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A THEORETICAL MODEL FOR CURRICULUM IMPLEMENTATION

by Dianne Common

Thesis presented to the School of
Graduate Studies of the University
of Ottawa in partial fulfillment
of the requirements for the degree
of Doctor of Philosophy



Ottawa, Ontario, 1978

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Abstract of
A Theoretical Model for
Curriculum Implementation

Many curriculum innovations introduced into schools have experienced implementation failure. From this seminal condition emerged a problem for investigation. There has been a dearth of information in the research literature on the problem of implementation, and conceptualization on the nature of this educational phenomenon is in a neophyte and disturbing state. Consequently education has a need for cogent and pervasive speculations relative to curriculum implementation.

It is this need that gave rise to the purpose of the study — the formulation of a comprehensive, theoretical explanation for the process of curriculum implementation. The study did not engage in the production of empirical facts about implementation. Instead what was developed was a framework, or theoretical model, for making intelligible the facts already available. The central foundation or data base for the theoretical model was the descriptive data procured from twenty-five research studies on implementation. Additional

evidence was drawn from numerous ancillary studies when further explication and elaboration was necessary to support or extend generalizations and categories emerging from the analysis of the central, descriptive data.

The methodology was labelled as an interpretative-theoretical type. The methodology consisted of four fundamental, interdependent, sequenced but distinct phases. Phase one, or exploration, established the general purpose, research direction, and definitional limits of the study. The second phase was one of description. This phase required a descriptive, enumeration of twenty-five curriculum implementation studies. This, in turn, produced the foundational data base of the study. Phase three, or categorization, produced the essential and necessary categories of the curriculum implementation process. These categories emerged through abstractions and generalizations from the descriptive data base, and were supported and extended by additional evidence derived from ancillary implementation studies.

The fourth stage of the study was the construction of a theoretical model that would represent the meaning

of curriculum implementation. In order to accomplish this purpose, the theoretical model provided explanations for the following research questions:

1. What are the component elements of curriculum implementation?
2. What is the purpose of curriculum implementation.
3. Who are the curriculum implementation actors?
4. How does implementation occur?

The study concluded that the curriculum implementation process is composed of four necessary categories of essential elements; three elements of substance and one element of process. The three substantive categories were the curriculum, the user, and the organization. Each element was determined to have a particular characteristic nature relative to curriculum implementation, and each to have a particular function to perform in the process of realizing implementation goals. The process category was identified as one of planning. This was a planning process for action, or more specifically instructional action, and was characterized by the mutual interaction of the three categories of substantive curriculum implementation elements.

The probable consequences, and intended purpose, of the implementation process were classified as one of mutual adaptation among the three substantive elements.

The two essential implementation actors were determined to be the curriculum user and the manager of the curriculum implementation process and implementation system. Finally it was concluded that implementation occurs as a consequence of the interactions of the three substantive elements during the process of implementation planning.

CHAPTER ONE

The Purpose of the Study

Introduction to the Problem of Curriculum Implementation

A plethora of curricula has been developed for virtually every area of education during the last two decades. Canadian and American educational scenes spawned such a myriad of curriculum projects that Carlson (1965) equated this development activity with the "advanced states of a revolution in education" (p. 3). This revolution in curriculum innovation was not the sole prerogative of North American education. Beauchamp and Beauchamp (1972) observed on the basis of an investigation of Western European educational systems, that in "recent years, curriculum innovation has become a major objective for school systems in many nations" (p. 1). However, it was not enough that new curricula were developed; they must also be put to use. Development was only a beginning. Consequently, a second major objective attendant upon the first was to have the innovative curricula used by the receiving organization, the school.

A customary assumption held by many educators has been that once a curriculum was developed, it

subsequently would be utilized in educational practice, and would affect that practice in the fashion intended by the developers. In 1970, Goodlad and Klein (1970) disclosed that this assumption held little truth. They posited that many of the most noted and recommended educational innovations were either dimly conceived or, at best, partially realized in schools claiming their use. Interestingly enough, it appeared that the "novel features seemed to be blunted in the effort to twist the innovation into familiar conceptual frames or established patterns of schooling" (p. 172).

Further research revealed that if an innovation were used initially, it seemed to have no apparent perseverance, and was not maintained by the receiving organization. Hoyle (1970) linked this to a condition of "tissue rejection", whereby an innovation, although formally adopted by a school, would not become an effectively functioning part of the total system (p. 2). Traub, Weiss, Fisher and Musella (1972) maintained that education was "littered with the remains of programmatic innovations that have ... all but disappeared" (p. 69). Mahan (1972) offered this analogy. "Misused, abused, and unused curricula are skeletons in the closets of most school(s)" (p. 159). In 1977, Benham, writing on

the failure of the era of curriculum reform, concluded that many of the innovations developed during the last two decades resulted in little, if any, change in the schools.

Consequently, a question emerges that demands viable, pervasive answers. Simply stated, it asks: Why do promising innovations often assume, at best, an inchoate realization in the schools?

The answer came from theorists and researchers investigating the problem of implementation. According to Gross, Giacquinta, and Bernstein (1971), most of these curriculum innovations were not, in fact, implemented. "Innovations introduced into schools are only proposals for change; to achieve their intended effects, they must be implemented" (p. 7). McLaughlin and Berman (1975) asserted that implementation, rather than such things as the infusion of money, the adoption of technology, or the availability of information, dominates the outcomes of curriculum innovation. "In short" wrote Fullan (1978), "what happens during implementation can make or break even carefully planned and generally accepted projects" (p. 8).

Hampson (1975) placed curriculum implementation under the rubric persistent dilemmas facing curriculum

developers and predicted that the phenomenon "will probably become the cause célèbre in education of the late 1970's and early 1980's" (p. 8). The fact that too few schools have been able "to surmount the barriers of implementation ... constitutes a perplexing challenge" concluded Beauchamp and Beauchamp (1975, p. 8).

Context of the Problem

A search of the educational literature reveals that the idea and practice of implementation have not enjoyed a lengthy history of research. Gross, Giacquinta, and Bernstein (1971) observed that curriculum implementation has suffered from a conceptual poverty (p. 8). Pressman and Wildavsky (1973) accentuated this condition.

There is (or there must be) a large literature about implementation in the social sciences - or so we have been told by numerous people. None of them can come up with specific citations to this literature, but they are certain it must exist... . It must be there; it should be there; but in fact it is not ... except for a few pieces ... we have been unable to find any significant analytic work dealing with implementation. (p. 166)

According to Leithwood and Russell (1973), one cause of this dearth of research is due to a situation in which a "disaproportionate amount of educational research and development resources has been and is presently being allocated exclusively to product development rather than to the implementation process" (p. 10). Kritek (1976) maintained that educational research has focused on change, diffusion, and adoption, to the exclusion of implementation. Such a paucity of implementation knowledge has been attributed by Fullan (1975) to the fact that "the implementation process has not been seriously addressed as a problem either by researchers or by practitioners of change" (p. 17).

However, during the last few years, some researchers in education and social science have turned increased attention to implementation and the concomitant problems involved in the practical use of innovations. Central to this interest has been an attempt to isolate those factors directly attributable to, or responsible for, the successes or failures in implementing curricula (Kritek, 1976, p. 86-87).

Unfortunately, an investigation of this emerging research reveals many different, often conflicting, conceptions of what is meant by implementation. Descriptive

definitions vary dramatically. For example, Beauchamp (1975) offers a definitive, prescriptive definition. Implementation is "a point of departure for teaching ... and ... represent(s) the merger of the curriculum system with the instructional system" (p. 164). Tyler (1975) considers that implementation is the operationalization of a curriculum plan (p. 31). Both Beauchamp (1975) and Tyler (1975) concentrate on the idea of teacher translation of curriculum. In comparison, Fullan and Pomfret (1977) present a multi-dimensional view of implementation activities assuming the nature of a predefined, complex social system (p. 336).

The four previous authors consider implementation as a means. In contrast, Van Meter and Van Horn (1975) perceive implementation to be an end. In their opinion, implementation has a political purpose and is equated with the achievement of objectives set forth in prior policy decisions (p. 445). Paul (1976) interprets implementation as a cognitive process whereby potential adopters are made aware of an innovation. He assumes that implementation is a synonym for diffusion, which possibly explains the assumptions inherent in his definition (p. 20). In addition, understanding is complicated by the multiple and apparently interchangeable

vocabularies that have emerged from the implementation research. Roose (1976) epitomizes this situation as she attempted to operationalize research definitions. In so doing she was forced to utilize the following terms in a circular and redundant relationship in the search for meaning: adoption, diffusion, dissemination, installation, and implementation (p. 7).

Statement of the Problem

It is apparent that many curriculum innovations introduced into school organizations will not yield their intended effects, will not foster desired change, or perhaps will not achieve any kind of practical existence. The central factor attributed to be a cause for this situation is the implementation process. Yet conceptualization of this educational phenomenon is in a neophyte stage. Many of the present, existing studies report competing persuasions relative to conceptualized meaning of the phenomenon and to procedures for educational practice. In turn, educational practice has experienced repeated problems and minimal success in curriculum implementation efforts. Recent research activity has explored implementation within a change context, and has minimized the significance of implementation activities to the total change process.

The essential problem is simply that curriculum implementation is suffering from a theoretical drought.

Zais, who includes curriculum implementation within the general category, curriculum (1976), underscored this argument.

At the present time there does not exist any well-developed theory of (or even for) curriculum ... in the ... area of model building, the picture is not very encouraging. Curriculum models ... have provided only general or gross representations of reality Consequently, models in curriculum ... have never developed the precision or detail needed to constitute a reliable basis for curriculum planning. (p. 93-94)

This is a malaise that has direct implications for educational practice, as there exists no concerted theoretical underpinning for practical deliberation. Such a situation can be likened to what Kaplan (1964) described as a disturbing situation; one that calls for theoretical activity in order to make sense of the disturbance (p. 295).

Purpose of the Study

Education has a need for cogent and pervasive speculation relative to curriculum implementation.

This phenomenon must experience critical examination in its own right, and in the scope deemed necessary to and commensurate with its importance.

The purpose of the study is to formulate a comprehensive, theoretical explanation for curriculum implementation. The specific objective of such theoretical activity is to aid the understanding of this aggravating condition in theory and praxis.

It is important to note that the study will not be engaged in the production of empirical facts about implementation, but will generate a new framework for making intelligible the facts already available. Katen (1973) contends that "understanding is not a matter of fact gathering but of interpretation of fact, and for that a theoretical framework or model is required" (p. 341). Therefore, the form adopted to represent the explanation of the phenomenon of curriculum implementation will be a theoretical model, the model for explanation.

Significance of Theoretical Activity

It was argued that curriculum implementation must be the subject of concentrated theoretical activity. The purpose of such activity is to aid understanding of implementation. From the processes of

theorizing and the consequential theoretical products, it is hoped that a system of thinking or a conceptual formulation will emerge. This formulation would be the product of a particular mode of theorizing and should offer a new way of looking at what is already known about curriculum implementation. In other words, the theorizing and its product should provide a new framework in terms of which facts can be understood or interpreted.

The theorist, said Toulmin (1953), does not search for new facts, but for new interpretations of the facts (p. 21). A discipline that restricts itself solely to the endeavor of amassing facts is in an early, formative stage. Maturity emerges with the discovery of new rules of inference and interpretation, rather than new facts. Breakthroughs in knowledge are really made when what is gained is a new perspective for understanding old problems or old facts. Toulmin (1953) contended that the premise of explanation is never factual; rather, it is a somewhat metaphorical model that provides for explanation (p. 20ff). Hanson (1958) underscored this contention in reference to theory in the natural sciences.

Fundamentally physics is primarily a search for intelligibility - it is philosophy of matter. Only secondarily is it a search for objects and facts. ... Microphysicists seek new modes of conceptual organization. If that can be done the finding of new entities will follow. Gold is rarely discovered by one who has not got the lay of the land. (p. 18)

As Katen (1973) observed, facts are meaningless in and of themselves. To understand what knowledge means, it must be interpreted and for this a theoretical framework or model is required (p. 341). In conclusion, it is expedient to paraphrase Beauchamp (1975) who stated that the use of models for directed thinking and explanation, and the thrust of theory-oriented research are evidence of a condition of healthy activity in education (p. 53).

Organization of the Study

The study is organized into five subsequent chapters. Chapter two discusses the methodology of the study which is termed an interpretative-theoretical type of research investigation. The method consists of four phases; namely exploration, description, categorization, and explanation and theoretical model construction.

Chapter three embodies the descriptive phase of the methodology. In this phase twenty-five representative studies on curriculum implementation are described in order to procure the data base for the development of a categorization scheme. Chapter four encompasses the creation of curriculum implementation categories which are inter-related in chapter five into a theoretical model which purports to explain the meaning of curriculum implementation.

Chapter six concludes the study by questioning the adequacy of the implementation categories and the theoretical model and by suggesting implications to educational practice and research.

CHAPTER TWO

Methodology

Introduction to the Theoretical Method

The study is considered to be theoretical in purpose and in method. According to Halpin (1958), the act of theorizing is one of "creative imagination" (p. 5). It is not a normative activity, but is a process that is peculiar to each theorizer. The consequences of theorizing, perhaps a theory or a theoretical model, do not "come in a standard brand; we find them in packages of different size and shape, wrapped in different ways, and labelled differently" (Halpin, 1958, p. 5). Each process of theorizing, concluded Halpin (1958), follows different "courses of development and grows at different rates" (p. 6).

The theorizing of the study is adapted from what is generally classified by de Groot (1969) as an interpretative-theoretical type of research investigation (p. 309). Such a method incorporates, in an integrated fashion, descriptive and interpretive analyses which precede classification and explanation of a particular phenomenon. This mode of investigation is necessitated when investigative questions cannot be answered either

by experimental or alternative modes of research or by existing, recognized educational theories. This type of methodology produces conceptualization in a theoretically fruitful and acceptable fashion, and is grounded in rigor of procedure and precise criteria for data analysis.

The interpretative-theoretical study, in its pure form, is non-empirical and does not attempt to produce new data relative to the phenomenon under investigation. "Essentially, this type of study consists of the interpretation and theoretical evaluation of a closed set of findings" (de Groot, 1969, p. 309). Therefore, the study will explore and utilize as the data base that which is known about curriculum implementation and is reported in the educational literature.

It is recognized that any methodology imposes form on the nature of the data collected. This requires not only the clarification of the imposed form, but an awareness of the purpose of the methodology and implications for the interpretation of the phenomenal experiences presented in the amassed data. Cicourel (1964) posited that the basic problem which the goal of interpreting meaning sets for the theorizer is to require him to treat as problematic not only the data acquired, but equally his own unexplicated reliance on

methodological procedures for selecting and making sense of the data (p. 172-188). The methodology must explicate how the theorizer decides what data underpinnings are relevant to the study and how the data are manipulated for the resolution of the investigative questions.

From the collection of curriculum implementation data, the study will attempt to find and establish relationships by means of application of a specific conception or view. The methodology cannot be considered random, whimsical, or solely intuitive. It is guided in a rigorous fashion by investigative research questions which, when resolved, should provide insight into curriculum implementation and contribute to the knowledge about the phenomenon.

It is the objective of this chapter to discuss the methodological steps in the treatment of the research underpinnings or data, and the procedures and criteria by which explanation of the meaning of curriculum implementation is generated and consequentially represented in the form of the theoretical model.

The methodological process consists of four fundamental, interdependent, sequenced, but distinct phases which are as follows:

Phase One: Exploration

Phase Two: Description

Phase Three: Categorization

Phase Four: Explanation and the Construction of
Theoretical Model

Each phase of the interpretative-theoretical methodological procedures will be discussed separately and in detail.

Phase One: Exploration

The exploratory phase of the study provides the framework within which the research activity will be performed. The purpose of the study is to formulate a comprehensive theoretical explanation for curriculum implementation. The purpose is recognizably broad and hence must be interpreted with more precision and clarity in order to direct the research's data collection and analysis procedures. Therefore, the exploratory phase, which will be presented in the following paragraphs, consists of specific research guidance in the form of research questions, the definitional boundaries, and the nature of the literature review.

Research questions. In order to achieve the study's purpose, it is necessary to analyze curriculum implementation as reported in the educational literature

via the direction of more specific, rigorous, and precise research questions. Essentially, the study is attempting to search for an explanation of the meaning of curriculum implementation. This requires inquiry into what curriculum implementation is and of what elements it is composed, what the purpose is, who the curriculum implementation actors are, and how implementation occurs. Therefore, the central research question is: What is the meaning of curriculum implementation? Subsumed within this general question are four dimensions of meaning. These dimensions are explored via four research subquestions which are:

1. What are the component elements of curriculum implementation?
2. What is the purpose of curriculum implementation?
3. Who are the curriculum implementation actors?
and
4. How does implementation occur?

Basic definitions. In order to be able to extract from the educational literature examples of curriculum implementation activities, the researcher must be able to recognize curriculum implementation, and must be able to identify implementation from other kinds of

change processes. Thus, the study accepts the following needed operationalized definitions:

1. Curriculum: a written plan depicting the scope and arrangement of the projected educational program (Beauchamp, 1975).

2. Instruction: the action process of influencing learners toward some goal derived from the curriculum (adapted from Hosford, 1973).

3. Adoption: the decision to use or to go ahead with the use of a curriculum (adapted from Fullan, 1975).

4. Curriculum Implementation: the process of using a curriculum within a schooling context.

The definitions clearly suggest a separation between curriculum and instruction. Curriculum does not incorporate instructional activities within its explanatory or definitional range. Also, adoption is a decision that occurs prior to implementation, and is not part of the implementation process. In other words, adoption is a necessary precondition for curriculum implementation.

Curriculum implementation denotes the use of a curriculum only and must not be confused with organizational implementation which implies the use of a

specific type of organizational pattern within a schooling context. However, an adopted curriculum could possibly be one part of a greater organizational implementation process. For example, Naumann-Etienne (1974) and MacKillican (1975) purportedly analyzed curriculum implementation subsumed within the greater process of organizational implementation.

Data sources and literature review. From an investigation of the research literature, it can be concluded that curriculum implementation studies were virtually non-existent prior to 1968. This contention is corroborated by Fullan and Pomfret (1975) who also proposed that the significance of curriculum implementation research crystalized with the singular import of the case study on implementation failure by Gross, Giacquinta, and Bernstein in 1971. For the present purposes, initial investigation of the literature will commence with the research of Krey (1968) and will terminate with the latest reported studies available in 1978.

This review of the available literature on curriculum implementation has a time span of ten years, from 1968 to 1978. The sources will be selected so as to include the writings and research of a widely

diversified group of authorities. The data procured will predictably range in type from descriptive surveys, biographical, historical, and statistical reports, quasi-experimental researches, evaluation and judgmental articles, to conceptualizations.

Five criteria will serve in the selection of sources that will compose the data base; namely,

1. Authors/researchers recognized as authorities by the professional community;

2. Authors/researchers contributing to scholarly journals and periodicals;

3. Authors/researchers included in the selected bibliographies of the scholarly literature of the profession;

4. Authors/researchers reporting historical and empirical evidence based on sound methodological procedures and data bases; and

5. Authors/researchers reporting sound conceptualizations that have been subjected to empirical/logical tests of validity.

Phase Two: Description

The descriptive phase or primary data collection phase of the study purports to record perceptions of the phenomenon of curriculum implementation as it is

documented in the literature. The phase will expose similarities, discrepancies, and peculiarities among diverse research on implementation. Essentially, attention will be focused on observations of conditions and relationships that exist; practices that are prevalent; assumptions, predilections, or interpretations that are espoused; and processes that occur.

The process of description is not merely the collection and enumeration of observable and describable evidence in a haphazard fashion. It is one characterized by focus and direction. According to de Groot (1969), the descriptive portion of a theoretical study must employ an explicitly stated, and defensible, systematic method to register the phenomenal evidence encountered in the literature.

Integral to description is the rigorous and objective enumeration of reported curriculum implementation incidents. This necessitates a precise procedure for the faithful rendition of descriptive data. It is this data that functions as the core or foundational evidence for the subsequent process of data classification.

Adopted as an operational definition of curriculum implementation is the following statement: curriculum

implementation is the process of using a curriculum within a schooling context. Implicit to the definition is the concept of a single, unitary process that can be perceived and consequently described. In addition, the definition implies that curriculum implementation can be abstracted from some larger segment of experience, namely schooling.

Given this operational definition of curriculum implementation, three questions arise relative to this single, unitary process. They are: What is the process germane to curriculum implementation? Second; when does this process occur? Last, where does this process occur? These questions, when applied, should interpret the phenomenon as a whole, but will not subject it to scrutiny on the nature of subordinate or component parts, conditions for existence, and the consequences of existence.

