A study examined the organizational factors inhibiting and facilitating implementation of an innovation in an educational setting. The innovative program selected as the subject of this ethnographic study was Georgia's parenting education program. Data were collected from field interviews of teachers, observations of parenting education classes, and analyses of various documents used in planning and implementing the parenthood education programs. The following eight education factors were found to influence the implementation of the innovations to which the parenthood education teachers were introduced in an inservice workshop: school structure, decision-making power, advisory committees, role of the workshop, resources, teacher commitment, and demands on teachers. The interaction of the innovation and the school setting resulted in an alteration of both. As individual teachers attempted to implement the parenting class, they tested and sometimes modified existing policies and procedures; conversely, as the teachers experimented with ways of fitting the program into the existing school structure, the innovation itself was adapted to meet local needs. (MN)
IMPLEMENTING EDUCATIONAL CHANGE: A QUALITATIVE STUDY OF A PARENTING EDUCATION PROGRAM

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This paper describes an ethnographic analysis of the implementation of an educational innovation (Langone, 1984). The focus of the study was on organizational factors which have the potential to inhibit or facilitate desired change. Because the implementation stage of an innovation is the key to success or failure, knowledge of what constitutes successful implementation can help school personnel provide effective staff development which is the necessary link between the concept of the innovation and its application in the classroom, and to evaluate the success of implementation efforts.

BACKGROUND AND CONCEPTUAL FRAMEWORK

Educators are aware of constant pressures to bring about change in schools, in curricula, in personnel performance, and in standards. As society, technology, and the economy change, educators at all levels must look for new ways to meet these changing needs in order to maintain the relevance and responsiveness of American schools. Change, therefore, is inevitable and often desirable, but the effects of the change process can be drastically different depending on whether the change was planned or merely a reaction to internal and external pressures. Effective planned change requires deliberate decision making and implementation strategies rather than the haphazard acceptance of faddish projects and ideas.

Effective strategies for directing change efforts require knowledge of the school as an organization with many interrelated parts. The change process involves the reorganization of groups, the reaction of individual and group behavior patterns, and an alteration of values (Klein, 1976). Educators can benefit from the application of systems analysis and organizational development to observe, diagnose, and intervene in the "complex web of interdependence which must be accounted for in the process of change" (Bennis, Benne, Chin, & Corey, 1976, p. 87).
Because of the unique nature of each school system (Bailey & Dea, 1975) and a disregard for the organizational setting in which innovation takes place, few curriculum innovations reach the classroom (Goldstein, 1980). A barrier exists between the theoretical knowledge and development of the innovation and the ability to implement it. In order for planned change to take place, a link is needed between the acquisition of knowledge and application of that knowledge to the classroom.

The study of how change takes place, and whether, in fact, it does, has been of concern to educators and researchers. Although considerable research on innovation has taken place, studies which focus on implementation as a critical phase have been rare. Implementation is not just an extension of planning and adoption, but a phenomenon in its own right affected by the daily activities of organizational members (Fullan & Pemfret, 1977). Because innovations are particularly susceptible to failure at the implementation stage (Sussman, 1977), greater knowledge through research focused on implementation is needed.

In most experimental and evaluation studies, the presence of an innovation is taken more on faith than on the basis of systematic documentation (Hall & Loucks, 1977). Neither the purchase of materials nor exposure to new ideas and techniques guarantee that teachers will adopt them as part of their classroom routine (Hentschel, 1977). Change is reflected only when a new pattern of events is repeated systematically—until it is maintained or institutionalized (Berman & McLaughlin, 1978; Hall, 1974; Hanson, 1979; McKinley, 1982).

Therefore, research and evaluation must determine if change has taken place and to what degree the innovation has been implemented (Williams, 1976a).

The purpose of this study was to investigate the process of implementation of an innovation in an educational setting. The specific research questions were: 1) What is the degree of implementation of an innovation introduced via an inservice workshop? and 2) What are the significant factors that facilitate or inhibit implementation of an innovation?
The conceptual framework used to formulate these questions is based on these constructs:

1) schools are social systems with discrete components functioning as a unified whole,
2) the process of planned educational change affects all components of the system,
3) planned change is a process which occurs gradually over time based on day-to-day decisions and problems, and
4) research on planned change must investigate all facets of the school organizational system in order to answer questions about change.

