were asked to respond to items in these categories: (1) interest in different kinds of work; (2) attitudes toward different kinds of work; (3) knowledge of occupational possibilities; and (4) personal preferences toward reading materials, music, and free-time activities. The resultant data was used to provide content writers with a series of written reports, exploring the effects of age, sex, grade level, and ethnicity on student performances.

In late fall, 1973, STD content personnel continued their efforts to develop and refine content structure, as well as to identify appropriate program formats and vehicles. As a result of these efforts, the STD decided (in spring, 1974) to focus Career Development on self-assessment, decision-making processes, and career exploration.

ANALYZING THE RESULTS

From its inception, the needs assessment suffered from a lack of conceptual and technical rigor. Personnel with expertise in evaluation procedures were involved only in the later stages of the Project. At the time of this involvement, the "experts" had two months to design, implement, and complete the assessments aimed at advocates and primary users; to meet the deadlines specified in the federal grant.

The scope of the undertaking was inconsistent with the time available: The deadlines made it necessary to collect data concurrently from advocates and students. This meant that data collected from advocates could not be used to refine and structure the needs assessment of primary users. As a result, no solid baseline data was collected on the primary users' knowledge in the career-development area.

Another problem occurred in assessing the needs of primary users: The "career concepts" specified in the content structure had not be expressed in measurable terms. It was difficult, therefore, to measure students' career-related interests, attitudes, and awareness. Personnel responsible for the needs assessment had to articulate general concept statements into specific items for data collection purposes. The resultant student data base created frustration for content personnel who had difficulty adequately translating the data into effective programming.

CONCLUSIONS

Although the STD's needs assessment activities involved decision-makers, advocates, and direct users, these activites did not follow the steps outlined in the initial proposal. As mentioned above, time constraints forced the STD to sample advocates and students at the same time, thus eliminating the refinement process built into the original model.

Yet, even without the built-in refinements, the STD's activities provided some meaningful data. More importantly, Project personnel established important relationships with decision-makers, advocates, and primary users. These contacts were, in many instances, maintained throughout the life of the Project.

The STD's activities not only helped to establish contacts, but also to establish the need for on-going research. The STD continued to implement assessment activities when information was needed on topics, such as local television equipment resources and general audience programming preferences.

For example, in January, 1975, the STD determined interest in, and demand for, future satellite programming in rural schools. Although the study identified many subject areas in which schools would like to receive student and/or in-service programming, the subject area of greatest interest to the most people was Career Development. Clearly, the STD, through its contacts with various agencies and advocates, selected and addressed a subject matter which met the needs of rural school populations.

RECOMMENDATIONS

The STD engaged in a number of needs assessment efforts. Its experience suggests the following:

1. Needs assessments can be conducted for many different purposes and for different levels of involvement, as determined by interest and available resources. From the STD's experience, however, it would appear that the resources (personnel, temporal, and financial) needed for such efforts are easily underestimated. This is especially true for large-scale projects, like the STD's "Time Out!" series.

2. The recommended sequence of events in the needs assessment model for large-scale projects is:

   (a) Create a list of potential products and services which the organization can provide and which are likely to be well received. Use the list to identify appropriate decision-makers.

   (b) Establish contact, preferably personal, with identified decision-makers to determine which programmatic alternatives will have political, social, and fiscal support.

   (c) Develop instrumentation for advocate populations on program alternatives which have the decision-makers' support.

   (d) Obtain input from advocate populations and select those program alternatives which have both the decision-makers' support and the advocates' support.

   (e) Develop instrumentation to obtain baseline data from a representative sample of primary users.

   (f) Obtain baseline data from the primary users.

   (g) Translate the assessment data into a comprehensive program structure.

3. A comprehensive needs assessment requires technical expertise to be successful; it also requires teamwork between the technical specialists and the content personnel. Instrumentation, prior to being sent to the field, should be reviewed carefully by content personnel to insure that the data will be applicable to their needs. This applicability ultimately determines the value of the assessment efforts.

4. To enhance data integrity and usefulness, the technical specialists also must be involved in the selection of sample populations.

5. As with all data collection activities, instruments and procedures, associated with the needs assessment, should be tested carefully, in the field, and revised prior to full-scale implementation.

6. As indicated by Kaufman (1972): "No needs determinator is final and complete; we must realize that any statement is in fact tentative, and we should constantly question the validity of our needs satements."

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This report was produced with funding from the National Institute of Education. The views expressed do not necessarily reflect those of the National Institute of Education or the U.S. Department of Health, Education, and Welfare.