Therefore, the literature review will be guided by the three questions that were spawned in the operational definition of curriculum implementation. Only those studies that will provide evidence to answer all three questions will assume the role of the data base.

This specific phase of the study is an essential and requisite theoretical task. The emergent picture of curriculum implementation must be as accurate and specific as possible. It is this picture that functions as the empirical referent for the formulation of a categorization scheme for curriculum implementation.

Phase Three: Categorization

Essential to the task of generating an explanation for curriculum implementation is the development of a specific conception or view of the phenomenon. Such a conception is customarily termed a categorization or classification scheme. The purpose of classifying phenomena wrote Bruner (1967) is to render discriminably different things as if equivalent (p. 231). Once phenomena are grouped into classes, one can subsequently respond to them, and act upon them, in terms of their category or class membership rather than their individual uniqueness. Meaning, Bruner (1967) concluded is to be derived from the application of the category to specific examples of a phenomenon which renders the examples understandable.

In relation to events in the empirical world, Rickman (1967) explained that a category usually deals

with certain phenomena or with specified elements and processes of a phenomenon. As well, a category can represent relationships and interdependencies among the various phenomena, or component elements. When understood in their totality, a set of categories representing a phenomenon, phenomenal elements, and processes, will then "constitute and illuminate the meaning" of the phenomenon as a whole (Richman, 1967, p. 19).

The mental activity of category development is an act of invention. The objects and events of the real world do not present themselves in logically, classified arrangements. The categories into which the world is divided are categories into which one divides the world. This is not to say that the activity of classifying is random, whimsical, and without rational thought. On the contrary, category formation is a rigorous, analytical process. But, under given conditions, it can be a process that is considered to be at the predilection of the individual researcher. de Groot (1969) posits that if a research is concerned with original theorizing in a relatively unexplored area, or if it endeavors to design a new or modified scheme for interpreting an old problem, then the researcher has a large measure of freedom in

developing the categories (p. 58). Possibly, a novel scheme could be borrowed from other sciences or from philosophy, but the risk of this procedure is that "an unsuitable or unfruitful ... framework may be forced upon a given field" (p. 50).

The specific purpose of a categorization scheme for this study is to provide a way of organizing the diverse, voluminous descriptive data on curriculum implementation in a coherent, useful, and meaningful fashion. Posner and Strike (1976) asserted that if any categorization scheme is to be functional, it must efficiently organize and clarify thought about a particular phenomenon.

Bruner (1967) stated that categories reduce the complexity of the world. Through abstracting defining properties, groupings are made, and through the groupings, specific objects of the world are identified. To put it simply, categorizing events or objects as a member of a class, gives them identity.

Categorization is a directed activity. Malinowski's (1923) fundamental assertion was that any classification scheme must emerge in accordance with a particular need or purpose. Relative to this study, the categories will

be developed in order to answer the four specific research questions seeking an explanation of the meaning of curriculum implementation. Thus, the primary source for creation of a categorization scheme will be the answers to the following:

1. What are the component elements of curriculum implementation?
2. What is the purpose of curriculum implementation?
3. Who are the curriculum implementation actors?
- and finally,
4. How does implementation occur?

The categories, and the inter-relationships thereof, to be adequate, must resolve the study's research questions.

Posner and Strike (1976) provided a second source for the derivation and creation of the categories. "The category scheme should incorporate what appears, from description, to be the major distinctions in or about the phenomenon" (p. 667). Therefore, the categorization scheme must eventuate from the descriptions of curriculum implementation as provided by the research literature. In effect, the data culled from the descriptive

phase of the study will be analyzed for the sole purpose of category development.

It is significant to note that the categories to emerge from the descriptive data will not be perceptual or empirical categories. The research questions demand a conceptualization of curriculum implementation and, as such, will require categories of a conceptual nature. Posner and Strike (1976) make this explicit by their explanation that the main distinction on which a category scheme is constructed is the distinction between the world and the language and concepts used to think and to talk about the world; in other words, between the empirical and the conceptual (p. 667). Consequently, the categories that will provide meaning for curriculum implementation can be considered to be conceptual, as opposed to perceptual, in nature.

According to Alexander (1972), the processes of developing a conceptual, categorical scheme are basically three: analysis, abstraction, and generalization. Literally, analyzing means loosening up or unravelling. To rephrase Alexander's (1972) argument, analyzing is the separate examination of the components of a phenomenon such as curriculum implementation for the

purposes of discovering its internal construction and function. An analysis of the description of an activity or process requires the abstraction of the components by directing attention to each component, one at a time, and in various combinations in order to determine their functional relationships. Abstraction means to focus attention on parts and aspects one at a time, and consequently, to break down the whole, or to analyze. This interpretation can be likened to that of Whitehead (1925) who said that "each mode of abstracting is directing attention to something which is in nature; and thereby is isolating it for the purpose of contemplation" (p. 173).

The actual process of grouping items together to form a category is one of generalizing. Alexander (1972) posited that all categories are in themselves a generalization, which is the product of the act of generalizing. In effect, that which provides the essential characteristic of a category is some generalized, recognized common similarity among category or class members.

Adequacy of categories. de Groot (1969) observed that a major peculiarity and condition of all

classification schemes is that they are partly based on obvious descriptive criteria springing from the phenomenon itself, and second, they are partly based on presumably significant, more abstract viewpoints (p. 667). Malinowski (1923) provided the third stipulation in his statement that a classification scheme must emerge in accordance with a particular need or purpose.

It is apparent that variations in schemes could possibly develop from the curriculum implementation descriptive data, given the previous three characteristics of category schemes. Because of the concern for the acceptability and plausibility of this study's intended categories, certain necessary conditions will be advanced to provide hopefully for adequate curriculum implementation categories. From a study of relevant literature the following conditions were abstracted and are to be considered as fundamental to the development of the proposed categorization scheme:

1. Sufficiency in that the categories correspond to, and can be generalizable from empirical events (Posner and Strike, 1976; Alexander, 1972; Hall and Lindzey, 1970; Halpin, 1958);

2. Originality in that the categories are seminally founded in the description of the phenomenon (Posner and Strike, 1976; de Groot, 1969);

3. Consistency in that the categories are logically consistent with one another (Halpin, 1958);

4. Exclusivity in that the categories are mutually exclusive of one another (Halpin, 1958);

5. Significance in that the categories provide a presumably innovative, different way of explaining the phenomenon (de Groot, 1969);

6. Power in that the categories have the ability to render meaningful a phenomenon (Rickman, 1967); and

7. Generation in that the categories can generate propositions and hypotheses to be subjected to future empirical tests (Halpin, 1958).

Phase Four: Explanation and the Construction of Theoretical Model

Explanation of curriculum implementation will emerge from an understanding of the relationships among the categories developed in the preceding stage of this study. According to Rickman (1967), when understood in their totality, a set of categories representing a

phenomenon will "constitute and illuminate the meaning of [that] phenomenon" (p. 19). de Groot (1969) proposed that explanation

attribute[s] phenomena in a given sample to the functioning of a law in a universe - which may or may not be precisely defined - under which the sample is subsumed. ... In an explanation both the functioning of the law in the universe and the legitimacy of the subsumption are accepted.

(p. 44)

In other words, one determinate of explanation is the validity of the law or conception from which the data were analyzed. The second determinant is concerned with the logical deductive processes through which conclusions are formulated from the application of the law. It is not an objective to become involved in a debate on the nomethetic implications from the use of the word law by de Groot (1969). The concern is to assert that law in this case can be considered relative and, hence, analogous, in this study, to the devised categorical scheme. Therefore, an adequate explanation is attendant upon two factors: the adequacy of the categorical

scheme and the adequacy of the process in utilizing the scheme to explain, to give meaning.

The vehicle that will be utilized to convey the relationships among the curriculum implementation categories is the theoretical model. It is the form that will function to explain the total meaning of the phenomenon of curriculum implementation.

Model construction, the final stage, is not a simple, haphazard affair, but is a complex process determined by predefined conditions. Theorists and researchers often use or formulate models from their investigations but few stop to reflect on the implications of such use to their efforts, or on the pre-suppositions upon which model use and model construction are founded (Nuthall and Snook, 1973). One putative assumption held by many is that a model is, to use Read's (1955) expression, an icon. In this sense the icon can be an image, sign, or symbol which reflects some other, or original, thing. The icon could be a deliberate representation for a known phenomenon, for something partially or wholly unknown, or an illusory image of an ideal. It is further supposed that models can serve a myriad of purposes, assume a variety of

roles, and be the product of diverse, and perhaps scholarly procedures. As Belth (1965) put it,

Models can be objects; they can be pictures; they can be verbal descriptions; they can be masks, or abstractions like line drawings. Models can be of single events or of relationships of whole universes. They can refer to objects in time and place; they can refer to laws which describe the sequence and order of events; they can be purely theoretical in their reference, offering a model of concepts... . Sometimes an entire philosophical system functions as a model. (p. 91)

Types of models. The aim of this section is to examine briefly the generalized types of models and assumptions, analyze in depth the particular type or category of model generated in this study, and in so doing, justify the selection of type, and consider the criteria on which model construction is founded.

Black (1962) developed a four-category, classification system for the many types of models in existence. Identified were scale or representative models, analogue models, mathematical models, and theoretical models (p. 219-243).

A scale model simply reproduces usually at a different size, the original phenomenon. The model covers all likenesses of the original and preserves relative proportions. Black (1962) contended that a scale model is always a model of something concrete, but because there is a change of scale, elements of irrelevance and distortion are introduced. Hence, he warned that, "Inferences from a scale model to original are intrinsically precarious and in need of supplementary validation and correction" (p. 221).

An analogue model involves a change of medium. Black (1962) defined an analogue model as "some material object, system or process designed to reproduce as faithfully as possible in some new medium the structure or web of relationships in an original" (p. 222). In this sense, an analogue can be considered abstract, while the scale model is purely a concrete representation. The purpose of an analogue is not explication, but comparison to or imitation of the original phenomenon.

A mathematical model is descriptive and represents in a sample fashion the form and function of

the phenomenon that fits the available data. Black (1962) explained.

The advantages of [this] procedure are those usually arising from the introduction of mathematical analysis into any domain of empirical investigation, among them provision in formulating relations, logical function, ease of inference via mathematical calculation, and intuitive grasp of the structures revealed.

(p. 225)

A mathematical model is concerned with quantifiable calculations of the internal inter-relationships of the component parts of the real or original phenomenon.

It is accepted that scale, analogue, and mathematical models represent and describe, to a lesser or greater degree, a phenomenon. Although many types of models are capable of description or imitation, few are able to explain an empirical phenomenon. This is the purpose of the theoretical model. The theoretical model exists to explain; and from explication, to give rise to meaning. As the purposes of the study focus on meaning, the form adopted to represent this meaning will be a theoretical model.

Towards an understanding of a theoretical model.

A theoretical model, or theoretical construction, according to Beach (1957), is conceptual, as opposed to empirical, but is derived from the empirical reality (p. 3). Such a model, argued Belth (1965), is generated from the processes of thinking about a particular empirical phenomenon (p. 89). Caws (1974) and Lutz (1975) equated the theoretical model to an abstract conceptual structure. Similar propositions led Nutini (1970) to suggest that theoretical models are, in fact, supra-empirical (Caws, 1974, p. 2). The theoretical model is not simply the consequence of idle speculation about a phenomenon, but is grounded in sound, acceptable phenomenal descriptive data, and is generated from a rigorous analysis of the data base. The model stands for, or represents, the conceptual meaning that is derived as a consequence of the analysis of the data base. Representation implies that the features of the model are substituted for the combined features of the descriptive data and the subsequent categorical explanations from the data analyses process. The model, so constructed, is the conceptual representation of the meaning of the phenomenon.

To be an accurate representation of the phenomenon in the empirical reality, certain conditions of congruence must exist between the model and its subject or original; in this case the described phenomenon of curriculum implementation. According to Dubin (1969), congruence implies that the model will have clearly defined boundaries that correspond to the phenomenon's empirically described boundary. A boundary functions to distinguish the phenomenon from its context (p. 9). As a consequence, concluded Cohen (1968), the theoretical model will "circumscribe and isolate a number of areas of reality" (p. 15). The boundary established by the model gives rise to what Le Doux and Burlingame (1973) termed the model's explanatory range (p. 62). Hence a model can only explain those other phenomena which have the same boundaries and contexts as the originally described phenomenon. The theoretical model cannot explain other phenomena external to the prescribed boundaries, for these phenomena, in actuality, escape the explanatory ability of the model.

The proposition of congruence led Kaplan (1964) to contend that a theoretical model must be characterized by the quality known as isomorphism (p. 264). To be an

isomorph, the model must correspond to the structure, but not the substance, of the original phenomenon. Caws (1974) explained that the theoretical model must represent conceptually the elements and the relationships among the phenomenal elements, but will not consist of the substance of the original. He presented this analogy to aid understanding.

A model of a brick house may be realized in matchsticks or cardboard; its fidelity to the original will be judged not by its brick-like qualities but by the relative distribution of the walls and roof, the enclosed volumes, and so on. (Caws, 1974, p. 1)

The theoretical model, as isomorph, being a conceptualization, portrays the phenomenal elements and relationships through the mode of the category. These mental structures or categories represent what is perceived in the phenomenon. Consequently, the theoretical model or the conceptualization represents categories and categorical relationships which, in turn, stand for phenomenal elements and structures. The curriculum implementation model will represent a conceptualized understanding of the description

presented as examples of curriculum implementation events. Lutz (1975) explained that theoretical models set the empirical elements in relationship to one another by setting the "theoretical" concepts in relation to one another (p. 77). In this way, wrote Belth (1965), "These elements are not only given meaning by models, but they exist in them" (p. 90).

Isomorphism refers to the correspondence between the conceptualization and the empirical. For a theoretical model to be an isomorph, Brodbeck (1959) provided three fundamental and necessary conditions.

1. There must be a one-to-one correspondence between the conceptual elements of the model and the elements of the empirical phenomenon of which it is a model;
 2. Certain relationships or structures are preserved;
 3. The model must be based on the same principles or assumptions as the original.
- (p. 374)

As an isomorph, the theoretical model must correspond to the logic in empirically described phenomena. This necessitates, argued Handy and Kurtz (1964),

logical integration and supports among the elements of the model, and logical compatibility between model and original phenomenon. (p. 154). This is extended by Rivett (1972), who emphasized the internal logic of the model within a consideration of the condition of isomorphism. He advocated that a theoretical model is "a set of logical relationships, either qualitative or quantitative, which will link together the relevant features of the reality with which we are concerned" (p. 9). In this way, asserted Parsons (1961), inference from one part of the model to another becomes possible, as well as inference from the theoretical model to corresponding phenomena in the real world (p. 137).

The validity of any inference or interpretation made from the application of the model to subsequent realities therefore is directly dependent upon the degree of congruence between the constructed theoretical model and the original phenomenon. In other words, to reiterate Brodbeck's (1959) qualification, there must be a one-to-one correspondence between the conceptualization or model and the original.

It is important to note that the characteristic of isomorphism between model and phenomenon yields standards of critical judgment. Black (1962) explained that "In appraising models as good or bad, we need not rely on the sheerly pragmatic test of fruitfulness in discovery; we can, in principle at least, determine the 'goodness' of their fit" (p. 238).

From a reflection on the characteristics and qualifications that have emerged from the literature relative to those necessary conditions for a theoretical model, it can be summarized that a model, to be theoretical, is an expression of conceptual thought that can be portrayed in symbolic form in order to be communicated. Further, the form must correspond to the elements and concomitant boundaries of the perceived real phenomenon, and must be founded on the same basic assumptions, or principles, as those underpinning the phenomenon.

Black (1962) stated that once constructed, a theoretical model enables one to interpret and explain that which previously escaped explication (p. 236). For this reason theoretical models have been termed explanatory models by both Caws (1974) and Lutz (1975)

and interpretive frameworks by Nuthall and Snook (1973). Belth (1965) summarized that "Models facilitate the examination of events or concepts which would otherwise be beyond us. They make explanations possible, or they offer explanations, and thus they are the basis of interpretation" (p. 91).

Once translated into universal symbolic form a theoretical model can make possible a visualization of a conceptualization. Therefore, the theoretical model generated in this study will make possible the symbolic visualization of the meaning of curriculum implementation. Subsequently, the model can be communicated, can become the subject of criticism and debate, can be openly defended and, if warranted, modified and improved.

For the purpose of this study a model is not to be confused with a theory. A model is recognized here to be essentially a conceptual tool that can be utilized to construct theories. Therefore, this can be considered as one possible additional purpose of the theoretical model — a means to a subsequent end, a fully-integrated, verified, and soundly developed theory.

To summarize, the theoretical model should make known the previously unknown or to make explicit the

previously misunderstood. A model could reveal new relationships within previously known data; to put old content into new bottles as it were. From this, a model adopts the quality of suggestiveness as it gives rise to new questions. The theoretical model provides one way of understanding the meaning of the given phenomenon, curriculum implementation. It is one distinctive method to achieve insight, and is not to be construed, asserted Black (1962), "as an ornamental substitute for plain thought" (p. 237).

Summary

The objective of this chapter has been to explicate the theoretical tasks attendant to an interpretative — theoretical study. The methodology was described as being composed of four interdependent stages: namely, exploration, description, categorization, and explanation and theoretical model construction. The procedure to achieve this purpose was demonstrated to be systematic, characterized by comprehensiveness in scope and rigor in method.

It was argued that explanation was dependent upon an adequate categorical scheme and logical processes of applying the scheme in the analysis of descriptive data

on curriculum implementation. This necessitated an in-depth discussion relative to the conditions fundamental to the development of the categorical scheme.

The purpose of this study is to formulate an explanation of the meaning of the phenomenon of curriculum implementation. In effect this formulation, represented in theoretical model form, will comprise a new way of thinking about the phenomenon; a new way of interpreting what is perceived by researchers and described in their studies as curriculum implementation.

CHAPTER THREE

Description of Curriculum Implementation Studies

Introduction to the Process of Description

The descriptive phase of the study classifies perceptions of the phenomenon of implementation as it is documented in the literature. Essentially, the phase is concerned with what is described as practices of curriculum implementation within a school setting. Integral to the process of description is the interpretation of what is described. This necessitates a precise procedure to collect and to organize descriptive data.

Twenty-five representative data sources on implementation are examined in the chapter. The majority of these data sources are concerned specifically with curriculum implementation, although positions describing instructional and organization implementation are incorporated. Many of the studies are different in methodology and conceptual basis. Situational conditions such as receiving organizational structures and climates, and philosophical assumptions vary among the sources. The intent is to present as broad and diverse a foundation as possible from which

descriptive data will be procured. It is this data that will subsequently function as the base for the development of a categorical scheme for curriculum implementation. Table 1 lists each representative source by author(s), title, and date of publication.

The descriptive data procured from each representative implementation study will be extracted from the source materials in a definitive and prescribed fashion. The data will be derived in order to answer the following three questions:

1. What is the process germane to curriculum implementation?
2. When does the process occur?
3. Where does the process occur?

Only those studies providing answers to the previous three investigative questions will be incorporated into this theoretical phase.

The representative studies are sequenced in a loose but general fashion commencing with those advocating a fidelity orientation to curriculum implementation and terminating with those studies espousing mutual adaptation as a goal.