METHODOLOGY

Because of this conceptual framework, a research methodology was required which would provide a holistic view of the school system, allow the researcher to observe individuals in their natural setting, permit the researcher to study the process of change as it emerged over time, and enable the researcher to observe and interpret the interactions of the individuals in the system during the change process.

Qualitative methods, such as observation, interview, document analysis and physical trace provide the means to investigate questions of innovation and change in this manner. Because implementation is characterized by a process of adaptation to local needs, conditions, and interests, the methods to study implementation must be open-ended, discovery-oriented, and capable of describing developmental process and program change (Patton, 1980). Qualitative methods lend themselves to a holistic analysis of process, not just outcomes (Cook & Reichardt, 1979). This can be accomplished, in part, by keeping track of key events, shifts in purpose, organizational constraints, and external events. An exposition of crucial events and decision points that are part of
educational change is best carried out using observational strategies (Cuba, 1965). For this reason, ethnographic research strategies have recently become advocated as a method of collecting data on the process of program implementation (LeCompte & Goetz, 1982).

Data Collection Methods

Data were collected from a variety of sources using several naturalistic methods in an attempt to fully understand the implementation process. Because each research method reveals different aspects of empirical reality (Denzin, 1978a) a combination of methods, or triangulation was used. Triangulation is the use of a combination of approaches to study the same phenomenon or program (Patton, 1980). By tapping multiple perspectives, the researcher is able to arrive at supporting conclusions via different data sources, thus, enhancing the validity of the study (Cook & Reichardt, 1979). Two types of triangulation were used in this study: Data triangulation and triangulation of data collection methods (Denzin, 1978). Data triangulation is the use of many sources of data, whereas triangulation of methods employs different means of generating data from the same source. Denzin's rationale for the use of several methods is that the flaws of one method are often the strengths of another; therefore, triangulation is an attempt to overcome the unique deficiencies of each.

The primary data collection method was interviews which allow the researcher to develop insight on how subjects interpret their world (Bogdan & Biklen, 1982). A focused interview (Merton, Fiske, & Kendall, 1956; Sellitz, Wrightsman, & Cook, 1976) technique was used in order to have interviewees cover specific aspects of their program or experience and to obtain similar information from each respondent. A checklist of topics to be covered was used rather than a rigid interview format to allow each person to tell their story in their own way and to provide opportunity for additional topics to be raised.
Interview data was supplemented by observations in parenting classes and during the 1983 Parenting Workshop. Observation data elicited information about how teachers related to students, the use of materials, the content of lessons, and the characteristics of the student population being served. In addition, program documents provided information about program activities and processes that could not be observed. Document analysis also stimulated ideas for focusing observations and interviews (Patton, 1980). Documents analyzed for this study included grant proposals, inservice workshop plans, pre/posttest scores of participants subject knowledge, teachers' curricula and lesson plans, follow-up evaluations and a questionnaire developed for the study. Analysis of these documents provided perspective of the innovation process from its initial stages to the present level of implementation.

Physical trace analysis supplied information about the materials purchased and in use during program implementation.

Role of the researcher. The research design used to conduct this study included triangulation of data sources and collection methods. Field strategies including interview, observation, document analysis and physical trace analysis were combined in an effort to understand the process of change and innovation from the point of view of those in the school systems, especially teachers. The researcher was responsible for conducting all aspects of data collection and analysis. Various methods of data collection required different researcher roles.

The main role assumed by the researcher can loosely be described as that of participant observer. Participant observation is usually characterized by intense social interaction with the subjects under study and a sharing in the everyday life of subjects (Bogdan, 1972). Due to the nature of the innovation studied, prolonged periods of fieldwork in a particular school would not elicit the quantity or type of data required to answer the research questions posed,
therefore, multiple sites were visited. However, certain characteristics of participant observation were crucial to this study.

A participant observer differs from an ordinary member of a group or a casual observer because the participant observer 1) systematically organizes information about the situation according to some conceptual framework, 2) records aspects of the situation in detail, 3) separates from the group periodically to analyze information gained, and 4) routinely checks observations to guard against personal bias (Dobbert, 1982). The participant observer also makes use of his/her own reactions and impressions during the research process (Denzin, 1978a). Participant observation enables the researcher to link subjects' statements with actions and to note discrepancies in what teachers say and do. These qualities were certainly of interest and applicable to this study.