The analysis of the culled data is not the objective of this phase of the study. Stringent and

Table 1
Representative Data Sources for Description
of Implementations

Author(s)	Title	Publication Date
1. Gross, N., Giacquinta, J., & Bernstein, M.	Implementing Organizational Innovations	1971
2. Winklevoss, C.J.	An Analysis of Implementation as Related to an Educational Innovation	1975
3. Brantley, P.S.	Implementing Class- room Innovation: A Case Study of the Relationship Between Teacher Receptivity, Degree of Imple- mentation and Selected Innovation Variables	1975
4. Krey, R.D.	Factors Relating to Teachers' Perceptions of Curriculum Imple- mentation Activities and the Extent of Curricular Implementation	1968
5. Roose, C.A.	The Process of Implementing a Curriculum Innovation	1976

Table 1
(continued)

Author(s)	Title	Publication Date
6. Center for Educational Field Studies, Washington University	A Project for the Analysis, Development, Implementation, and Diffusion of the New Social Studies Curricula	1970
7. Regan, E.M., & Leithwood, K.A.	Effecting Curriculum Change	1975
8. Mahan, J.M.	Frank Observations on Innovation in Elementary Schools	1972
9. Leithwood, K.A., & Russell, H.H.	Focus on Implementation	1973
10. Leithwood, K.A.	A Decision-Oriented Strategy for Curriculum Implementation	1976
11. Beauchamp, G.E.	Curriculum Theory	1975
12. Hall, G.E., Wallace Jr., R.C. & Dossett, W.A. (University of Texas R&D Center)	A Developmental Conceptualization of the Adoption Process Within Educational Institutions	1973
13. Farrington, J.A., Hall, G.E., Manning, B.A., & Wallace Jr., R.C. (University of Texas R&D Center)	Representative Incidents in the Adoption Process	1974

Table 1
(continued)

Author(s)	Title	Publication Date
14. Loucks, S.F., & Hall, G.E. (University of Texas R&D Center)	Assessing and Facilitating the Implementation of Innovations: A New Approach	1977
15. Hall, G.E., Loucks, S.F., Rutherford, W.F., & Newlove, B.W. (University of Texas R&D Center)	Levels of Use of the Innovation: A Framework for Analyzing Innovation Adoption	1975
16. Fullan, M.	Implementation: Its Nature and Determinants	1975
17. Fullan, M., & Pomfret, A.	Research on Curriculum and Instruction Implementation	1977
18. Musella, D.	Conflicting Attitudes and Change Implementation	1971
19. Shipman, M.D.	Inside a Curriculum Project	1974
20. Nicodemus, R.B.	Dissemination of Information About Educational Innovation	1976
21. Nicodemus, R.B.	Why Science Teachers Adopt New Curriculum Projects	1977

Table 1
(continued)

Author(s)	Title	Publication Date
22. Berman, P., & McLaughlin, M.	Implementation of Educational Innovation	1976
23. McLaughlin, M.	Implementation as Mutual Adaptation: Change in Classroom Organization	1975
24. McLaughlin, M. & Berman, P.	Critical Processes in Implementation	1975
25. Dalin, P.	Case Studies as an Approach to Analyzing Educa- tional Change	1975

rigorous abstraction and generalization from the data will be the prior purpose of the category phase of the study and will assume the substance of chapter four.

Representative Studies

Gross, Giacquinta, and Bernstein (1971) advanced the significance of role behavior or role performance to implementation, and postulated that there is a direct relationship between organizational behavior of members and implementation success. Specifically stated their assertion was that the degree of implementation is "the extent to which, at a given point in time, the organizational behavior of members conforms to" an innovation (p. 16). In other words, implementation of an innovation, whether it be curricular or otherwise, demands ostensible behavior change by the organizational members involved in the implementation process. The organization is the individual school unit.

Moreover, this behavior change must be congruent with the behavior patterns implicit to the innovation. Thus, the degree of implementation is directly correlated with the degree of congruency between required or prescribed roles, and actual performed roles within the organization. Of note then, is the

implied assumption that the purpose of implementation is fidelity to curricular prescriptions.

Gross, Giacquinta, and Bernstein (1971) recognized three fundamental stages or periods of time within a planned, organizational change process; namely,

1. the period of the initiation of an organizational innovation, which covers the period of time in which a particular innovation is selected and introduced, i.e., adopted into an organization;
2. the period of attempted implementation which begins after the announcement that an innovation will be adopted and focuses on efforts to make the changes in the behavior of organizational members specified by the innovation; and
3. the period of incorporation, during which an innovation is incorporated into the organization; the period when a change that is implemented becomes an enduring part of the operation of the organization. (p. 17)

Basically, implementation which is action-oriented is preceded by initiation or adoption, which is decision-oriented, and followed by incorporation,

which is norm-oriented. If, during the implementation process, the organizational members affected by the innovation, in other words, the users, do not alter their role behavior as intended, then the total implementation process disintegrates.

The roles affected by implementation are those of the teacher and organizational manager, or administrator as it were. Primary in importance is the teacher role, as it is the teacher who acts upon adoption decisions and who must incorporate innovation demands into previously recognized role definitions. Management is "an important segment of a subordinates role set" within implementation (Gross et al., 1971). The generalized role of management is to establish, and maintain, facilitating subordinate implementation activities.

Gross, Giacuinta, and Bernstein (1971) proposed, from their research conclusions, a model for implementation. The model suggests that the degree to which a curriculum or any other program is implemented is a function of the extent to which five generic conditions are met and maintained during the time period of attempted implementation. These conditions are as follows:

1. Understanding — all users of the curriculum should have a complete and clear understanding of the philosophy, objectives, design and associated technologies of the curriculum.

2. Necessary Skills and Training — all users should possess either the basic skills needed to perform the behaviors implicit to the curriculum or the capability to learn said skills.

3. Necessary Resources — there should be available the needed and necessary human, physical, and technical resources germane to use of the curriculum.

4. Compatibility of School Arrangements — there should be compatibility between existing school organizational and administrative structures and those implied by the curriculum.

5. Willingness to Implement — there should be continuous maintenance of user willingness to devote energy and time to the understanding of, and consequential use of, a curriculum.

The authors acknowledge that their research is not testing theory but is capable of generating theory. With this possibility in mind, they propose that their model can be considered as a theoretical framework that

conceptualizes implementation as a complex process, involving a set of dynamic and inter-related circumstances and actors (p. 205). To verify their theory, the authors express the exigency for replicative studies and further empirical investigations. Two researches pursuing the theorizing of Gross, Giacquinta, and Bernstein (1971) are the subsequently analyzed case studies by Brantley (1975) and Winklevoss (1975).

The conceptualization of Gross, Giacquinta, and Bernstein (1971) was utilized in the research by Winklevoss (1975) for two purposes. First, to design an implementation process for receiving a curriculum innovation within a school unit, and second, to investigate the degree to which implementation was achieved.

Implementation was defined by Winklevoss (1975) in a manner consistent with the Gross and associates (1971) position. Implementation is a process which follows the initiation of a curriculum innovation and involves the changed behavior (role performance) of organizational members so that it conforms to the behavior specified by the curriculum (p. 25). However, Winklevoss (1975) separated the ends and means of the

implementation process. She acknowledged that there are two facets to implementation; one that is obtained or achieved, while the other is continuously in the process of being obtained or achieved. Clearly, differentiation is made between product, or goal, and process and each is regarded as mutually exclusive. Accepted is the Gross, Giacquinta, and Bernstein (1971) proposition that the goal of implementation processes is fidelity to curriculum goals. Therefore, the desired product of implementation processes is observable role performance consistent with those prescribed by the curriculum.

Relative to the first research purpose, Winklevoss (1975) designed an implementation process based on the five conditions of implementation ((a) understanding; (b) necessary skills and training; (c) necessary materials and resources; (d) compatibility or organizational (school) arrangements; and (e) maintenance of willingness to implement the particular innovation) postulated by the theoretical model of Gross et al (1971), with particular attention to the relationship of teacher attitudes to implementation.

Foremost in the study's conclusions was the assertion that precise and purposeful planning is

fundamental to any successful implementation endeavor. Second, it was "found that achieving implementation is a more complex issue than may be suggested by" the Gross and associates' (1971) model for implementation (p. 328).

Central to implementation is recognizing the dynamic quality of each condition and the fact that all needs cannot be predicted in planning for implementation. The key is in using the model's framework as well as providing for monitoring and feedback which further define these conditions. In addition, it was found that the individuality of an innovation and all the related factors, e.g., the teachers involved, the principals, the students, the school setting, etc. continually define the essence of these five conditions of implementation. (p. 328)

What can be inferred from these last conclusions is that implementation, as a process, must respond to the needs of the situation. The product goal of fidelity is not challenged by Winklevoss (1975). Mutual adaptation of goals between curriculum and users is definitely not an issue. What is of significance is the recognition that

the implementation process must be flexible and receptive to the incorporation of possible user needs during implementation. Consequently, Winklevoss (1975) developed and constructed a sound case for the introduction of evaluation activities as an additional condition for implementation.

Evaluation, it is argued, affects both facets of implementation, process and product. Once a curriculum is accepted to be 'operationalized' or implemented, the product must be subjected to a summative evaluation measure. The criteria for the evaluation would be necessarily the stated curriculum goals. In essence, summative evaluation measures the degree of implementation, or degree of goal attainment. A second function of summative evaluation, logically would be to provide needed evidence upon which to base future curriculum planning.

The actual process of implementation must be monitored in order to maximize fundamental conditions for implementation. Formative evaluation measures perform this task. The argument proposed by Winklevoss (1975) is basically that summative evaluation of the overall worth of the curriculum is precluded by a

formative evaluation of the implementation process. The focus of the formative evaluation is the "organizational members'" (that is, curriculum users) role performance consistency to those roles implicit to the curriculum (p. 326). Those members whose roles are affected by the curriculum are the teacher and the supervisor or administrator.

Brantley (1975) addressed his research to the investigation of the extent the necessary implementation conditions described by Gross, Giacquinta, and Bernstein (1971) influence the degree of implementation of a specific curriculum innovation into an individual school unit. Once more, the Gross and associates (1971) position was clearly reflected in Brantley's (1975) basic definition of implementation. Implementation is regarded as a "process that, when successful, results in the alteration of teacher behavior and attitudes so that they conform to the expectations" of the curriculum (p. 15). Brantley's (1975) understanding of implementation is similar to that of Winklevoss (1975) in the apparent separation of process and product.

The concept of degree of implementation is fundamental to the study and is assumed to

be measured in terms of altered curriculum user roles, notably altered teacher roles. This alteration is observable, and hence quantifiable. Measurement of degree of role alteration is the determinate for the measurement of the degree of implementation. The greater the degree of realization of curriculum goals, the greater the degree of successful implementation. Success implies fidelity to curriculum goals.

A question raised by Brantley's (1975) research investigated teacher resistance to change. He concluded that teachers were not generally resistant to the idea of change, and that such resistance should not be accepted as given in any implementation effort. Brantley (1975) does suggest, however, that various impediments and frustrations may appear during the course of implementation. This necessitates stringent monitoring of the processes in addition to careful prior planning to implementation. The study's conclusions support the contention that it is the role of the administrator to anticipate problems in implementation, and consequently to "actively search out and resolve the impediments to successful implementation" (p. 133).

Relative to the purpose of his study, Brantley's (1975) results did support the five necessary conditions for implementation advocated by Gross and associates (1971). In addition, he proposed the introduction of the curriculum developer to perform vital implementation roles in communication to teachers, and in planning and supervisory activities with administrators.

A further tenet emerging from the research is the advocacy that implementation is a fluid, flexible process that, while having fidelity goals, must respond inexorably to the particular needs of each receiving organization. Each school must not be viewed as a passive receptacle into which a curriculum is parachuted. This enhances the role and concomitant responsibility of the curriculum developer, and underscores the need for careful and alert implementation planning and supervision.

Krey (1968) examined the relationship between the perceptions of the extent of implementation of official curricular plans held by classroom teachers and their perceptions of curricular implementation activities. Adopted were the following two definitions as germane to the research:

Implementation: The causing of a prescribed official curricular plan to be effected in the instructional proceedings of a classroom.

Implementation Activities: Those professional efforts which are specifically directed toward accomplishing the purposes and content of a curricular plan. (p. 15)

Krey (1968) considered implementation to be a causal factor or force in the translation process existing between predetermined and predefined curricular plans or "official curricular documents" and instruction (p. 15). The four hypotheses of the study suggest that implementation can exist in various degrees, and the matter of degree is directly dependent on the perceptions and concurrent actions of teachers. Further, teacher perception and action are quantifiable, and hence can be measured via four criteria: perceived need for implementation; participation in planning in implementation activities; professional obligation to implementation activities; and participation in evaluating implementation activities (p. 13).

It is interesting to note that Krey (1968) distinguished between implementation as cause, with

implementation activities being the consequence or outcome of the causal force. Krey (1968) implied but does not clearly elucidate that implementation can be considered synonymous with strategy making. Specifically this strategy would describe and prescribe the implementation activities. In other words, implementation could be conceptualized as a teacher's planning for action; a process that can be perceived and evaluated (p. 12-15). The idea of process is the locus of the study's conclusions.

To return to an essential tenet of the research, it must be recognized that Krey's (1968) basic assumption is that "attitudes are important in the implementation of curricular plans" (p. 12). Consequently, "teachers are the ultimate determinants in the implementation of curricular plans" (p. 13). The four central conclusions particular to Krey's (1968) study argue that if teachers perceive a need for systematic implementation efforts, then generally a greater degree of actual implementation will follow. Also, the greater the involvement of teachers in implementation planning, the greater will be the extent of implementation. If teachers recognize implementation to be a professional obligation, then

curricular guidelines will be implemented to a greater extent. Finally, increased implementation will occur if teachers perceive greater opportunities for participation in evaluating the curriculum implementation activities.

The literature of implementation is replete with studies documenting fundamental elements of implementation. From a perusal of this literature, Roose (1976) extracted five basic elements, which are summarized as follows:

1. Involvement: the involvement of all users in all actual implementation decisions, as well as all prior implementation decisions, or adoption decisions, and involvement in the training programs necessary to curriculum use.

2. Pilot Programs: the use of high innovators or early adopters to pilot and to evaluate the curriculum, hoping to benefit from the ripple effect in knowledge dissemination about the curriculum, and to affect ultimately, additional curriculum users.

3. Change Agent: the use of individuals to communicate knowledge of the curriculum and to effect

the use of the curriculum. This role could possibly be assumed by the building principal.

4. Administrative Support: the concerted involvement of central office and school administrators in implementation planning and in providing organizational and moral support for implementing teachers.

5. Planned Change: the use of communication networks and organized planning, supervising, and evaluating implementation efforts. Six subcomponents were identified with planned change: (a) communication of the curriculum to users; (b) rewards for use; (c) formal and informal evaluations, formative in nature; (d) structure integration, which implies provision of needed time, administrative adaptation, and alteration of physical setting, curriculum, and so on; (e) provision for individual differences in teachers; and (f) communication of the innovation to the community.

Roose (1976) argued that if these five major and fundamental variables, as the literature suggests, are present in a school's attempt at change implementation, then implementation should occur. On this basis, the study examined particular instances of attempted

curriculum implementation efforts in selected schools in an attempt to provide support for the implementation variables.

Degree of implementation would mean, according to Roose (1976), degree of curricular goal realization. This fidelity perspective of implementation is portrayed in the operationalized definition of implementation which stated that implementation is a composite of "those actions that are directed at the achievement of objectives set forth in prior policy decision" (p. 7). When interpreted to apply to curriculum, the reference to objectives determined by prior policies can be translated to read curriculum objectives. Roose's (1976) definition emerged from a situation in which the curriculum objectives were politically spawned, hence the references to policy decisions.

It is assumed by the study that implementation, or what Roose (1976) equated to installation, occurs within a school setting. The process commenced with the introduction of the curriculum to the receiving organization and terminated with the maintenance of the curriculum (p. 27). Maintenance implies integration of

the curriculum philosophy and objectives into the school's established program of studies (p. 67).

The general conclusions of the study were simply that those schools utilizing the greatest number of implementation elements realized the greatest successes in implementing a curriculum "as an integral part of their school programs" (p. 64). However, Roose (1976) discovered some notable exemptions to the accepted prior list of five fundamental elements and sub-components.

Those elements, or components, not statistically significant to implementation success were pilot programs, visiting other schools, formal communication networks, evaluation, solitary inservices, and change agents (p. 66). At the same time, inservices were most strongly related to implementation successes when they were provided on a continual and/or regular basis. The lack of significance found for a pilot study, visiting other schools, formal communication, and evaluation is at variance with the literature and presents a perplexing conclusion.

Roose (1976) suggested that formal communication could be provided by other means such as inservice programs, and

informal communication networks (p. 66). Those items found to be statistically significant to implementation success were reward; integration of the innovative curriculum into the established curriculum; provisions for individual differences among teachers; and informal communication networks. Of importance is the finding that the central and primary source for these significant elements was the administration system. Notably, schools with high implementation success had strong administrative commitment to the innovation and its use. "[Administrator]... commitment may well be the single most important element to successful implementation. The committed administrator then acts in the capacity of an informal change agent" (p. 68).

The Center for Educational Field Studies (1970) at Washington University attempted to foster the rational implementation of new social studies curricula through the novel use of field stations, which housed curricular experts to teach prospective teacher users of the curricula the theory and practice of implementation. Implementation was accepted to have fidelity purposes. A tantamount aim of the field station personnel was to have the new curricula used as originally intended.

A second assumption of the study was that teachers can be deliberately trained in effective techniques of curriculum implementation. This implementation training consisted of two distinct phases; the first being analysis; the second being development. Actual use of materials followed during the pilot phase.

Essentially phase one, analysis, occurred under the supervision of field station personnel, and involved teachers in a critical assessment of the curricula. Teachers were to determine if the curriculum they intended to implement was worthwhile in light of their basic assumptions on the nature and purpose of the social studies. They also had to question the actual intentions of the curriculum and attempt to predict the emergent consequences from the use of the said curriculum.

From analysis, the implementation training proceeded to the second phase, that of development, which encompassed the translation of the curriculum into "a form suitable for immediate classroom utilization" (p. 61). Teachers were immersed in the development of instructional units intended for classroom use. If curriculum materials were in need of adaptation to local

conditions, they were altered. In fact, actual classroom realities functioned as the locus for ideas for this "reality-dimension" aspect of implementation planning (p. 63). If teachers required specific inservice training in the use of innovative instructional techniques, it was provided by field station staff. During the pilot phase, developed instructional units were put into practice and subjected to careful evaluations and possible revisions.

It must be noted that the field station personnel were not able to train all teachers in the use of the new curricula. The teachers, released from some of their regular duties and actively involved with activities at the stations, were few in number. It was assumed by the Center for Educational Field Studies (1970) that these teachers would perform the roles of lead teachers and who would eventually lead other teachers in implementation. In this way, the principles of diffusion would facilitate ever-widening usage of the new social studies curricula.

Underpinning the total project was the recognition that implementation is a rational process requiring of the teacher systematic deliberation and responsible

planning. The teacher was advocated to be the pivotal figure in the implementation process. However, the Center (1970) recognized that an unskilled teacher, lacking in tools and technique, would not be able to implement successfully a curriculum requiring new or altered instructional and thought patterns. Hence, the advancement of the exigency for mastery by teachers in these particular professional skills is most noted in the Center's (1970) contribution to the understanding of implementation.

Regan and Leithwood (1974) documented a successful implementation of a packaged curriculum program. From this emerged some generalizations that they consider to be common to all types of and conditions for curriculum implementation. The aim of the implementation process was to guarantee fidelity to the "original integrity" of the curriculum (p. 2). Consequently, the exigency would be to minimize local situational affects on the curriculum.

From the description of the implementation processes, it can be inferred that Regan and Leithwood (1974) considered the subsequent four actions or processes to be integral and basic to implementation.

These processes are: deciding to use, planning or strategies for use, actual use, and evaluation of use. The purposes of the implementation processes, in keeping with the fidelity perspective espoused by the aim of original integrity, must mirror curriculum goals and priorities (p. 35-37).

The subject of these planning processes is the teacher, who is considered to be the most instrumental factor in implementation. Regan and Leithwood (1974) explained it this way:

Implementation plans that overemphasize the innovative product or rely too heavily on re-organization of systems or subsystems are unlikely to be effective. But, more important, we cannot expect implementation to occur successfully if we fail to provide adequate support or if we fail to view the teacher-user in the context of other demands placed on her. The role of the teacher in successful change is pivotal. (p. 7)

Consequently, the necessary prior condition for implementation is adequate teacher training in the use of the curriculum. Teachers must feel competent in

carrying out implementation tasks, otherwise the curriculum is doomed to fail in the classroom. The teacher, as cardinal user, must acquire both the conceptual as well as the practical skills fundamental to the curriculum in order to use it as intended by the curriculum developers. This teacher training, in effect, embodies the second implementation process of planning and/or strategies.

Regan and Leithwood's (1974) third process, actual use, introduces the second implementation actor, the student, because "curriculum programs are developed, after all, for use in the classrooms" (p. 8). Once students and teachers actually begin to use the curriculum in the classroom, they must be subjected to rigorous, continuous supervision and evaluation, which is the final process of implementation.

All processes interact in a mutually supportive fashion during the time span of actual implementation. Implementation ceases when what can be described as successful student outcomes are achieved.

The boundary for implementation is considered to be the individual classroom unit. However, this boundary apparently is permeable, since Regan and

Leithwood (1974) attribute the roles of trainer and supervisor to the curriculum developer, who remains ostensibly external to the classroom.

According to Mahan (1972), curriculum implementation efforts involve one stage within a total six-stage curriculum installation procedure aimed at producing change. Each stage requires specific inputs and activities and involves different actors or participants. The three essential actors are teachers, administrators, and students. Curriculum installation is defined simply as "the planned introduction of innovative instructional programs" (Mahan, 1972, p. 145).

The six stages of installation are:

1. establishing governing conditions;
2. selecting the innovative curriculum;
3. preparing for the classroom introduction of the curriculum;
4. providing assistance mechanisms to implementing teachers;
5. implementing and monitoring the curriculum in the classroom; and
6. maintaining the curriculum after it is no longer an innovation. (p. 147)

Mahan's (1972) stages one and two correspond to what has been defined as adoption. Stage three is associated with inservice staff development prior to the use of the curriculum in the classroom. Stage four focuses on the teacher support mechanisms; emotional, material, organizational, and professional; that are necessary, but external to the actual implementation of the curriculum. This assistance can come from "internal sources (fellow teachers, teacher-leaders, principals), quasi-internal sources (supervisors, subject specialists, central administrators), or external sources (change agency consultants, college or university professors, and representatives of vendors) (p. 151). Whatever the source, Mahan (1972) highlighted the need for teachers to be aided in their understanding of the nature of the curriculum. He admonished that "teachers find it difficult to alter their instructional behavior when they do not know what the goal performance looks like or what steps constitute progress" (p. 152).

He also isolated the singular significance of the nature of the supportive role played by the building principal.

"The principal should fully understand the characteristics of the new curriculum and should work actively to provide the materials and assistance requested by teachers" (p. 152).

Stage five of the installation process is the implementing and monitoring of the curriculum in the classroom. In other words, implementation is synonymous with the instructional process. Installation, then, can only succeed or fail in the classroom with the students. "Strategies and intentions are of no consequence unless the students actually experience the ... educational opportunity" (p. 153).

Mahan (1972) does recognize that implementation involves change in behavior for the teacher. However, this behavior must be consistent and congruent with that implicit to the curriculum. As Mahan (1972) explicated, both "the content and the intents" must be "honored" by classroom teachers (p. 153). In effect, implementation implies instruction, but instruction with the aim of curriculum goal, structure, and substance fidelity. In toto, a complete installation strategy "depends upon the continuing evaluation of the thoroughness of curriculum implementation in

the classroom and frequent assessment of student achievement" (p. 153).

Mahan's (1972) argument suggests that the primary users of the curriculum are the teachers and the students. Integral to this use in instruction is the concomitant planning processes and support mechanisms provided by the receiving organization, the school.

The five previous installation stages, including implementation, essentially involve the initiation of a curriculum. In contrast, the final stage is concerned with the maintenance and routinization of the curriculum within the school organization and is not to be associated with the implementation of a curriculum.

Leithwood and Russell (1973) posited that implementation is a process. Further, this process occurs through a sequenced series of stages, commencing with the initial seminal need for program change and terminating with full field trials of innovative programs. The total complement of stages are described as follows: Stage 1, Climate for Change; Stage 2, Agree to Begin; Stage 3, Establish Organization; Stage 4, Identify Problems and Select Goals; Stage 5,

Study Available Solutions; Stage 6, Pilot Trials; Stage 7, Adopt, Adapt, or Reject; and Stage 8, Field Trials (p. 11).

One essential tenet of Leithwood and Russell's (1973) argument is that the implementation process is synonymous with problem solving. Problem recognition is the salient interaction of Stage 1, Climate for Change. The problem, in any given situation, must be concurrently attended by an expressed desire for amelioration. The user will be only interested if the curriculum appears to be a solution to the problem. However, the curriculum innovation can be developed external to the organization or, more satisfactory, can be developed by teachers within the organization. Once the innovative curriculum is developed, planned or intended change is initiated. The aim of implementation is to achieve fidelity to the change initiatives. The distinction between a developed product and an implemented one is fundamental to the argument.

Whatever the method, it is imperative that the curriculum be developed to satisfy organizational needs. In this way, the curriculum innovation becomes

"meaningful" to the prospective user, and is a solution to the problem (p. 13).

The context for implementation as problem solving is the individual school unit. In this way, wrote Leithwood and Russell (1973), "each school, within broadly defined limits, can maintain maximum sensitivity to the needs of its students and the community it serves" (p. 14). Consequently, motivation for implementation should emanate from the context within which implementation is to occur.

An essential actor in this implementation as problem-solving process is the teacher, although the student must be represented in the decision making, and the administrator must foster and monitor the process relative to that which is to be implemented. Leithwood and Russell (1973) argued that the "student is represented, at least, by the need for innovation that he stimulates through his classroom and extra-classroom behavior" (p. 20). To pursue the argument of teacher as developer and user, Leithwood and Russell (1973) postulated that if the curriculum is to respond to the perceived original situational need, it should be developed by the primary implementation actor, the

teacher. This development could be of a seminal nature, or could simply be adaption of an established curriculum in light of situational needs. The participation in curriculum development, hence total implementation as problem solving, is justified by the following arguments.

First, the teacher has a better opportunity than many other educators to determine changing student needs as expressed in the classroom. Second, the teacher is in an excellent position to monitor the effectiveness of any innovation in meeting the student need. He is also in a good position to suggest alternative solutions by virtue of his firsthand observation of student reaction. Third, mechanisms are necessary to ensure that [implementation of] change will be in a continual process of revision in the light of formative evaluation data. (p. 20)

The fourth argument presented by Leithwood and Russell (1973) returns to their original contention that implementation is a problem-solving process directed at satisfying a recognized need. This need must be recognized by the actors, and the solution (that is, the developed curriculum) also must be generated by

them. In this way, the curriculum and the concomitant processes are both meaningful and relatable to the curriculum users. The authors presented the significance of their thesis thus:

Characteristically, development and implementation have been viewed, respectively, as answer and problem. That is, developing an innovative program to attain a set of objectives is something that educational R and D people feel reasonably confident they can do. The problem is getting teachers to implement the program in the schools. What we are suggesting is ... redefining the problem as an answer. Rather than beginning with the development component first ... the suggestion is to begin with teachers as a way of ensuring classroom implementation and then to work on the problem of building the curriculum with them. (p. 20)

Leithwood and Russell (1973) proposed it follows that this situationally needs-based, teacher developed curriculum is then used by the teachers in classroom pilot trials "in a way that preserves its integrity and will be viewed critically as only a means

to an end to be adopted or rejected if it clearly does not meet that end" (p. 22). A further decision to adopt the curriculum at this point leads to continuous evaluation during use, possible remodification or adaptation, and further pilot trials.

In 1976, Leithwood amplified and extended his previous argument. Rational implementation implies decisions and strategies; hence, planning. In turn, a planned implementation strategy addresses three categories of decisions: diagnosis, application, and evaluation.

Diagnostic decisions include choice of not only long range goals (implementation goals) to be achieved by the implementation strategy but also interim or process goals, achievement of which is prerequisite to the achievement of long range goals. Application decisions require selection of alternative means for overcoming obstacles to the achievement of interim or process goals. The final evaluation phase involves deciding whether these obstacles have been overcome (formative evaluation) and whether the long range goals for implementation have been achieved (summative evaluation). (p. 3)

Leithwood (1976) diagrammatically expresses his strategy for curriculum implementation in Figure 1.

Implementation of a curriculum involves the use, by teachers within the classroom unit, of an instructional tool. Implicit to this definition are Leithwood's (1976) apparent separation of curriculum from instruction and his recognition of distinct curricular purposes. Implementation strategies commence with adoption and are designed to facilitate teacher use of the curriculum.

Within the category of diagnosis, Leithwood (1976) postulates the role of situational needs relative to implementation. If implementation is to occur, the implementation strategy must attempt to minimize the differences between the current curriculum and the adopted curriculum. It is assumed that the curriculum is not to be implemented into a vacuum, but into a situation characterized by a history, norms, expectations, and a present status quo. As a result, adaptive measures applied to the adopted curriculum should reduce the discrepancy between the present and the future situations and should facilitate implementation. Consequently, the implementation goals should reflect

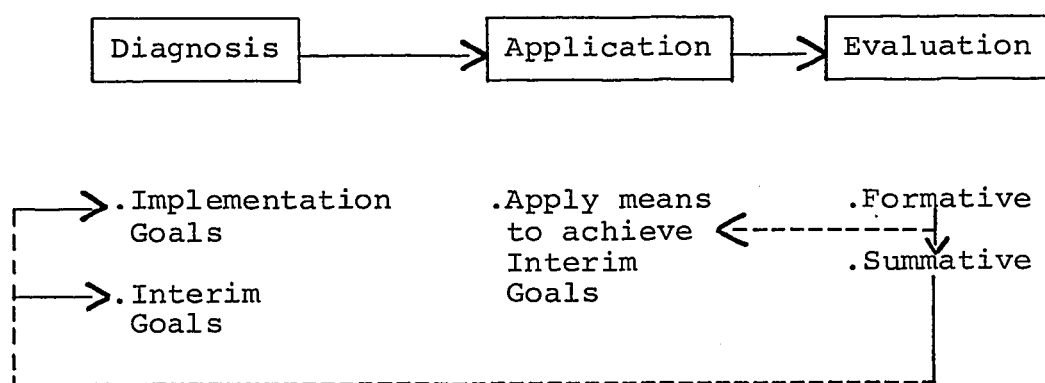


Figure 1: Leithwood: Curriculum Implementation
(Leithwood, 1976, p. 3)

the exigencies of the situation as well as the goals and structures of the curriculum.

The subsequent category, application, includes implementation strategy formation. Leithwood (1976) argued that there are three main categories of obstacles to successful curriculum implementation. These are: "inadequate knowledge about the innovation and skill in its implementation on the part of the user; lack of incentive and reward to implement on the part of the user and; lack of material resources and compatible organizational arrangements in the classroom or school" (p. 21). Each category of obstacles requires a unique and peculiar implementation strategy applied in order to achieve the implementation goals formulated in the diagnosis strategy phase. This then is the essence of the application decision category. Means are applied to achieve implementation goals.

The final category of implementation decisions is evaluation. "By this phase in the strategy, obstacles to the achievement of implementation goals have been identified and procedures designed and carried out to overcome them" (p. 41). In toto, the implementation strategy featured two types of goals: interim or

process goals and the actual implementation goals. The processes and concomitant interim process goals must be achieved in order for implementation to occur. Therefore, formative evaluation measures assess the degree to which the process goals (that is, means) were successfully accomplished. Formative evaluation would then contribute to the supervision of the strategy. Summative evaluation would determine if implementation were successful and hence, complete, or whether a new or reformulated implementation strategy is necessary.

It is important to note that Leithwood (1976) distinguished between an implementation process and implementation goals. The goals determine the alternatives that are necessary for their realization. The existence of goals imply the purposefulness of implementation and impose vital rationality on the process. Consequently implementation planning requires goal establishment and means selection and application. This in turn is monitored by an evaluation procedure which assesses the worth of process steps. The fact that goals emerge from a synthesis of curriculum requirements and situational needs is germane to Leithwood's (1976) argument.

To reiterate Leithwood's (1976) thesis, implementation is a linear and logical process which is basically one of use of the curriculum by a teacher in a classroom related environment. As a teacher uses the curriculum the curriculum becomes an instructional tool by definition. The translation of the curriculum for the learning situation by the teacher is part of implementation, which ceases when the actual processes of instruction commence. Planning for instruction is recognized to be an integral and critical component of the implementation process.

Beauchamp (1975) considered the processes of planning, implementing and evaluating a curriculum to be the essential processes of a curriculum system. "A curriculum system is a system for both decision-making and action with respect to curriculum functions regarded as a part of the total operations of schooling" (p. 135). The necessary "ingredient" is decision-making by the individuals involved (p. 135). Consequently decision-making is tantamount to the implementation process.

Beauchamp (1975) described the implementation process as one of "putting the curriculum to work" (p. 164). From this description emerged his definition.

"Curriculum implementation refers to those processes necessary to ensure that the curriculum is used by teachers as a point of departure for the development of their teaching strategies" (p. 204). In other words, implementation is the systematic process involved in making a transition between the static state of curriculum and the action of instruction. Its "range of activity is between the completion of the planned curriculum and the time when a teacher's plans become so personalized that they fit a particular group of pupils in a particular classroom at a particular point in time" (Beauchamp and Beauchamp, 1972, p. 159). The optimal unit for this activity to occur is the individual school unit.

Beauchamp (1977) espoused that the primary and central figure in the implementation process is the teacher. Implementation begins and ends with specific teacher decision-making and planning. A necessary and essential requisite for probable success is teacher commitment to the curriculum. The failure to secure this commitment is considered to be a potential hindrance or barrier to implementation.

A second possible barrier is the lack of leadership in the implementation process. Beauchamp (1975) suggested that the "prognosis for successful implementation of a curriculum is weak when administrators are indifferent to its importance. Conversely, the prognosis is strong when administrators share with teachers the importance of the curriculum being implemented systematically" (p. 168). Therefore, administrators must perform the role of chief engineer of the system. Accordingly, engineers must "organize, and direct" implementation tasks that occur within the boundaries of the curriculum system. In effect, a curriculum system is a constant organization with boundaries defined by the system participants. The optimal boundary or "arena" for implementation is the individual school (p. 153).

Beauchamp (1975) wrote of implementation purposes in the light of mutual adaptation. He recognized the role that classroom exigencies and curriculum demands perform in this adaptive process. Issued is a warning for curriculum planners to create designs that are amenable to adaptation, but adaptive alterations must

not go beyond "the spirit and the content" of that design (Beauchamp, 1978, p. 406).

The Research and Development Center for Teacher Education at the University of Texas at Austin has sponsored exhaustive investigations on the topics of adoption, or in other words, implementation of curriculum innovations. The researchers: Dossett, Farrington, Hall, Loucks, Manning, Newlove, and Wallace Jr., will be considered as one orientation for the description purposes of their findings.

The term adoption is used interchangeably with the term implementation, with the latter having become more conspicuous and prevalent in the most recent publications and reports. To extend this contention, Hall, Wallace, and Dossett (1973) clearly discriminated between Rogers' use of the term adoption and their explication for adoption, or what can be interpreted as implementation.

Rogers uses 'adoption' to label the process of deciding to use an innovation. Adoption, as used in this model, goes far beyond the initial decision to adopt; it closely parallels the Clark-Guba phases of trial, installation, and institutionalization. 'Adoption', as it is used here, involves the multitude of activities, decisions, and evaluations that encompass the broad effort to successfully integrate an innovation into the functional structure of a formal organization such as a school, a college, or an industrial organization. (p. 5)

Rutherford (1976) clarified that adoption cum implementation of a program or curriculum is not a static event, but is a process that occurs over time. Farrington (1974) added that the process entails countless events and incidents (p. 2). As well, posited Rutherford (1976), it is an individual process, something each person does in his or her own particular fashion. "Together, these facts spell out very clearly that just because a program is introduced into a school does not mean that everyone is even using it or that it is being used in the same way by everyone" (p. 4).

Farrington (1974) contended that implementation is deliberate and observable, and is related to an identifiable product or process, such as a curriculum, that is new to the formal organization (p. 1). From the case studies Farrington (1974) presented to support his position, it can be inferred that the identifiable product or process is developed external to the organization. A final contention espoused by Farrington (1974) is that the implementation process has a predefined end. "The adoption process is not complete until the innovation is institutionalized, or incorporated into the established system of institutional functioning" (p. 1).

Hall, Wallace, and Dossett (1973) considered the adoption or implementation of curriculum innovations to be a developmental process "in which the concerns of the individual adopter and the relationship of these concerns to the use of the innovation play a major role" (p. 2).

The two basic elements of this implementation model are concerns and use. Each will be explored in turn. Hall, Wallace, and Dossett (1973) have proposed that a teacher typically progresses through a series of stages of concern about the use of a curriculum. These concerns

include thoughts, feelings, and informational needs. Essentially, one progresses from concerns about self (what is required to use the curriculum and how one might have to change to use it), to task (the logistics, organization and management of the curriculum), and culminates with impact (effect of curriculum on students and colleagues and assessment of worth of curriculum).

However, as a user's concerns progress relative to the innovation, so also does his familiarity with and effectiveness of use of the curriculum correspondingly progress. At first, the user must become oriented to the curriculum. Subsequently he must be able to manage the curriculum (preparation of materials, application of curriculum to daily classroom activities). Finally, the user must be able to integrate the curriculum into the established school programs.

As the teacher's concern for and use of the curriculum become more sophisticated, or more developed, the teacher user necessarily assesses the effects of the curriculum on the student, or clients. In effect, the teacher refines the curriculum to accommodate immediate effects, as well as projected long term effects on clients. Consequently, the teacher

deliberately plans for changes that will alter the original curriculum in a fashion consistent with situational needs. At this point, the teacher user develops a concern regarding the total impact of the curriculum within an institutional context on the student clients, and interacts with other users to further refine the curriculum in consideration of probable total institutional impact. The objective now is to achieve maximum benefit as determined by the situational exigencies from the curriculum. The teacher user, now aware of the new situation in the institution as a result of the fully used curriculum, reflects on the consequences and considers whether there are better ways or methods to achieve these same consequences or goals. Hall, Wallace, and Dossett (1973) identified this final stage of concern and level of use as one of renewal; the stage in which the user re-evaluates the quality of use of the innovation, seeks new alternatives to achieve impact on learners, examine new developments in the field, and identifies new goals for himself and the institution. A detail portrayal of the Stages of Concern/Levels of Use Model for Implementation is found in Figure 2.

Stages of Concern

- O Unaware: No indication of awareness that the innovation exists. There may be interest in similar innovations or a complete absence of awareness or interest in the area.
- I Awareness: Indicates a general awareness of the innovation. The potential adopter is likely to inquire about obvious characteristics of the innovation and of himself in relation to it in various non-specific ways. May even include expressions of concern about possible personal conflict or threats.
- II Exploration: Indicates exploration of the roles played by the individual user and of the demands placed upon him; also includes exploration of role in relation to the reward structure of the organization and exploration of potential conflicts with existing structures or personal commitment that have financial or status implications.
- III Early Trial: Indicates user's exploration of his performance and manipulation of materials and time.
- IV Limited Impact: Indicates user's exploration of impact of innovation on clients in his immediate sphere of influence.
- V Maximum Benefit: Indicates user's exploration of the total impact of the innovation in an institutional context on learners and users.
- VI Renewal: Indicates user's exploration of new or better ways to reach the same goals or new goals.

Levels of Use

- O Non-use: State in which the user does not know that the innovation exists.
- I Orientation: State in which the user is acquiring information about the innovation, its value orientation, its demands upon him, and the user system.
- II Initial Training: An action state in which the user is being trained in the logistics and use of the innovation.
- III Mechanical: A stage of implementation where users are engaged in pilot use of the innovation. The user is engaged in a step-wise attempt to master the tasks required by the innovation, often resulting in disjointed and superficial use.
- IV Independent: A state of innovation usage where the user handles the innovation well as an individual with quality impact on learners in his immediate sphere of influence, yet fails to integrate his work with the total system's effort.
- V Integrated: Stage in which the user is actively seeking ways to combine his efforts in using the innovation with colleagues to achieve a collective impact on all learners within an institution.
- VI Renewing: The stage of use of an innovation in which the user re-evaluates the quality of use of the innovation, seeks new alternatives to achieve impact on learners, examines new developments in the field, and identifies new goals for himself and the institution.

Figure 2: Hall, Wallace, and Dossett (1973):

Stages of Concern and Levels of Use
of a Curriculum Innovation During
Implementation

Essentially, the implementation process is associated with personal development on the part of the user, but also suggests overtones of organizational development as a latter outcome. It is important to note that the curriculum experiences adaptation during the use process. However, it must be clearly recognized that Hall et al (1973) point out that this modification is within the rational control of the teacher user who carefully assesses needs and plans strategies for action during implementation actions. Curriculum changes are definitely not random, or whimsical. This deliberate curriculum change, or adaptation, appears in three forms (a) adaption of curriculum to organizational conditions and logistics; (b) adaption to maximize client involvement and to optimize client outcomes; and (c) adaption as a result of coordination of use with other teachers to further enhance client effects. Finally, of course, the user could reject the curriculum in the light of better curricula. As previously discussed, simultaneous development has occurred in the user and in the institution or organization, with change or adaption having been produced in the curriculum.

Hall, Wallace, and Dossett (1973, p. 5) and Farrington (1974, p. 1, p. 27ff) accentuated that implementation occurs within a formal organization. This formal organization is customarily referred to as the user system. It follows that organizational characteristics will affect, to certain degrees, implementation processes. Farrington's (1974) research indicated that some of the following factors can possibly direct such influence: personalities and leadership styles of management personnel; organizational climate; power structures; and characteristics of persons involved. Although much has been written on the characteristics of adopting organizations, and the concomitant significance of these characteristics, Manning (1973) observed that no systematic categorization of organizational variables as they affect implementation has been developed.

Farrington (1974) stressed the significance of an adoption agent (in other words, implementation agent) and argued that the agent is a most crucial factor in successful implementation of a curriculum innovation. Consequently, channels of communication between receiving organization and agent must be clear and functional.

Cooperation between both is essential, if not mandatory. The implementation agent's role varies and can include such tasks as information source and specialist, implementation catalyst, or perhaps an encouraging support. Hall, Wallace, and Dossett (1974) contended that the agent must be supported by a resource system in order to assist the agent in the facilitation of use of the curriculum. "The goal is to assist the user to become independent from the resource system. Independence has been achieved when the user system has fully assimilated the innovation, provided for its continuation and support, and is capable of maintaining it on its own" (p. 7-8).