Selection of an Innovative Program

The Parenting Education program was selected as the vehicle for studying educational change. This was a curriculum project being implemented in Georgia home economics classes at selected sites based on the receipt of grant money and inservice training made available through the State Department of Education and the University of Georgia College of Education.

This particular innovation was selected for several reasons. First, this curriculum project was typical of new programs in which home economics teachers are involved in order to adapt curriculum to meet changes in families and society. Second, due to the fact that grants were awarded over a span of several years, the opportunity existed to study the varying levels of implementation over time. This study included grantees from 1981-82, 1982-83, and 1983-84. One group of teachers was studied as they adopted the innovation, attended the inservice workshop, and began implementation. The other two groups have had one to two years to implement the program. A third reason for selecting this program was the consistency
with which the inservice workshop had been taught. A faculty member from the Home Economics Education department has acted as coordinator for the workshop following a similar format and time schedule each year. Finally, due to the researchers involvement in the 1981-82 workshop as a graduate assistant, access to data sources was a realistic goal. A background knowledge of the program and its participants was also the basis for formulation of the research questions and selection of methodology.

**Sampling and Data Analysis**

Due to the fact that each of the teachers involved in the Parenting Education program was in a separate school and the schools spread throughout the state, the time and money to interview and observe each teacher would be prohibitive. For this reason, an appropriate sample of teachers selected to yield the greatest amount of information useful for the purposes of the study (Dobbert, 1982) was feasible and necessary.

The term "sampling" when used in qualitative studies refers to the following of a set of rules that places the observer in a situation to record or elicit a set of behaviors that are presumed to have some degree of relevance for a specific concept, hypothesis, or theory (Denzin, 1978a, p. 77). Theoretical sampling (Glaser & Strauss, 1967) is the "process of data collection for generating theory whereby the analyst jointly collects, codes and analyzes data and decides what data to collect next and where to find them, in order to develop his theory as it emerges" (p. 45). Sampling in this manner is a developmental process (LeCompte & Goetz, 1982) and is done in stages as fieldwork progresses. New cases are selected throughout the study to generate new lines of inquiry, refine the developing constructs and expand or limit the scope of the study.

To begin the interview schedule for this study, criterion-based selection (LeCompte & Goetz, 1982) was used. This method involved identifying attributes of representative cases. Teachers were sought in different locations throughout
the state, with varying numbers of years of teaching experience, of different race, and from each of the three years that the workshop was offered. Certain uniques situations were known to exist and these were also considered during the selection process.

Data analysis served two purposes. First, as data were collected, concurrent analysis was necessary to guide sample selection and further data collection strategies. Second, final analysis was required to interpret and explain the wealth of descriptive data.

Data were analyzed using a combination of analytic induction and constant comparison. Analytic induction was used mainly for constructive purposes (Goetz & LeCompte, 1981) and involves continuous movement between emerging concepts and empirical observations (Denzin, 1978a). This process is done in a cyclical manner until the hypotheses or theory is refined into its final form.

The constant comparison method (Glaser & Strauss, 1967) is a means of generating categories, properties, conditions, and consequences by comparing each incident in such classifications, then integrating these categories to result in theory. As with analytic induction, constant comparison is done simultaneously with data collection and, in this study, along with sampling.

FINDINGS

The first research question directing this study was: What is the degree of implementation of an innovation introduced via an inservice workshop? The degree of implementation has been defined as the extent to which teachers show evidence of new behaviors and perform new tasks indicated by the objectives of the inservice workshop. Through an analysis of Georgia's Parenting Education program, levels of implementation were observed at varying stages during implementation. Teachers who were in their first, second or third year of implementation had different tasks, concerns and challenges to face.
In describing the degree of implementation which occurred in individual programs, certain aspects of the parenting programs were identified: 1) goals and objectives of the parenting workshop; 2) indicators of implementation; 3) extent of change required of teacher or school; 4) when change takes place; 5) consistent aspects of programs, and 6) variation in programs.

The final analysis of data resulted in the delineation of eight factors which affected the process of implementation. Each factor had the potential to either inhibit or facilitate implementation depending on the situation in the local school and upon the individual teacher's ability to work within the particular organizational structure. The various factors also appeared to interact with certain other factors. The combined effect of this interaction was seen as an overall factor in implementation. The following factors have been identified and defined:

School structure—the organizational patterns which require teachers to act in a prescribed manner or follow a set of guidelines. The existing structure forms boundaries within which teachers must work, and over which teachers have no direct control. School procedures such as scheduling students, purchasing, and curriculum development affected the teachers.