Therefore, what is crucial is the recognition of the two primal systems for implementation. They are the user system (within a formal organization) and the resource system (engineered by the implementation agent). This gives rise to the collaborative system. "The collaborative system is the joint activity of resource and user systems that creates a third-force system to facilitate" the implementation process (Hall, Wallace, and Dossett, 1973, p. 8). It is a temporary system that has a life expectancy equivalent to the time required by

the user system to achieve complete independent use of the curriculum. Hall, Wallace, and Dossett (1973) explained that "the collaboration is realized as both systems engage in an analysis of needs, an identification of concerns, and an analysis of current use of the innovation. Following these analyses, interventions are designed to alleviate needs, resolve concerns, and facilitate and accelerate" implementation (p. 9).

From a frame of reference of curriculum change and innovation, Fullan (1975) defined implementation as the "putting into practice of the essential characteristics of an innovation" (p. 1). This action of "putting into practice" occurs within a social system and effects institutionalization of new social elements (p. 2). Associated with this process of institutionalization observable changes ensue in four implementation elements or dimensions: namely; structure, role/behavior, knowledge and understanding, and value internalization. Fullan (1975) explained the inter-relationships of the elements thus:

An innovation is implemented to the extent that new structural or organizational features are put into practice, that the actual behavior of system members change, that system members know and understand the purposes, assumptions and behavioral methods of implementing what they are attempting, and that system members value the innovation as desirable and worthwhile. (p. 2)

Also emphasized is the assumption that the four elements or dimensions exist and interact through time, but do not occur in any necessary sequence. What will follow is a synopsis of each of the four elements.

Structural or organizational features include such things as change in the formal arrangements and physical conditions associated with the curriculum innovation. "Role and behavioral changes are the most difficult to define concretely, and the most difficult to implement" (p. 2). Accordingly, Fullan (1975) considered such changes to be at the locus of the implementation process. A case in point would be new teaching methodologies and ensuing altered role relationships among the implementation actors. The third element, or dimension of implementation, is the degree of knowledge

and understanding that the actors have about the curriculum — philosophy and rationale; objectives; design; methodologies and so on. The fourth dimension "concerns the degree to which people in the situation truly value and are committed to the change" (p. 4).

Fullan (1975) clearly differentiated between the outcome of an implemented innovation and the implementation process. Simply, implementation is the curriculum in actual operation, and which therefore functions as a means to the innovation outcome. Outcome, then, can be considered to be a measure of the degree of implementation. The degree of implementation, in turn, is a consequence of the interaction of the four implementation dimensions or elements.

Fullan (1975) also advanced the distinction between the implementation process and implementation. The prior encompasses the whole process and includes strategies and other determinants of implementation. That being the case, the latter is regarded as a function of the determinants of the implementation process. At this juncture, it is significant to note that Fullan (1975) recognized ten determinants or "causes" of implementation, which are: explicitness of the

curriculum innovation; in-service training for curriculum users; resource support for implementation; feedback mechanisms relative to whether problems of implementation are identified and addressed; user participation in the implementation process; user function in adoption; organizational climate or receptivity of receiving system; user incentive procedures; evaluation in order to provide system decision-makers with information on the worth of implementation efforts; and guidelines of policy makers for practitioners (that is, political complexity).

In their more elaborate exposure on implementation, which reinforces Fullan's 1975 study, Fullan and Pomfret (1977) described implementation as "the actual use of an innovation or what an innovation consists of in practice" (p. 336). They clearly differentiated actual use from both intended or planned use, as well as from decision to use, or adoption.

Fullan and Pomfret (1977) associated implementation with organizational change, which involves movement or activities in some predefined and hence measurable general direction. This direction can be determined by either the intents of the program or the intents of the

implementors, which may differ from program intentions depending on the various innovation and situational factors influencing the use of the innovation. These factors are organized by Fullan and Pomfret (1973) into four broad categories, which are: characteristics of the innovation; implementation strategies; characteristics of the adopting unit; and characteristics of macro sociopolitical units (p. 367-368). The implementation process, in effect, brings in concert these factors, and it is this abstract harmonization which in turn encompasses and produces what can be interpreted to be the boundary for implementation. In discussing the implications from their research, Fullan and Pomfret (1977) offered this synopsis.

Implementation is a highly complex process involving relationships between the users and managers, and among various groups of users, in a process characterized by inevitable conflict and by anticipated and unanticipated problems that should be prepared for prior to attempting implementation, and continually addressed during it. (p. 391)

From their arguments, many inferences can be drawn and references can be made. Fullan and Pomfret (1977) view implementation as a process, specifically a social process, and implementation effects ostensibly emerge within the receiving social system. A curriculum can be said to have commenced to be implemented when some of "its characteristics are actually in use" in the social system (p. 336). As a logical consequence, they postulated that the major problems associated with implementation are inherent within the affected social system. For example, one particular problem is the "changes in the roles and role relationships of those organizational members most directly involved in putting" the curriculum into practice (p. 337). Concomitantly, value changes further frustrate implementation.

The users, as reported by Fullan and Pomfret, appear to be the teachers, although they make no conclusive assertion to this fact. However, if this assumption is maintained, then it can be tentatively noted that a singular distinction is made between user in and manager of the implementation process.

Implementation is recognized by their study as having two possible purposes, those of fidelity and mutual adaptation. However, the authors stipulated that the "weight" of research evidence leads them to select the latter as optimal (p. 391). The initiate of implementation is a clearly defined and recognized curriculum innovation, although the curriculum does not necessarily have to be developed prior to its use by external developers. What is argued is that the developer, the time of development, and the processes of development do not define the processes of implementation. In other words, implementation is respective of development and, in contrast, defines the innovation. Innovation meaning, relative to a particular social system, emerges from the system, not from the innovation. Thus, the concept of mutual adaptation is clearly evident in Fullan's and Pomfret's (1977) unique conceptualization of the implementation process.

Musella (1971) reported on a program to facilitate the implementation of a specific change which utilized a systems analysis model as a basis for analyzing implementation. In this model, implementation is a heuristic process which is part of a greater change process

characterized by continuous development and evolution (p. 21). Specifically, implementation processes encompass: planning, use of plan, evaluation of the outcomes of the implemented plan, and feedback from evaluation to improve, redesign, or modify the plan. It is significant to note that evaluation of implementation is performed in terms of the objectives of the plan, as well as the effects of the implementation on all aspects of the total system. In effect, the criteria for evaluation are not simply represented by fidelity to plan, but also include spin-off effects from the implementation which serve as a basis for judgment. Musella is suggesting, via his use of the concepts of continuous development and evolution, and from his explanation of evaluation procedures, that mutual adaptation is a consequence of implementation, and ideally should be a goal for implementation. Musella (1971) represented the process of implementing change in Figure 3. It is fundamental to an understanding of the implementation of change, to recognize that the effectiveness of the total implementation process is dependent upon the effectiveness of each step in the cycle. Musella (1971) summarized:

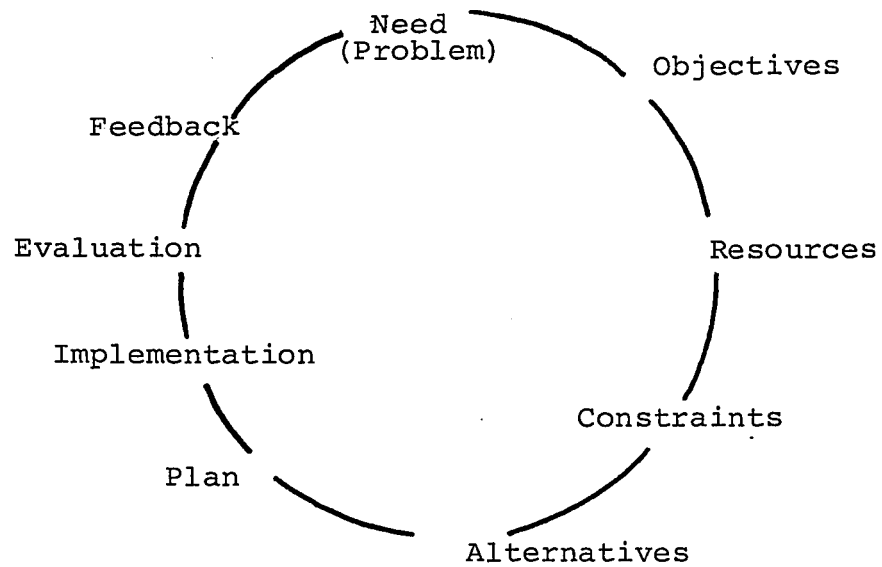


Figure 3: Musella: Systems Analysis Cycle
(Musella, 1971, p. 22)

The effectiveness of each step is highly dependent upon the availability and applicability of appropriate and relevant input information. Incomplete or inaccurate information, unrelated information, misinformation, and untapped information sources all serve to redress the maximum possible effectiveness. (p. 21)

Shipman's (1974) description of the Keele Integrated Studies Project attempted to distinguish between development of a curriculum and the use, or implementation, of a curriculum. Implementation is recognized by Shipman (1974) as an area having deficiency of theory and of specialized organizations for facilitation. In lieu of this, Shipman (1974) placed the teacher as the locus for implementation and the school unit as the receiving receptacle for the curriculum. It is essential to note that implementation is interpreted to be a mutually adaptive process between curriculum and user teacher, with adaptation accommodating organizational needs, particularly the students' needs (p. 77-78).

Shipman (1974) considered implementation to occur within a school or organization, and recognized that

the process was affected by that organization. He also proposed that the role of building administrator was central to, but supportive of, implementation. In other words, the administrator must facilitate the user and provide fundamental and vital resources, structures, and/or organizations. The administrator, whether active or passive in his involvement, cannot forfeit this role as implementation of change requires the "combined operation" of the school, thus necessarily including the administration (p. 86). Degree of implementation is a function of the level of organizational investment in implementation efforts. Investment can be in terms of "ideas, of resources, of time or of energy" (p. 121). However, more specifically, "this investment would consist of organizational changes primarily instigated by the [administrator], and of investments of time and energy by the teachers" (p. 121).

Shipman (1974) supported the notion that implementation is preceded by research and development, dissemination, and demonstration. Dissemination is considered to be the giving of information about the curriculum and demonstration is regarded as simply "demonstrating" the effectiveness of the curriculum, and in this way gaining

converts to the curriculum (p. 160). Implementation is defined as the incorporation of a curriculum innovation into a school. This may require the actual training of teachers in the use of the curriculum. Implementation is followed by the concluding process in which the curriculum is ensured to become a "fully functioning and relatively permanent part of the school" (p. 160).

However, Shipman (1974) did not espouse a fidelity orientation to curriculum implementation. As mentioned previously, organizational investment into the implementation of a curriculum is vital and essential. In addition, such inputs should logically affect the curriculum, and in fact alter or adapt it in some fashion. Shipman (1974) proposed that a curriculum project should function as a "broad framework" within which each school translates and develops the essence in its own particular fashion (p. 126). In fact, he concluded that "it may be the catalytic effects of [curriculum] projects that are important, rather than the more limited impact of their specific curriculum objectives" (p. 176). Inferred is the idea that the curriculum could possibly be a seminal influence to organizational change and development.

Nicodemus (1977), investigating the use of a centrally developed curriculum, equated use to the rubric of adoption (p. 83). Adoption, or what can be considered in this study as implementation activity, commences with the dissemination of a completed product or curriculum, and the necessary support resources, both human and material. The curriculum is the product of research and development activities.

Nicodemus (1977) regarded implementation as the actual use of the finished product in the classroom by the users, the teacher and student. Use is directed by the objectives of the curriculum and the curriculum developer who monitors the implementation process. Therefore, the users do not operate in isolation, but are affected by both the developers, as well as the receiving organization as a whole. Consequently, teachers cited communication with developers and availability of organizational structures and resources as essential to successful implementation.

The function of the curriculum developer is a supervisory one. The developer is the source of knowledge relative to the curriculum and provides the necessary emotional supports and evaluative information

in order to sustain the implementation process. Communication channels between receiving schools and development agencies must necessarily be clear, effective, and functional. In effect, the incorporation of the role of the developer alters the boundaries of the implementation process to extend beyond the school, and incorporate this external element, the development agency.

In reference to the outcomes of the study, it was shown that teachers articulated practical concerns when determining those factors that facilitated and limited implementation success. Such variables as adequate preparation time, and materials, similarity of curriculum content and methods with previous teaching experiences, and adaptability of the curriculum were positively correlated with high degrees of implementation. Alternatively, poor user knowledge of the curriculum and curriculum complexity were significant factors limiting or hindering implementation efforts.

Of significance is the recognition that curriculum implementation is basically a process characterized by mutual adaptation between curriculum and receiving organization. Nicodemus (1976) asserted that it is to

be expected that users "will progressively alter an innovation throughout its use" (p. 21). Examples of this progressive alteration are alternative uses of specific materials and resources, or diverse integrations of the materials into differing organizational structures or receiving programs of study. Often this alteration assumes the guise of "integration to the familiar", where the innovative curriculum is gradually mutated into the form of the original or traditional curriculum. The consequence of this, of course, is simply non-implementation.

Although the implementation process is adaptable and may vary from situation to situation, the objectives of the curriculum are the primary goals to which implementation actions must be directed. Implementation then ceases with student outcomes that reflect, to a satisfactory degree, successful accomplishment of the curriculum objectives. Secondary goals of implementation, which emerge from the primary objectives, are continued information systems facilitating increased professionalism by the teachers. Nicodemus (1977) assumed that the contract between development agencies and teachers is a stimulus to and avenue for teacher

professional development. Once actual implementation activities cease, hopefully these communication channels will continue to flourish and will direct teachers to additional professional sources. In turn, such teachers would perhaps implant new ideas within their school systems and foster possible system change. Nicodemus (1976) expressed this latter eventuality in Figure 4.

During the 1960's the United States Office of Education initiated a number of federally mandated programs, a major one involving the encouragement of innovation in the public schools. Berman and McLaughlin (1976) [Rand Corporation] reported on the success of the federal government's role in affecting school innovation. Their research focused on the process of change and the many affecting factors. One question researched, that has specificity to this study, is the following: "How do school districts select, introduce, implement, incorporate, and spread different kinds of innovations" (Berman and McLaughlin, 1976, p. 347)? Implementation is considered to be one stage of an innovative process which consists of the three stages proposed by Gross, Giacquinta, and Bernstein (1971): namely; initiation, implementation, and incorporation. Implementation is

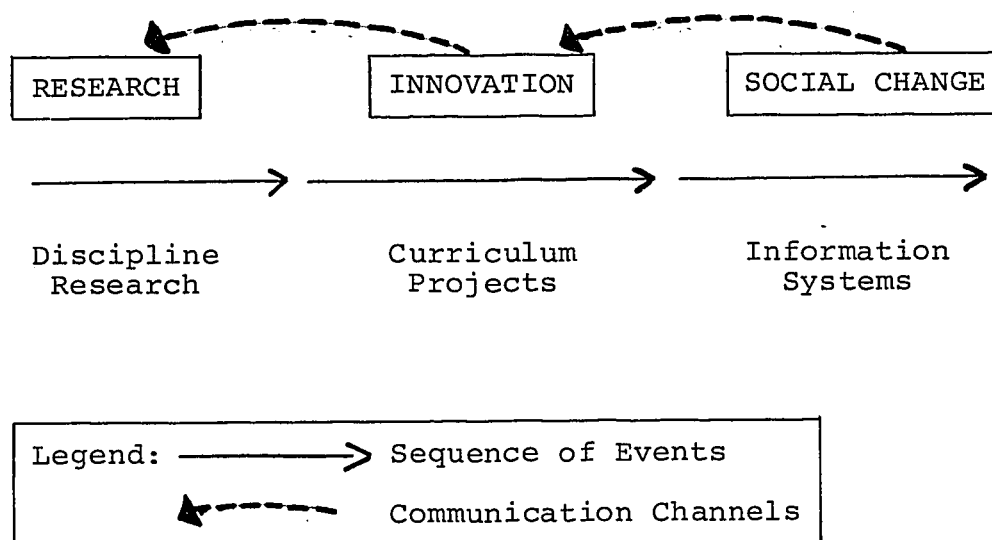


Figure 4: Nicodemus: Process of Implementation
(Adapted)

perceived as "the bridge between a promising idea and its impact on students" (p. 349). The essential activity of implementation is one of translation of curricular plans into practice, and commences with the confrontation of the curriculum with the institutional reality. Translation in this sense implies the complex interplay between the curriculum and its setting, and does not refer to the "direct application of a technology" (p. 352). As this translation is not one of direct application, it is not synonymous with a process having a complete fidelity to the original intents or goals of the curriculum. Implementation, posited Berman and McLaughlin (1976), is a process characterized by mutual adaptation. They

hypothesized that local schools ... are so structured that, in order to implement significant innovations, there must be a process of mutual adaptation. The initial design of an innovative project must be adapted to the particular organizational setting of the school, classroom, or other institutional hosts, and, at the same time, the organization and its members must adapt to the demands of the project. (p. 349)

McLaughlin (1975) extended this idea of mutual adaptation. Implementation is a dynamic organizational process that is shaped over time by interactions between project [or curricular] goals and methods and the institutional setting. In this way, project goals are made concrete by the users, the teachers, as they acquire the necessary skills appropriate to the innovation. Modification is the essence of an implementation process which has its purposes reassessed through time, and redefined as possibly abstract project goals are made operational and situationally specific by the users or implementers. The actual implementation process or strategy adopted by each particular situation "is the result of many local choices about how best to implement project goals and methods" (p. 5).

There are two fundamental dimensions of mutual adaptation. First, the process involves adjustments or modifications to the curriculum. For example, goals might be modified, technologies or designs must be simplified, or role changes implied in the curriculum might be altered. The second, the user and organizational dimension, encompasses the development of new behaviors, or perhaps changed role sets on the part of

the users. Change vis à vis adaptation affects all elements of the implementation process. However, this adaptive process does not suggest that resemblance to the original curriculum intent can be deliberately obliterated. This process must maintain a firm base in the curriculum reality, with the adaptation modifying the curriculum in order to meet local needs without destroying the original essence of the curriculum.

McLaughlin and Berman (1975) discriminated between two levels of implementation, that of local or micro-implementation and macro or centralized/federal implementation (p. 1). Macro-implementation efforts, to realize some degree of success, should structure their central policies on a foundation of specific micro-implementation processes. McLaughlin and Berman (1975) recognized four micro-level premises that are crucial to effective implementation of change policies:

1. Implementation—rather than the adoption of technology, the availability of information, or the infusion of money—dominates the outcomes of innovations.

2. Effective implementation of significant change is characterized by the process of mutual adaptation.

3. Effective implementation depends on the receptivity of the institutional setting to change.

4. Local school systems vary in their capacity to implement significant change. (p. 1)

Again the authors stress the significance of the variabilities of local settings; the institutional settings; to implementation activities. Consequently, each strategy adopted must be unique and peculiar to local needs, but at the same time is influenced by the innovative curriculum. As mutual adaptation is the essence of successful implementation, logically it follows that the curriculum influences the recipients in the receiving institution and, in so doing, should effect change. Consequently, three factors emerged that dominate implementation; namely, the curriculum to be implemented; the strategy for implementation which is termed, in a general sense, mutual adaptation; and the nature of the receiving institutional setting. It is significant to note that the strategy for implementation arises from the receiving institutional setting and

is not imposed from actors operating at the macro-level.

Dalin (1975) also studied implementation from an adaptation process perspective, but extended this to include mutual organizational development as a concurrent to mutual adaptation. The locus of this process is the extent to which a school is responsive to its development needs. Dalin (1975) explained.

Successful implementation would mean the ability of the school to be responsive to centrally or externally developed and/or directed innovations, on the one hand and, at the same time, the ability to develop a creative growth and improvement process within the school itself. ... Degree of implementation ... would not only be a measure of the degree to which the school, as a unit, adopts centrally developed innovations and at the same time takes care of its own development needs, but also the extent to which central units (e.g. political units and administrative units) adapt themselves to the continuous demand and creative processes within the schools. (p. 2)

Implementation implies the continuous growth or development of the organization as it meets organizational exigencies through innovation. Reassessment of needs at intervals would be a logical necessity. Consequently, Dalin (1975) perceived implementation as a "process characterized by dialogue between the school and its environment, in particular between the school and central administration" (p. 2). This likens implementation to an integrative process between the expressed needs of an organization in development through time and the satisfying resources implicit within an innovation.

Often it implies that certain aspects of an innovation are adopted and implemented while other parts are omitted. In the process of mutual development, and adaptation, the innovation undergoes change. In addition, the structure, strategies and people involved in the process also change. (Dalin, 1975, p. 2)

In 1973 CERI/OECD (Centre for Educational Research and Innovation/Organization for Economic Cooperation and Development) published an exhaustive compilation of cases illustrating the natural and planned processes of

innovation at the central, regional, and school levels of the school systems in member countries to the O.E.C.D. The conclusions drawn from these studies show that "schools do not adopt innovations and they do not create them either. Schools adapt and develop innovation and use resources within the school itself as well as resources from institutions and people outside the school" (Dalin, 1975, p. 2). Consequently, innovations do not emerge solely from the top and descend down through the system; nor are they spawned from the school or bottom and rise up through the system. Dalin (1975), interpreted implementation to be a mutual learning process in which adaptation occurs between the top and the bottom. This essentially comprises what he considers to be a creative process within a system that has as a dominant trait a "high degree of common ownership" of the innovation by the implementers (p. 3).

Hence, an innovative curriculum, in these terms, is not solely externally developed; nor is it completely internally created. The innovation, in effect, is in a continuous process of creative and adaptive growth or development, and this process is modified by the receiving organization so that the growth is compatible

to organizational needs. Implied within the idea of compatibility is the assumption that these needs are satisfied within the total process.

Summary

The intent of this phase of the study was to describe twenty-five research studies on curriculum implementation as documented in the literature. The descriptive data procured from each representative study was extracted from the source materials in a definitive and prescribed fashion. The data were derived by applying the following three questions to each study:

1. What is the process germane to curriculum implementation?
2. When does the process occur?
3. Where does the process occur?

Only those studies providing answers to the three investigative questions were incorporated into this theoretical phase.

The representative studies were presented in a general sequence commencing with those researches advocating a fidelity orientation to curriculum implementation, and terminating with those studies

espousing mutual adaptation and development as the process and goal of implementation.

A critical analysis of the culled data was not the objective of this phase of the study. Stringent and rigorous abstraction and generalization from the data will be the purpose of the category phase of the study and will assume the substance of chapter four.

CHAPTER FOUR

Categorization of the Descriptive Data on Curriculum Implementation

Introduction to the Process of Categorization

From a study of the descriptions of implementation studies examined in the descriptive phase of the study, many commonalities and similarities were discovered. The purpose of this chapter and concomitant phase of the study will be to analyze critically the culled descriptive data in order to abstract some apparently fundamental, salient, and essential characteristics of curriculum implementation. These characteristics, in turn, will be grouped into classes or categories.

The mental activity of category development is an act of invention. The elements of substance and process of curriculum implementation have not presented themselves in logically, classified arrangements. The categories into which the phenomenon of curriculum implementation will be divided are categories which will emerge from the descriptions of implementation and subsequent rigorous analysis of and generalizations from

those descriptions, and in accordance with a particular need and directional purpose. The latter was stipulated by the fundamental investigative research questions on the meaning of curriculum implementation which were:

1. What are the component elements of curriculum implementation?
2. What is the purpose of curriculum implementation?
3. Who are the curriculum implementation actors?
4. How does implementation occur?

Consequently the aim of this phase and chapter is to explore in detail descriptions of curriculum implementation; to categorize particular instances and characteristics of the phenomenon; and to provide insight into the respective parts, or elements of curriculum implementation, the purpose of implementation, the curriculum implementation actors, and how the implementation process occurs.

The basic assumption, inherent within the proposed categorization scheme and germane to the definition of curriculum implementation and the research questions, is that curriculum implementation is a generic category embracing a family or group of categories and probable

subcategories or concepts. When understood in their totality, the set of categories, representing the phenomenon and composite elements of curriculum implementation, will constitute and illuminate its meaning.

Data Source

The source of the data to give rise to the categories of implementation is the descriptive data. It is only these data that form the foundation upon which a category system will be developed. However, if once a category is created and explained, additional or supplementary data may be internalized to further enhance the category's meaning. For example, in cases where logical extensions of the nature or function of a particular category must be supported, supplementary sources on educational, organizational, and instructional implementation will be searched. These corroborative studies will be included solely to add further evidence to either generalizations or categories formulated; not to develop the category scheme. These additional data will assume a supportive role only and will aid in category refinement.

The Categories of Curriculum Implementation

The descriptive data on curriculum implementation can be classified into five distinct and separate types or categories. The data suggest that curriculum implementation consists of three concrete elements, or what can be termed substantive elements, namely the curriculum, the user of the curriculum, and the organization into which the curriculum is received and the user acts. Additionally from the data emerges the characteristic element of planning as associated with curriculum implementation processes. The omission of one or more parts or elements would result in the transformation of curriculum implementation as a whole into another and different phenomenon. The elements, the concrete substance of the phenomenon as well as the activities or processes among the substantive elements, were recognized as both static and dynamic, and functioning together to achieve the purpose of the whole phenomenon. In other words curriculum implementation is an activity made up of subactivities combined or functioning in relation to one another in an identifiable pattern or sequence with the sequence itself being one element of the phenomenon.

The outcome or consequence of the curriculum implementation actions was regarded by the majority of the representative studies to be one of mutual adaptation among the three curriculum implementation substantive elements, the curriculum, the user, and the organization. Thus the fifth essential characteristic or category of curriculum implementation proposed by the descriptive data was the product of curriculum implementation, mutual adaptation consequence.

All of the five essential categories for classifying curriculum implementation activities were founded in the descriptive data collected in the previous phase of the study. Each category and its relationship to the data will be discussed in the subsequent sections of the chapter. First the categories of curriculum implementation elements of substance will be analyzed. This will be followed by an explanation of the category for curriculum implementation planning. Finally, the category for mutual adaptation consequence will be explicated.

The Elements of Curriculum Implementation

Four essential curriculum implementation component elements emerged from the descriptive data; three

categories of elements of substance and one element of process. The three substantive elements are the curriculum, the user, and the organization. The process category is generalized as one of implementation planning.

Relative to the classification of each element, the data derived appeared to cluster into two types. The first clustering was on the reported nature of the category. Included in this data type was reference to the particular qualities or characteristics pertinent to the element's role in curriculum implementation. The second cluster referred to the element's necessary role or function within the implementation process. Each data cluster will be considered as a subcategory of the implementation category, and each subcategory will be analyzed in depth in the subsequent chapter sections. The only exception to this is the substantive category of organization. From the data on this substantive element emerged two essential but not mutually exclusive components which are manager and organizational characteristics. Consequently, the data did not provide for generalization relative to the organization's nature and function in toto, but did

provide for this type of generalization on the nature and function of the two subcomponents.

The Substantive Elements of Curriculum Implementation

Three apparently necessary and ostensible substantive phenomenal elements emerged from virtually all of the cited representative sources. These three elements are: the curriculum, the curriculum users, and the receiving organization. Descriptions of each element varied to some degree among the data, which, in turn, affected the total conceptualization of the implementation process in various studies. Consequently, two recognized variations that appeared were conflicting interpretations on the role and influence of the receiving organization, and on the delimitation of the user to the teacher only, to the exclusion of the student.

In lieu of this discrepancy, the study advances the proposition that the phenomenon of curriculum implementation contains the three proposed fundamental substantive elements. The abstracted peculiarities, commonalities, and individualities of the elements described in the data will be generalized, and rendered equivalent or classified within three labels

or categories. The categorical terms represent the three substantive elements; namely, the curriculum, the users, and the organization.

The substantive category of curriculum. There is no disagreement in the descriptive data that essential to the curriculum implementation process is the curriculum. In fact, the existence of the curriculum is accepted to be a given entity and a necessary condition for implementation.

1. The nature of the curriculum — It is apparent that all curriculum innovations consist of certain inherent factors which have a direct affect upon the success of the implementation of an innovation.

Consequently, each curriculum will have a certain characteristic nature that will have bearing on the processes of implementation. Inherent within a curriculum are three generalized characteristics or qualities that are potentially influential or detrimental to implementation success. From an analysis of the descriptive data, it was determined that the three qualities are curriculum complexity, curriculum clarity, and curriculum practicality.

While curriculum complexity is advanced by Berman and McLaughlin (1976), Center for Educational Field Studies (1970), Fullan (1975), Fullan and Pomfret (1977), Gross et al (1971), Leithwood (1976), Nicodemus (1976), Regan and Leithwood (1975), and the University of Texas Researchers as a fundamental consideration in implementation processes, only Berman and McLaughlin (1976) offered some definitive prescriptions for conceptualization.

Berman and McLaughlin (1976) recognized three aspects of curriculum complexity that would have varying effects on implementation outcomes. First, the structural complexity of a curriculum hampers effective use. A case in point would be a curriculum that "spanned many grade levels or tried to include all classrooms in particular grade levels" (p. 358). The second aspect of complexity involves what Berman and McLaughlin (1976) refer to as "treatment" (p. 358). Essentially this implies instructional methodology. If the particular methodology suggested by the curriculum design demands a vast change in teacher behavior, resistance could occur. Alternatively, if the curriculum requires minimal alterations in

particular techniques, little effective change implementation will ensue. The third aspect of complexity involves the integration of the curriculum into the school organization and into the daily routine of the teacher.

While recognizing the dilemmas associated with the complexity of a curriculum, Fullan and Pomfret (1976) advanced the notion that the problem of complexity often is confused with that of clarity or explicitness. A curriculum may not be used, not because it is complex, but because it has not been made intelligible to the user. Gross, Giacquinta, and Bernstein (1971) concluded from their research that a majority of the teachers simply did not understand the essential features of the curriculum and experienced ambiguity relative to their required role behaviors. Consequently, implementation did not occur.¹

Fullan and Pomfret (1976) portrayed the need for the relationship between the degree of curriculum clarity or explicitness relative to user understanding and the degree of implementation in Figure 5. To redress this situation, Fullan and Pomfret (1976) called

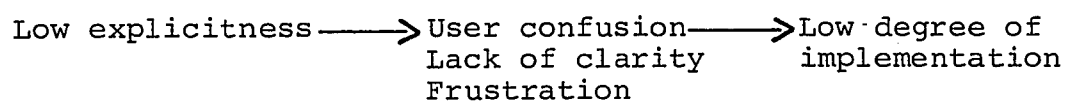


Figure 5: Fullan and Pomfret (1976):
Curriculum Explicitness (p. 49)

for "greater specification of the implementation characteristics ... by sponsors or developers" of curriculum (p. 49). Alternatively, procedures must be established that would provide for continuing efforts toward greater clarity during implementation. The more untelligible and abstract the curriculum, the more difficult and problematic will be implementation.

A third aspect of the nature of the curriculum that is significant to implementation is the intrinsic quality of practicality.

Researchers in the area of teacher behavior, Doyle and Ponder (1977-78) and Tom (1973) have presented an amplification of the practical nature of a curriculum as it relates to curriculum decision-making. While the focus is not solely on implementation deliberations, it has application to this study and deserves some consideration as a support to the proposition that the intrinsic quality of curriculum practicality is a determinant to implementation.

Doyle and Ponder (1977-78) argued that teacher curricular decisions are based on perceived practical merits of the curriculum. They proposed a pragmatic image of the teacher who demands that the curriculum meet practical and immediate student needs and who stresses the procedural over the abstract and general.

In light of Doyle and Ponder's (1977-78) remarks, it seems logical to generalize that practical curricular variables play a very influential role in shaping the way teachers think and conduct their implementation tasks.

According to Tom (1973), the particular nature of teachers' comprehension will be determined by the criterion of classroom utility. The teacher, from an interpretation of a curriculum, must be able to anticipate student outcomes, and consequently to plan for these outcomes. The curriculum must be perceived as relevant to a given situation. Tom (1973) concluded that "pragmatic criteria" performed the tasks of determining degree of implementation (p. 88).

From the literature emerged three ostensible characteristics or qualities of a curriculum that affect, in some fashion, the curriculum implementation process. The complexity, the clarity, and the practicality of the curriculum are those particular qualities which will, during curricular use, influence the processes and products of the total implementation process.³

2. The function of the curriculum — Two fundamental functions denote the described actions and roles of the curriculum during implementation. First, the

curriculum must exert influence on the total implementation process. Second, the curriculum must adapt to the exigencies of the process.

Gross, Giacquinta, and Bernstein (1971) postulated that curriculum implementation demands observable behavior change by the organizational members involved in the implementation process. Moreover, this behavioral change must be congruent with the behavior patterns demanded by the curriculum. In addition, Gross et al (1971) suggested that organizational structures and resources must be altered during implementation to accommodate curricular demands. This interpretation is contingent with that of Brantley (1975), Regan and Leithwood (1974), and Winklevoss (1975).⁴

Common to the above studies is the assertion that the curriculum affects or influences those organizational members and organizational elements that are incumbent to the activities of implementation. In other words, the curriculum influences, to some pre-specified fashion, the implementation process.

According to Berman and McLaughlin (1976) implementation was the activity of translating curricular

plans into practice and commences with the confrontation of the curriculum with the institutional reality. Translation implies a complex interaction between the curriculum and its setting. Therefore, implementation is a process characterized by mutual adaptation. Specifically, it is a dynamic organizational process that is shaped over time by interactions between the curriculum and the institutional setting. This conclusion concurs with that of Dalin (1975), Fullan (1975), Fullan and Pomfret (1977), and Shipman (1974). Shipman (1974) proposed that a curriculum should display so much flexibility that it will, in the end, function as a broad framework within which each school translates and develops the essence in its own particular fashion. In fact, he concluded that "it may be the catalytic effects of [curriculum] projects that are important, rather than the more limited impact of their specific curriculum objectives" (p. 176).

Two researchers who extended this idea of adaptability and should receive some analysis as to the relationship of their ideas to the concepts developed by this study are Ben-Peretz (1975) and Bolam (1975). Ben-Peretz (1975) cloaked this idea of

adaptability within the concept of curriculum potential. "Curriculum may be seen as the embodiment of a potential ... that can be discovered and revealed" (p. 151). From this, curriculum can be adapted to meet unique and diverse situational needs. As well, Bolam (1975) also considered the possible and inherent adaptability of the curriculum to be instrumental to probable implementation but questions when an adaptation is so significantly different from the original that it ought not to bear the same name.

Two essential categories of curriculum functions have been generalized from the descriptive data. The curriculum will actively influence the implementation process in toto, but also will adapt to the demands of the total process. Adaptation and influence then are the cardinal functions of the curriculum during use.

The substantive category of user. There is consensus among the sources cited in the descriptive phase that the teacher can be considered to be a primary user of the curriculum, and therefore the subject of the activity of using the curriculum. In other words,

the teacher is the essential actor in the curriculum implementation process.

To elaborate, Gross and associates (1971) posited that foremost in importance is the teacher's role in implementation, as it is the teacher who acts upon adoption decisions and who must incorporate curricular demands into previously recognized role definitions. Krey (1968) asserted quite pointedly that "teachers are the ultimate determinants in the implementation of curricular plans" (p. 13). Implementation, said Beauchamp (1975), begins and ends with specific teacher decision-making and planning. Shipman (1974) placed the teacher at the fulcrum of implementation activities.

Although Fullan and Pomfret (1977) recognized the teacher as user, and as essential to implementation, they queried the roles of the parents and students as probable and possible secondary user actors. Regan and Leithwood (1974) postulated that the student was the logical second user in implementation. Mahan (1972) also perceived the students as primary, with the teacher as ancillary users. Notwithstanding the latter's interpretation and the suggestions of the

existence of the other probable actors in the implementation process, no data derived from the literature present a contradictory argument for the teacher as a non-user of the curriculum. The weight of the evidence supports the postulate that the teacher is the primary and central user of the curriculum within an implementation process.⁵

1. The nature of the user — Fullan and Pomfret (1977) argued that "not all teachers have the same propensity to implement" any given curricular innovation (p. 385). It has been asserted in numerous studies that the user's capacity to understand, appreciate, and ultimately use a curriculum are the most instrumental and decisive factors in the implementation process. Failures in implementation efforts have been bluntly attributed to the misuse, abuse, or non-use of a curriculum by the central actor or user, the teacher.⁶ However, three essential qualities or characteristics of the user pertinent to implementation emerged from the descriptive data. First, the user must have some knowledge of the curriculum to be used. Second, the user must exhibit a positive attitude toward the curriculum. Third, the user must possess the

necessary abilities and skills attendant to implementation of a curriculum.

Gross, Giaquinta and Bernstein (1971) proposed that a teacher, to use a curriculum, must understand the philosophy, objectives, design and associated technologies of the curriculum.

The Center for Educational Field Studies (1970) and Leithwood (1976) posited that, in order to understand a curriculum, a user must subject it to rigorous analysis. They elaborated that teachers must be able to plan for instruction and student evaluation on the basis of a solid grasp of the curriculum purposes, objectives, and possible potential inherent within the curriculum materials, coupled with an awareness of student and classroom exigencies. Leithwood (1976) stated that "given the main dimensions of a curriculum and sources of potential variation within each" the knowledgeable user must plan specific strategies for implementation (p. 19). Planning consequently must be founded in user comprehension of the curriculum.

Often a curriculum requires the user to learn new skills or learn new roles wrote Gross et al (1971). This problematic situation is often compounded if the

skills and/or roles are vaguely explicated in the curriculum. A reaction to this has been for teachers simply not to change or alter their behaviors, consequently blunting the affect of the curriculum. This process of assimilation to the familiar as espoused by Nicodemus (1976, 1977) results in teachers defining new skills and roles in a manner consistent with past or traditional values, norms, habits, and practices.

Consequently, the curriculum must be communicated clearly and this lack of clarity appears to be directly related to the absence of procedural content. It is a false assumption that a statement of general, abstract program values and objectives will easily be translated into new and appropriate user behavior patterns.

If teacher users do not have the skills or capabilities to implement, implementation will not occur. Gross et al (1971) pointed out that this does not assume teachers do not have "the capacity to learn how to perform new roles" or to acquire new expertise (p. 129). Berman and McLaughlin (1976), Roose (1976), and Shipman (1974) cited inservice training as a logical, ameliorative measure. Fullan (1975) added that necessary time and other resources must be

incorporated into the training program in order for this essential learning to occur. The Center for Educational Field Studies (1970) is a case in point.

The user must be motivated to use the curriculum, must be concerned about the progress of implementation, and must value the use of the curriculum. This was Krey's (1968) fundamental research assumption. Farrington (1974) spoke of personal characteristics of users in relation to innovation success. Gross et al (1971) were more specific in their isolation of user motivation or willingness to implement, and integrated this to degree of resistance to change. Regan and Leithwood (1974) also acknowledged that a teacher's personality is most instrumental to the nature of the implementation process. If a teacher does not feel "comfortable" with a curriculum, there is little likelihood of implementation success (p. 43).⁷

Pursuing the necessity of understanding into another realm, that of acceptance, Fullan (1975) posited that one essential dimension of implementation is the degree to which people in a situation truly believe in, accept, value, and are committed to the changes implied by the use of the curriculum.

To motivate teachers to implement curriculum many researchers have suggested that teachers should be involved in deliberation on curriculum matters. Leithwood et al (1976a), commenting on the customary assumption that participatory decision-making processes are effective strategies for stimulating implementation, maintained that it is an "unqualified assertion that teacher involvement in curriculum development will increase the commitment to, and effectiveness of, curriculum implementation" (p. 53). This may be in the long run counter productive and wasteful of both time and human resources. Fullan and Pomfret (1976) noted that "research in this area is conclusive because the nature or different dimensions of participation have not been related to implementation outcome" (p. 58).⁸ They further proposed that "the lack of solid research about the role of participation is related to a failure to conceptualize the possible relationship between participation and implementation", and to describe the conditions under which participation might be more or less effective (p. 62).

Although the above statements on the nature of the user relative to implementation are disjointed and,

at times, somewhat inconsistent, it must be recognized that research in this area is in a formative stage. The perception of the user is one that is in dire need of rigorous examination. However, three essential and ostensible characteristics or qualities of the user's nature; namely, knowledge, ability, and attitude, emerged from the data source as being instrumental to and affecting directly the implementation process.