Decision-making power—who made the decisions concerning specific aspects of the parenting program or how much approval each teacher was required to obtain from some other member of the school organization. Decision-making power ranged from complete control within the confines of the school structure to little power to make decisions without approval. Other than the teacher, potential decision makers were the superintendent, vocational director, principal, curriculum director, guidance counselor, advisory committee and parents. Decisions included applying for the grant, selection of materials, writing of curriculum.
Support—extent to which personnel in the school or community advocate or promote the parenting program. The sources of support or lack of support included school personnel such as the principal, superintendent, vocational director, teachers, guidance counselor, teachers, and students. Community sources of support included parents, the school board and business people. The degree of support ranged from active approval and promotion of the class to active resistance. Teachers used a variety of strategies to actively gain support for their program.

Advisory committee—people from the community and/or school who, due to their position or expertise, could provide support for and input into the parenting program. This was required by the grant. Typical people selected included principal, counselor, parent, doctor/nurse/health department official, minister, vocational director, health or science teacher and case worker from the Department of Family and Children Services. The advisory committee acted as a forum for presenting the concepts of the program and asking for feedback. Other functions were to preview materials, act as contact between school and community, encourage student enrollment, and public relations.

Role of the workshop—how the teachers perceived the workshop which was intended to prepare teachers for their new role as parenting teachers.

Resources—sources of information, expertise or materials available to the teacher, whether or not the teacher makes use of them. The availability of resources in the community could potentially help or hinder the teacher in providing activities and experiences for students. Resources included grant money, school budgets, school media center, transportation, classroom support services, community services such as health center, daycare, hospitals or extension service, educational materials and equipment.
Teacher commitment— the way the teacher interacts with other components of the school system, personality factors and assertiveness.

Demands on teacher— the amount of work required to implement the program and the time and energy required outside of parenting activities. This might include such things as class size, number of other classes taught, amount of change required by the teacher.

II Implementation Model

During data analysis, as categories were being revised and factors affecting implementation more clearly defined, the relationship between various factors became evident. Each time a category was defined and delimited, a record was kept of all other factors which affected that particular category or upon which that category had an influence. Using a schematic diagram labeling each factor, arrows were drawn between each factor showing the direction of influence or input (See Figure 1). The arrows do not depict whether the relationship helps or hinders the other factors. Either situation might be the case depending on the local organizational context. Neither do the arrows indicate a causal relationship. One factor may not necessarily cause the other to exist or happen, but one may influence the conditions in which another exists. For example, teacher commitment does not necessarily cause community or school support for the program; however, a high level of commitment exhibited by the teacher may influence the level of support for the program.

The boundary surrounding the illustration of factor interactions represents the school's organizational structure which is made of the various factors. The results of this study have attempted to show how this organizational structure affects the degree of implementation. This relationship is indicated in the model by the large arrow which represents input into the degree of implementation.
DISCUSSION

An analysis of Georgia's Parenting Education program indicated that most teachers successfully implemented the parenting class in their schools. However, even when the program was fully implemented and had become a routine part of the school structure, it is still subject to review due to the school's responsiveness to changing student needs.

The interaction of the innovation with the school setting resulted in the alteration of both. As each teacher attempted to implement the parenting class, she tested existing policy and procedures, and in some cases, these were changed to accommodate the new behaviors required by the parenting program. In a similar fashion, as the teacher experimented with ways to fit the program into the existing school structure, the innovation itself was adapted to meet local needs.

Because a single innovation was studied, resulting conclusions are not tested generalizations about all educational innovation; however, the common processes which emerged from the project under study contribute to a more in-depth understanding of educational change. In order to further delineate current theory on the change process, further research on implementation in various settings is suggested, as is quantitative and qualitative analysis to test the implementation model developed as a result of this study.

School administrators, teachers, and program planners could benefit from knowledge of change and include a discussion of educational change and implementation as part of teachers' training. Encouraging school personnel to analyze their own organizational structure might also help them avoid potential inhibitors to implementation efforts.
REFERENCES


Figure 2: Model Illustrating the Interaction of Organizational Factors Which Affect Program Implementation

NOTE: Arrows indicate interaction, not cause or dependency. Arrows may indicate each factor as a facilitator or inhibitor depending on organizational context.