2. The function of the user — From the data culled in the descriptive phase, three fundamental and necessary user functions can be generalized. Of singular importance, the user must be able to plan for the use of the curriculum within a given situation. Concomitantly, the user must be able to perform the requisite actions that were planned and therefore intended. Finally, the user must be able to monitor and to evaluate the planning and performance processes.⁹

Krey (1968) succinctly argued that implementation could be conceptualized as a user's planning for action. The Center for Educational Field Studies (1970) trained users in the basic skills of

implementation planning and assumed that mastery of such skills must be integral to any user success in implementation. Leithwood and Russell (1973) described a deliberate process of implementation which speaks of rigor and rationality in planning to accommodate situational needs. Leithwood's (1976) model for curriculum implementation addressed three planning categories; namely, diagnosis, application, and evaluation. Beauchamp (1975) equated implementation to user planning for instruction in toto. To the University of Texas Researchers, planning was integral to all levels of user functions. Planning in this case is the foundation upon which user performance is based. Notwithstanding, the precise nature of the user planning process is not explicated in any concerted fashion in the descriptive literature. Pressman and Wildavsky (1973) writing on the topic of implementation of social policies suggested that planning must be prior to action, and must anticipate implementation problems and concomitant consequences. This requires the recognition of decision points inherent in the planning process and the recommendations of methods to facilitate this decision making. Kritek (1976) in his

review of the literature on implementation alluded to planning as a continuous process; one that is subject to modification and deliberate development. Consequential actions are based on prior plans and act as evaluation criteria to monitor and direct subsequent planning. To put it another way, the planning process is influenced by its own history. However, Inbar (1971), writing on the topic of implementing educational plans, offered some prescriptions that can be possibly translated and applied to curriculum implementation and user planning in order to illuminate what was concluded from the descriptive data. His argument is presented in the following paragraphs.

Inbar (1971) equated planning in general to the process of preparing a set of decisions for action in the future. The action, of course, is instructional action as applied to curriculum implementation. Recognized is the fact that implementation planning requires the existence of potential planning resources that must be utilized to facilitate use of the curriculum. However, the existence of the resources is not a sufficient condition for implementation. There must exist the ability to use these resources, which

in fact are consumable and hence scarce. Possible resources available to the user would be the curriculum, user skills, time, recognized needs, organizational facilities, technical resources, and teacher motivation. Inbar (1971) concluded that:

In terms of the problem of scarcity of resources, the objective [is] to configurate the planning resources in such a way as to match the type of plan and change what is dealt with in certain conditions and consequently to increase the probability of success in implementation. In other words, the question is how much of what resources is to be used when. ... Although there are undoubtedly many possible variations in which the various resources can be combined and employed, it will be most useful to define and analyze some of the major profiles of resource combinations. ... Each of these configurations will produce a unique pattern of implementation.

(p. 124)

A logical conclusion, to follow Inbar's (1971) argument, would be that curriculum implementation user plans are a product of the dynamic interactions

among the resources of the curriculum, the user, and the organizational setting for implementation. As each resource is unique in its own fashion, each plan will be peculiar unto itself. Secondly, each plan produces and experiences its own history, and is affected in the present by its own past. Hence, another implementation planning resource is the particular history of the plan and its subsequent action manifestation.

Innovation implementation, whether it be curricular or otherwise, demands ostensible behavioral change by the organizational members. This statement was specifically proposed as an essential assumption to the Gross, Giacquinta, and Bernstein (1971) implementation model. Implied was the proposal that behavior change was employed as a category that encompassed role change, and specific skill or task change. Similarly, Berman and McLaughlin (1975, 1976), Fullan (1975), Fullan and Pomfret (1977), Krey (1968), Regan and Leithwood (1974), Roose (1976), and Winklevoss (1975) considered behavior alteration or modification to be a fundamental function of the teacher in the implementation process. The degree of implementation, hence, the degree of user changed behavior is the extent to which, at a given

point in time, the organizational behavior of members conforms to the stipulations of the curriculum innovation. If the users do not alter their role and skill behaviors as intended, then the total implementation process disintegrates.

Unfortunately, Gross, Giacquinta, and Bernstein (1971) failed to successfully distinguish between the role and task function of the user, and their many prescriptions offered to reconcile user deficiencies and curricular requirements are aimed at specific skill remediation, rather than role change or revolution. Fullan and Pomfret (1977) have clearly noted that innovation implementation does necessitate and precipitate definite role alterations on the part of the user. However, they also cloud the issue by associating roles to specific instances of behavior. Notwithstanding, Fullan and Pomfret (1977) recognize that implementation consequences are "certain organizational changes", particularly changes in role relationships (p. 337). This latter implication is accepted by a vast majority of researchers investigating organizational change in toto. Because of this, the inferred but shrouded distinction between roles and specific

tasks (that is, usually in reference to 'specific' skills) should be acknowledged.

The University of Texas Researchers described eight levels of behaviors that can be charted during the developmental process of implementation. Implied was a tentative sequence of functions that the user must perform, ranging from mechanical use of the curriculum to sophisticated modifications of the curriculum as the curriculum accommodates situational exigencies. Although no overt explication is made relative to a user role per se, Hall (1978) made reference to user roles in general and included the levels of user tasks and concomitant stages of concern within the general rubric of role. What can be inferred from his statements is that the sum total of a user's behavior as interpreted by the Concerns Based Adoption Model could be considered to be the user's role.

Unique user training sessions were employed by the Center for Educational Field Studies (1970) and Regan and Leithwood (1974) to rectify the situation in which a user cannot perform the designated role and/or task functions. Although the Center (1970) did not

distinguish between roles and tasks, the idea of user mastery of specified skills was introduced. The desired skills were contingent upon prescribed curriculum requirements. The assumption was that the user must acquire both the conceptual, as well as the practical, skills in order to implement with any degree of success.

Regan and Leithwood (1974) recognized inadequate user behavior as the primary block to successful implementation. As a result, teachers or users must be trained in the complex behaviors or skills that are necessary to use the curriculum in a fidelity fashion. This training, in fact, embodied their actual strategy for implementing the curriculum.

Integral to Leithwood's (1976) conceptualization is what the literature on implementation generally espouses to be the third function of the user, that of monitoring and evaluating. Roose (1976) incorporated the evaluation function within the rubric of planned change. Leithwood (1976) regarded evaluation as a separate, but essential aspect of the user's tasks within the implementation process. Musella (1971) distinguished evaluation from the act of implementation,

but included it within his total conceptualization of the process of implementing change (p. 22).

Winklevoss (1975) considered evaluation activities as essential and necessary to implementation. Evaluation must assess the effectiveness of the planning function. As user planning has been considered to be continuous, the evaluation type would be a process evaluation. Winklevoss (1975) contended that this process evaluation would focus on user role fidelity to the curriculum, while Leithwood (1976) suggested that process evaluation would assess the degree to which situational needs were satisfied by the implementation plans.

The specific function of user process evaluation, according to Fullan (1975), is to determine the degree to which implementation goals are being achieved and to suggest "further action" to the teacher user (p. 39). The latter was the primary role of evaluation as espoused by the University of Texas Researchers. Throughout the levels of use as the plans and user behaviors change, the evaluation tasks must also change to accommodate altered planner requirements.

In essence, what is suggested by the aforementioned researchers is that the user performs a specific type of evaluative task during implementation. The evaluative task is formative in nature and is geared to monitor the other two essential user functions, those of planning and performing.

Generally then, user evaluation has a triple purpose. Evaluation must facilitate user functions. Secondly, to borrow an expression from Lewy (1977), evaluation must act as a quality control. Finally, evaluation must indicate alternatives for improvement.

In summary, the user must be able to perform three specific and inter-related functions during curriculum implementation. First, the user must be able to plan for the use of the curriculum within a given context. Concurrently, the user must be able to perform those requisite actions required during implementation planning processes. Third, the user must be able to monitor the success of plans and performances in the realization of implementation purposes.

The substantive category of organization. A majority of the sources on curriculum implementation

discussed in the descriptive phase of the study advocated that implementation optimally occurs within the individual school unit. Most were definitive and referred to the school organization or the school environment as necessary factors in the implementation process. Hence, the organizational receptacle¹⁰ for the curriculum is proposed as the third essential substantive element, and therefore, category, of the general category of curriculum implementation.

From an analysis of the descriptive data, two distinct subcomponents of the organizational category became apparent; namely, management and organizational characteristics. While the studies documented in the descriptive phase did not ostensibly report a definitive distinction between the subcomponents, a majority of the studies discussed the two entities separately, while recognizing their interdependent natures and functions. The subsequent chapter sections commence with an analysis of the nature and function of the implementation manager and terminate with an examination of the nature and function of the organizational characteristics other than the manager that affect the processes

and products of curriculum implementation. Both subcategories of manager and organizational characteristics have emerged from a classification of the descriptive data. However, the data will not support a complete divorce among the two subcategories. Therefore each will be considered a subconcept of the substantive category of organization.

1. The nature of the manager — Although the literature in educational administration has expended considerable effort in defining the concepts of administration, supervision, and management, there is no consensus on the use of these terms in implementation studies. Consequently, the terms, manager and management, will be employed by this study in lieu of multiple and indiscriminate usages in the literature. To attempt any further precision in definition is futile as the management factor is perhaps, as suggested by Fullan and Pomfret (1977), the least understood factor having function and significance in the implementation process.

Dissention reigns in the research relative to the nature of the manager of the implementation process. An additional dilemma is the notion that more than one actor can assume the role of manager. For instance,

some studies suggest that the building administrator or principal should perform all management tasks associated with curriculum implementation. Others propose that the curriculum developer should usurp some specific tasks. And still others assume that a change/implementation agent should be introduced into the implementation system and should have a definite role to play. In lieu of this perplexing confusion, some very general and perhaps cursory characteristics relative to the manager can be abstracted from the literature. No conclusions relative to either the line or staff significance of the manager will be made. The assumption is that the source of the manager's original role will not be a major concern. The purpose is to generalize about the manager's nature, whoever in actuality that manager may be. Essentially, in order to facilitate implementation efforts, the manager must exhibit those qualities of leadership of, and commitment to the process and must be knowledgeable of the curriculum.

First and foremost, the manager must be a leader within the implementation process. Implied, but not overtly substantiated, are the two dimensions of leadership behavior — structure and consideration.

Structure includes behavior in which the manager "organizes and defines group activities and his relation to the group. Thus, he defines the role he expects each member to assume, assigns tasks, plans ahead, establishes ways of getting things done, and pushes for production" (Owens, 1970, p. 121). Specifically, the research said the manager must be a planner, a problem-solver or facilitator thereof. Brantley (1975) asserted that the manager must anticipate implementation problems and consequently must "actively search out and resolve the impediments to successful implementation" (p. 133). Beauchamp (1975) suggested that the manager must structure the processes of deliberation within the curriculum system and must lead the planning activities. Gross, Giaquinta, and Bernstein (1971) presented an elaborate case for the role of the manager as leader of the implementation process and one who must structure the implementation situation. Their argument is as follows:

Management is in the position to command an overall view of the organization and of the complex set of forces that influence it, only it can give general direction to the 'entire course' of implementation efforts. ... It is management's responsibility to develop an overall strategy for change. ... Management [must] keep in close touch with the process after the wheels of implementation efforts have been put in motion. It needs to see that they are operating effectively. ... Another task of management will be to assess the special types of problems that can be expected to arise when different types of innovations are introduced into their organizations. (p. 212-213)

On the other hand, the leader or manager must display consideration in that he "appears to emphasize a deeper concern for group members' needs and includes such behavior as allowing subordinates more participation in decision-making and encouraging more two-way communication" (Owens, 1970, p. 121). The University of Texas researchers and Berman and McLaughlin (1976)

emphasized the need for the manager to establish a facilitating and encouraging open organizational climate. Nicodemus (1977) and Dalin (1977) suggested it must be a climate open to dialogue between administrator and user. Mahan (1972) emphasized the need for teacher support mechanisms: emotional, psychological, financial, and material.

The manager's sincerity in achieving the above tasks will be a function of his commitment to and belief in the curriculum. As Roose (1976) put it, administrator "commitment may well be the single most important element to successful implementation" (p. 68).

The majority of researchers posited that both manager and users must be involved in a process of implementation planning. Implied is the assumption that there is some degree of mutual decision-making. However, actual participatory decision-making remains a questionable issue. The research does suggest that the manager must be supportive, encouraging, and reassuring. Also, the manager must be open and responsive to situational needs. As well, the manager must be a facilitator of actions among the various elements of the curriculum implementation process.

Finally, the manager must be knowledgeable and aware. He must understand the curriculum and the processes of implementation. Gross et al (1971) perceive the manager as a user's source of information relative to the intricacies of the curriculum. Only through understanding advocated Beauchamp (1975) and Nicodemus (1977) can the leader organize and direct the necessary curricular deliberations for successful implementation.

In summation, the descriptive data gave rise to three particular classifications of the general nature of the manager. The manager must lead the implementation process and must exhibit those requisite qualities of leadership. Second, the leader must be committed to the use of the curriculum and must display what is perceived by users as a positive and supportive attitude. Finally, the manager must understand the curriculum and consequently must be able to communicate this knowledge to the users of the curriculum.

2. The function of the manager — Emerging from those personal qualities necessary to implementation are specific functions that the manager must perform in order to provide for and facilitate curriculum use. Primarily the manager must be involved in the planning

prior to and during implementation. Second, the manager must organize the conditions required by the implementation plans. Third, the manager must evaluate the processes and outcomes of implementation. Finally, the manager must act as a motivational force to the total activity of implementing the curriculum.

According to Gross, Giacquinta, and Bernstein (1970) all of the barriers that serve as obstacles to the successful implementation of a curriculum innovation "can be attributed to a ... fundamental organizational condition. ... Analysis suggests that each of them is linked to a common root: the failure of the administration¹¹ to recognize or to resolve problems to which it exposed teachers when it requested them to implement the innovation" (p. 190-191). Gross and associates (1971) proposed that

Subordinates have a right to expect management

- (1) to take the steps necessary to provide them with a clear picture of their new role requirements;
- (2) to adjust organizational arrangements to make them compatible with the innovation;
- (3) to provide subordinates with necessary re-training experiences ...;
- (4) to provide the

resources necessary to carry out the innovation; and (5) to provide the appropriate supports and rewards to maintain subordinates' willingness to make implementation efforts ... Subordinates have a right to expect management to be committed to an innovation it expects them to implement, and to provide effective mechanisms and decision-making procedures to cope with anticipated and unanticipated problems that may arise. (p. 201)

Berman and McLaughlin (1976) posited that it is the "local institutional setting" that has the "major influence" on implementation success (p. 361). While two predominant affecting factors within this setting are organizational climate and motivations of teacher users, the manager performs an instrumental function in influencing these factors. Berman and McLaughlin (1976) explained.

High morale of teachers at a school, the active support of principals who appear to be the 'gatekeepers' of change, ... increased the chances of teacher change and perceived success. The attitudes or administrators in effect tell the staff how seriously they should take project objectives. (p. 361)

Leithwood et al (1976) stated that the manager who acts as a change agent must provide positive rewards to the teacher users, and must remove or reduce "disincentives" and barriers to implementation (p. 118). Additionally, the manager must establish communication channels and mutual support mechanisms between adopters (that is, those who made the decision to implement) and teachers in order to facilitate optimum use of the curriculum.

Hall, Wallace, and Dossett (1973) perceived the change agent, or manager, to be the key role in the resource system's relationship with the user system. The manager "is concerned with changes in the individuals, in the user system as an organization, and, if need be, in the innovation itself that will lead to attainment and continuance of a high level of use of the innovation by the user system" (p. 19).

Shipman (1974), while considering that implementation occurs within a school organization, recognized that the process was affected by that organization's administration or manager. The degree of implementation will be consonant with the level or degree of investment made by the organization's leader in

implementation efforts. Investment can be in terms "of ideas, of resources, of time or of energy" (p. 121). Specifically, this investment would consist of organizational changes and structures primarily instigated by the administrator.

In 1977 Leithwood introduced the idea of a curriculum manager. This emerged as a culmination of his research on curriculum and curriculum implementation and is most worthy of consideration in this study.

The curriculum manager, proposed Leithwood (1977), basically is one who influences intermediaries via the "performance of general functions specified by his management role in relation to the special classes of decisions required by the curriculum task area in which he finds himself working" (p. 5). The particular task area of concern is that of implementation. What will follow is a discussion of the curriculum manager's role in toto as interpreted by Leithwood (1977).

Leithwood (1977) asserted that the fundamental role of the curriculum manager in the decision areas related to implementation is to provide for the effective use of selected or developed curriculum materials. Precise planning tasks ensuing from this are:

1. diagnosing the goals for implementation;
2. identifying the obstacles to goal achievement;
3. designing strategies to overcome obstacles;
4. applying strategies to overcome obstacles;
5. determining whether obstacles have been overcome;
6. determining whether implementation goals have been achieved. (p. 12)

Within the above six management tasks can be abstracted four general classes of curriculum implementation decisions; namely, planning, organizing, supervising, and communicating. In other words, implementation requires of the manager planning, organizing and supervisory skills, and communication expertise. Each will be discussed in turn.

Before he can act, the manager must plan a prior conceptual framework for implementation. Essentially this is the sensitive development of a strategy for action founded in implementation contextual needs, characteristics, resources, goals, and historical trends.

The action of organizing suggests coordination of organizational materials, resources, structures, and personnel. Accordingly, implementation will be facilitated if the manager is able to diagnose implementation goals, design and apply strategies to overcome obstacles to goal achievement, and determine whether obstacles have been overcome and goals have been achieved. Further the manager must develop implementation decision-making structures and allocate needed resources.

Supervising is usually synonymous with the functions of command and control, monitoring the process as it were. According to Leithwood (1977), to supervise curriculum implementation, the manager should be able to collect and use information relative to the goals, strategies, and personnel involved in the process.

Communication is a necessary and integral component of the three previously described categories of managerial skills. Leithwood (1977) asserts that communicating about the process of implementation involves dialogue on goal progress, strategy formation, possible or existing decision structures, and evaluation procedures.

Leithwood's (1977) interpretation of the implementation process can be subsumed within a general orientation termed the managerial perspective of implementation as proposed by Fullan and Pomfret (1977). This orientation is grounded in the assumption that users must be resocialized to the ensuing organizational changes precipitated by the proposed curriculum. Users are regarded not as co-deciders in the planning and action processes associated with implementation, but as advisors (p. 379). As a result, the building administrator, or manager as it were, emerges as pivotal to implementation. It is the manager's responsibility to provide structures, resources, evaluative information, training opportunities, communication structures, and motivation devices in order to facilitate and encourage the processes of implementation.

From an analysis of the descriptive data, four generalized functions emerged relative to the role of the manager in the implementation process. The manager of curriculum implementation is in a position to oversee the process in its entirety, to understand the totality of factors at play, and to provide direction

to the process. Simply, the manager must lead the implementation process and must be a leader to the implementation system.

As a leader, the first function of the manager is to be actively involved in planning for and during the implementation. This function seems to have a problem-solving emphasis. The manager must be able to anticipate and recognize implementation problems, establish implementation goals, explore alternatives, facilitate resolutions, and forecast alternatives. This planning function has a second function which is that of implementation strategy formation. Each situation will require an implementation strategy peculiar to its own particular exigencies. Consequently, the manager must be able to recognize these needs and accommodate them by devising strategies contingent upon each situation. Additionally, the planning process is a continuous one, thus necessitating the manager's constant reassessment of implementation conditions and strategies.

The manager, as leader, functions to coordinate or organize those organizational parts or elements that must operate in harmony to achieve the implementation

system's goals. These goals, it must be remembered, are established via the manager's planning function. These goals are not static, but subject to change during the process. In this capacity as coordinator, the manager should make available necessary human and material resources, should assess the pool of user skills available, and if warranted provide ameliorative professional development or inservice sessions, and to create or modify organizational arrangements or structures to accommodate implementation demands. These tasks require a comprehensive system of communication among the various system actors. Each actor must be assured of his necessary allocation of resources and each must have his needs satiated. Only through functioning communication networks, both formal and informal, will implementation problems be resolved and decision making facilitated. What is implicit to the specific communication task and the general coordination function is the organization of a teacher implementation behavior system.

This system must be monitored and evaluated. The manager performs functions that influence the system and the actors or users within the system. These

influences are designed to further the realization of implementation goals. Consequently, the manager must evaluate continuously the processes of implementation and provide corrective measures when necessary. Concomitantly, such process evaluation must assess the quality of implementation goals to determine whether the goals are significant and relevant to the implementation system at that particular time in its history. Also, the manager must evaluate the outcomes of the implementation system in order to be able to determine when the implementation process has been completed or has satisfied the situation's needs. Thus, the third necessary function of the implementation manager is that of evaluation.

The final function of the manager is to motivate the operation of the users within the implementation system. Barnard (1938) proposed that the willingness of organizational members to work toward the achievement of organizational goals is an essential characteristic of organizations in general (p. 72). Such is the case with the implementation system. The manager must enhance and stimulate the efforts of the implementation

users. In this capacity, the manager is the source of reward, remuneration, and praise.

3. The nature of organizational characteristics.

The consensus of the majority of the representative studies quoted in the descriptive phase of the study was that for implementation to occur, the receiving organization must be characterized by adaptation, and consequently must be receptive to change and innovation. Implicit are effective communication channels to receive and translate this change. Specifically the adoption of a new curriculum, no matter how traditional or innovative, will produce some change, no matter how small. The organization and members must be able to accommodate the new curriculum within its structures and to its goals. This process is mutually adaptive and the organization will change, or perhaps experience development or growth as the curriculum users apply professional expertise to the complex problem of implementing a curriculum.

This quality of adaptability was considered by Leithwood and Russell (1973), Leithwood (1976); and Musella (1971) as instrumental to the recognition of implementation as a problem-solving process.

Adaptation and flexibility may occur prior to implementation as Leithwood (1976) suggested in his argument for the necessity of a prior climate for implementation or Gross' et al (1971) recognition of the need for compatibility of school arrangements. Or adaptation could continuously occur during the process of implementation as postulated by Berman and McLaughlin (1976), Dalin (1975), Fullan (1975), Fullan and Pomfret (1977), Leithwood (1976), Nicodemus (1976), and Shipman (1974).

For successful implementation to occur, the organization into which a curriculum is received must exhibit the characteristic quality of openness. Fullan (1975) equated the idea of an open organizational climate to that of a supportive climate in which the user receives the necessary rewards, incentives, and encouragements vital to implementing a curriculum. Both Nicodemus (1976) and Shipman (1974) identified an organization with a permeable boundary as instrumental to a mutually adaptive implementation process where the implementing activities accommodate needs both internal and external to the receiving organization. The University of Texas researchers and Dalin (1975)

also recognized the necessity of an open climate to the development of the organization. Dalin (1975) described this openness by equating implementation actions to a process of continuous dialogue among all actors involved, specifically between the school and its environment, and between the school and the central administration.

The concept of organizational climate has not been explicated by the researchers on implementation. In an attempt to clarify its meaning the analogy developed by the organizational theorist Halpin (1966) will be forwarded. Halpin (1966) suggested that "Personality is to the individual, what Organizational Climate is to the organization" (p. 131). Consequently, an organization attributed as having an open climate will have high esprit or morale and will contain organizational members actively involved in organizational tasks. In this case those tasks can be considered as implementation tasks.

To summarize, it was determined that in order to provide the necessary conditions for curriculum implementation, the receiving organization must be characterized by two essential qualities. First, the

organization must have an open climate that is receptive to internal and external implementation demands. Second, the organization must be adaptive and be able to accommodate change.

4. The function of organizational characteristics — Those researchers, advocating a fidelity orientation to curriculum implementation where the curriculum should be utilized as intended by the developers, should logically attempt to minimize situational affects on the implemented curriculum or to underscore their significance. However, all of the researchers recognized the impact of the organization on the curriculum implementation process. For example, Gross, Giacquinta and Bernstein (1977), Winklevoss (1975), and Brantley (1975) argued that implementation is an action process that occurs within a definitive organizational structure that must establish, facilitate, and maintain subordinate implementation activities. Implementation could not occur without the reception and consequential influence of the organization and its members. Fullan and Pomfret (1977) have also asserted that curriculum implementation necessitates certain organizational changes and receives certain organizational

affects and appear to have accepted this tenet as a given state of affairs in the development of their argument.

Specifically, the organization performs four recognized functions relative to curriculum implementation. First, the organization must be adaptive. Second, the organization must maintain user morale. Third, the organization must create a temporary implementation system. Finally, it must be able to provide the contingencies for which the temporary system was developed.

Fullan and Pomfret (1977) posited that a receiving implementation system must be characterized by adaptability and receptivity and must accommodate curricular and user demands and peculiarities. Receptiveness of the institutional setting to change was cited by both Berman and McLaughlin (1976) and Fullan (1975) as an essential condition for implementation success. Either a hostile, or an indifferent setting proved not to be able to provide the necessary support. In contrast, a receptive institutional setting should provide explicit, steady, continuous, support for change.

Musella (1971) conceptualized the implementation process as one that occurs within a system that exists

to resolve problems. The system provides the resources but also the constraints affecting the process. From the adaptation among the system, the system's members, and the curriculum, implementation alternatives and plans will emerge.

Shipman (1974) applied the idea of organizational structures to curriculum implementation activities. He asserted that the receiving system must provide certain flexible communication and decision-making structures necessary for implementation to occur. Notably Brantley (1975), Nicodemus (1976), and Roose (1976) stressed the need for efficient and effective communication networks as essential organizational structures. As well, the system must contain or locate the pre-requisite resources such as facilities, time, money, human energy and ideas, motivation, and management. In other words, implementation according to Shipman (1974) is a "combined operation" among curriculum users, the curriculum, and the organization or system and its administrator (p. 86).

While all of the researches supporting the premise that curriculum implementation is a process of mutual adaptation, particularly involving organizational

adaptation, Dalin (1975) and McLaughlin and Berman (1977) have posited that this adaptation is concurrent with organizational development activities. Therefore, a function of the organization during implementation is to develop or grow in a positive fashion. Dalin (1975) explained it this way

Successful implementation would mean the ability of the school to be responsive to centrally or externally developed and/or directed innovations, on the one hand and, at the same time, the ability to develop a creative growth and improvement process within the school itself ... (p. 2)

Implementation implies the continuous growth or development of the organization via the specific processes of meeting organizational needs and solving organizational problems. Nicodemus' (1976) argument was similar, but proposed that the consequence of implementation should be more generally couched in the term organizational change as opposed to organizational development.

Coupled with this is the argument forwarded by a majority of the representative studies that organizational morale is a determining factor in implementation. Brantley (1975), Gross et al (1970), and

Winklevooss (1975) cited the necessity of the organization to encourage and maintain the user's willingness to implement. Berman and McLaughlin (1976) cited user's morale as crucial to implementation success. Fullan (1975) championed the vital need for a pervasive organizational incentive system to foster and maintain implementation processes. He suggested that such things as inservice training, material resources support, honest feedback, and participatory decision-making processes, in addition to psychological encouragements, could all serve in some capacity in such an incentive system.

Leithwood and Russell (1973), adding another dimension to the function of the organization, posited that the organization exerts needs on the implementation process. If implementation is to be successful, the process must be geared to satisfying organizational exigencies. Essentially these needs are problems that must be resolved and the curriculum serves as one alternative for problem resolution. A similar argument is proposed by Leithwood in his 1976 research in which he perceived the role of the curriculum as adapting to situational conditions. He assumed that the curriculum was not to be implemented into a vacuum, but into a

situation characterized by history, norms, expectations, and a present status quo.

Farrington (1974) accepted that curriculum implementation exists within a formal organization but the actual activity of implementing occurs within a temporary subsystem. This temporary system must provide the necessary resources, human and otherwise, to facilitate implementation and to alleviate user needs and concerns. Suggested is the proposition that the implementation system function as a problem-solving system. Hall, Wallace, and Dossett (1973) explained that this implementation system, or what they defined as the "collaboration system" is not permanent and has, as a life expectancy, the time required by the user system to achieve independent use of the curriculum (p. 9). It is within this system that implementation objectives are achieved and implementation processes occur.

Additionally, the organization must be able to provide the contingencies for which the temporary implementation system was created. Within the organization must exist a vast repertoire of alternatives, or an alternative pool to accommodate problem-solving needs.

For example, a variety of human, technical, material or organizational resources must be available so that as the implementation process develops, the concurrent needs of the process will be satiated by the alternatives available within the organization. Of importance is the existence of avenues for problem resolution. Ineffective channels of communication, both formal or informal, will stymie decision making. Communication must be timely, pervasive, efficient, and appropriate if implementation problems are to be solved. The problem of implementation is the reason for the initiation and maintenance of the temporary system. Once the curriculum is being used and is integrated into the organization or institutionalized, the temporary system ceases to function and disintegrates without affecting or threatening the total school organization.

The conclusions that can be proposed relative to the role of the organizational characteristics suggest that the total organization performs necessary and direct functions during the curriculum implementation process.

The organization must be able to accommodate the curriculum within its boundaries. The essence of

accommodation is adaptability and openness. Concomitantly, the organization must be able to provide those necessities for organizational members involved in implementation in order to maintain their desire and willingness to use the curriculum. In other words the organization must function to foster user's morale.

These two ideas have also received extensive consideration in contemporary research on organizations and the conclusions espoused by such noted researchers as Eisner (1970), Goodlad and Klein (1970), Miles (1975), and Schmuck and Miles (1971) are worthy of mention as they add support to the generalizations derived from the descriptive data.

Organizational adaptability and morale have appeared in the literature under the rubric of organizational climate. In fact Berman and McLaughlin (1976) and the University of Texas researchers acknowledged the determining existence of such climate. However, Eisner (1970) also wrote of the total organizational climate or "press" on the organizational implementation process (p. 13). Schmuck and Miles (1971) advocated that many, if not most, efforts at educational implementation and reform in general have failed because of

the failure to understand the organizational context. They concluded that any major implementation process of curriculum or instructional innovation implies a change in the school climate and this must become the focus of analysis for curriculum implementors in order to maintain and possibly improve organizational health.

Goodlad and Klein (1970) specified organizational climate, or what they term 'milieu', as an influencing factor in the implementation process. Whether the milieu is negative and punitive, or whether it is supportive and encouraging, affects implementation negatively and positively, respectively. Marcum's (1968) research showed that there is a significant relationship between an open school climate and the degree of implementation of innovation. Doak (1970) considered the organizational climate as the "first and most important" factor affecting the implementation of change (p. 368). The climate can be good or bad, open or closed, supportive or not, authoritarian or democratic, perhaps more frequently ambivalent. Whatever, the prime task of the manager must be to ready the climate for implementation. This necessitates an open climate that is acceptant to change; one that is

accommodating and flexible; one that has a condition of high morale; and one that is in a state of health.

A third function of organizational characteristics to emerge from the data classification was the creation by the organization of a temporary system within its boundaries. This system would be created for the sole purpose of implementing a curriculum and would logically involve some restructuring of the organization's established structure. Implementation would be perceived as a problem for the temporary system to resolve.

The idea of a temporary system is not new to organizational researchers. For example McKague (1971) proposed that organizations necessarily must be adaptive, rapidly changing, temporary systems that are organized around problems to be solved by individuals with the required skills.

Charters and Pellegrin (1973) also made a separation between the "established administrative structure and the temporary system for" management of the implementation of an innovation (p. 12).¹²

Miles (1975) wrote of the temporary system which exists to ameliorate problems; redress new demands, such as a newly introduced curriculum.¹³ The purpose

of this temporary system is to change the norms of the organization. The remainder of the organization must operate under a business-as-usual premise if the organization is to survive.¹⁴ Within the temporary system "new norms can develop, and where ... meaningful changes can be made in the structure and functioning of the permanent system" (p. 201).

Finally, the organization must provide the contingencies for which the temporary implementation system was created. Suggested were such factors as structures,¹⁵ resources, rewards, time, and energy. Simply, the organization must satisfy the needs of a system devoted to the purpose of solving the problem of implementation.

Much has been documented on what has been classified as the substantive category of organization. While paying heed to Manning's (1973) observation that no systematic categorization of organizational variables has been developed, a tentative attempt was made to separate the subcategory of manager or administrator from organizational characteristics, and to subsequently explain, via abstractions and generalizations from the data, the nature and function of each. However, it is

clearly recognized that the organizational category is a facet of the implementation process that is in dire need of descriptive, exploratory, and experimental research, and remains, still, subject to much speculation and conjecture.

The Process Category of Planning

The curriculum implementation process, as described by the representative sources, is either characterized by or is equated with the activity of planning. Brantley (1975), Beauchamp (1975)², Krey (1968), Mahan (1972)¹, Regan and Leithwood (1974), Shipman (1974), the University of Texas researchers, and Winklevoss (1975) wrote directly of implementation planning activities. Leithwood (1976) developed an argument for implementation as a decision-making procedure. Previously, Leithwood and Russell (1973) proposed that implementation was synonymous with problem-solving. Dalin (1973), Fullan (1975), and Fullan and Pomfret (1977) advanced the notion of implementation strategies. The latter researchers, via the use of different rubrics, are essentially referring to planning in toto, or a portion thereof.¹⁶

It is also significant that the vast majority of researchers asserted that implementation has an action end, with that end being instruction. Only two studies incorporate instruction within the actual implementation process, notably Mahan (1972) and Regan and Leithwood (1974). It is universally accepted that instruction, if not the logical outcome of implementation, affects the implementation process or more specifically the planning process. Notwithstanding, the weight of the evidence suggests that instruction can be considered to be the consequence of curriculum implementation.

1. The nature of the planning process — Curriculum implementation planning is unfortunately suffering from a poverty of descriptions, analyses, and explanations. While much of the literature contains reference to planning, few studies advocate prescriptions for curriculum implementation planning processes. However, some basic planning elements are offered by the Center for Educational Field Studies (1970), Leithwood and Russell (1973), and Leithwood (1976). Yet, this overall vagueness and dearth of research evidence necessitates future investigation into the particulars

pertinent to curriculum implementation planning. However, the only alternative available at this time is to explore Inbar's (1971) and Zaltman's et al (1977) conceptualization of educational implementation planning in general. Hopefully, this will allow for some speculation and extrapolation on the inferred and specific nature of the curriculum implementation planning process.

Inbar (1971) proposed that implementation planning is a "process of preparing a set of decisions for action in the future, directed at achieving goals by optimal means" (p. 17). In addition, a complete planning process should include four structural phases, which are:

1. analysis and description of a contemporary situation;
2. forecasting of future trends;
3. recommendations for future changes; and
4. sequential steps of systematically related decisions to bring about desired changes. (p. 19)

From this, Inbar (1971) presented a typology of plans according to decision and action orientations which is portrayed in Figure 6.

	Use of Decisions	Absence of Decisions
Orientation toward action	+ + (A)	+ - (B)
Absence of action	- + (C)	- - (D)

Figure 6: Inbar (1971):
Typology of Plans According
to Decisions and Action
Orientations (p. 18)

Type A planning processes result in a set of decisions that are intended to be put into action. These are implementation plans. Type B plans are "descriptions of various actions without specified decisions about if, who, how and when" they will be operationalized (p. 18). These plans can be considered to be a set of recommendations. Type C plans consist of decisions about things that must be done, or long range goals that must be achieved. Type D is simply non-planning.

Inbar's conceptualization of types of planning processes and advocacy that implementation plans are action oriented is similar to that of MacDonald (1974) who differentiated between planning for deciding and planning for doing. Implementation, in effect, encompasses those activities between the planning for deciding, or adoption as it were, and the operationalization of the actions resulting from the planning for doing.

In reference to the implementation of change, Zaltman et al (1977) argued that planning is the "sine qua non" of successful implementation (p. 125). Planning is the systematic preparation and decision

making for action. It is not a one-instance, temporary activity, but a continuous process involving diagnosis, monitoring, data collection, and analysis, evaluation, review and screening of resources, strategy building, and decision making (p. 125).

There is apparent consensus among the four previously reported positions relative to pertinent planning elements. Implementation planning is goal oriented; planning involves decision making and means; and finally planning has an action consequence. From this, the emergent premise is that curriculum implementation must also consist of those elements essential to implementation planning in general. There is no evidence in the literature, with the exception of the incorporation of action within curriculum implementation as previously discussed, that would refute or seriously challenge this proposition. Therefore, to reiterate, the essential elements of the curriculum implementation planning process are: goals; decision making; means; and action consequences.

To revisit Inbar's (1971) proposal, a complete planning process must include four structural phases; namely, analysis and description of a contemporary

situation; forecasting future trends; recommendations for future changes, or goals and consequences as it were; and sequential steps of systematically related decisions to bring about desired changes, or in other words, actual strategy decisions. What will follow is an examination of the literature to determine whether the process of implementation parallels the four planning structural phases espoused by Inbar (1971).

Phase one, the analysis and description of the contemporary situation and the consequential determination of needs, is a fundamental assumption of a majority of the studies in implementation. Brantley (1975) advocated that implementation planning must respond inexorably to the particular needs of each receiving organization. Leithwood and Russell (1973) posited that the implementation process occurs through a series of stages, commencing with the initial seminal need for program change and terminating with the operationalization of the change within a system. Leithwood (1976) defined the role of diagnosis of the present situation needs for change within a total implementational strategy. Dalin's (1975) argument on the nature of the implementation process hinges on the

assumption that schools can recognize their own developmental needs within their contemporary situation.

Phase two, forecasting future trends, is a logical product of phase one activities. The aforementioned authors either imply or assert that there must be a generalized recognition of the way in which users and trends are a product of a synthesis of present implementation needs and recognized, general patterns of implementation actions.

Phase three, recommendations for future changes, suggest goal setting and established directionality. The literature is replete with assertions to the fact that implementation is a goal-oriented process and one that has a definitive consequence. There is dissention, however, as to the specific nature of goals and the concomitant strategies to attain these goals. Inbar (1971) warned that the goals and purposes do in fact play a pervasive role in determining goal realization procedures. As this specific issue will be developed later in the study, it will suffice to simply accept that goal formulating activity can be equated with Inbar's third planning phase of recommendations for future changes.

Phase four, sequential steps of systematically related decisions to realize the established goals, is the most essential and complex planning phase. Implicit is rationality and deliberation. Beauchamp (1975), Berman and McLaughlin (1975), Brantley (1971), the Center for Educational Field Studies (1970), Fullan (1975), Fullan and Pomfret (1977), Leithwood (1975), Leithwood and Russell (1973), Mahan (1972), and the University of Texas Research group wrote of planning, decision making, and problem solving. Two of the most prescriptive were Leithwood (1976) and the Center for Educational Field Studies (1970). The former recognized three distinct, sequential decision stages in the implementation process: diagnosis, application, and evaluation. The latter proposed two essential types of decision stages; namely, analysis and development.

2. The function of the planning process —

Planning is the essential process element of curriculum implementation. Implementation planning is the systematic preparation and decision making for a specific action end, instruction. In other words, the function of curriculum planning is simply to prepare for instruction.

Three categories of elements interact within this planning process: the curriculum; the user; and the organization. However, how this preparation for instruction occurs is among the least understood of the implementation elements, and consequently will be subjected to the most speculation.

The Purpose of Curriculum Implementation:
Mutual Adaptation Consequence

It has been accepted that curriculum implementation is a planning process. Central to this is the idea of doing or acting in a certain prescribed way. If the activity of implementation is recognized, then it follows logically to question the purpose and predictable consequence of such activity.

The representative sources cited in the descriptive phase of the study can be clustered into two distinct and somewhat mutually exclusive orientations to implementation consequences. Gross, Giacquinta and Bernstein (1971), Windlevoss (1975), Brantley (1975), Krey (1968), Roose (1976), Center for Educational Field Studies, Washington University (1970), Mahan (1972), Regan and Leithwood (1974), espoused a fidelity perspective to implementation purposes. Essentially,

this means that implementation outcomes should correspond completely to curriculum intents and structures. In other words, the receiving organization and organizational members must accommodate all demands of the adopted curriculum if implementation is to be regarded as successful. The purpose of implementation then is to have the intents and structures of the curriculum realized in totality in practice.

In contrast, Beauchamp (1975), Fullan (1975), Fullan and Pomfret (1977), Musella (1971), Shipman (1974), Nicodemus (1976, 1977), Berman and McLaughlin (1976), and Dalin (1975) contended that the purposes, and hence consequences, of curriculum implementation, are couched in the processes of mutual adaptation. The University of Texas researchers wrote of adaptation and modification, although do not utilize the term mutual adaptation.

Mutual adaptation implies adaptation by all three categories of curriculum implementation elements; the curriculum, the organization, and the user. It is interesting to note that this idea of mutual adaptation appeared in the literature in 1964 when Miles wrote of the installation of an innovation into a system.

Miles (1964), incorporating implementation within the rubric of installation, contended that the installation of an innovation into a system is not a mechanical process but a developmental one, in which both the innovation and the accepting system are altered.¹⁷

A dilemma is apparently present in the literature, but an in-depth analysis exposes a resolution. It must be recognized that a majority of the studies espousing a fidelity purpose are studies documenting implementation failure. However, actual practice showed fidelity was an ideal goal, but was rarely realized.

What is the present state of innovations in North American schools? Karmos and Jacko (1977) reported that curriculum "innovations, which may vary from modest changes to a total reorganization, just aren't working" (p. 47). Benham (1977) branded the age of educational innovation and reform, the sixties and early seventies, as a failure. Perhaps Selakovich (1975) portrayed it best when he said, "With all of its noise; its millions of words, its dedicated activists, the school reform movement has faded into history with hardly a trace of evidence that it ever existed" (p. 13). Consequently, the innovations,

whether curricular or otherwise, simply were not implemented. The assumption inherent in all three aforementioned authors' conclusions is a fidelity perspective to implementation goals. Innovations were not used as intended; consequently they failed to achieve their intended purposes.

A central hypothesis of Berman and McLaughlin's (1976) exploratory study suggested that innovations are seldom implemented as planned, but in fact, they "mutate" during implementation (p. 349). By this is meant that innovations change through time and display ostensible variability from one institutional setting to another. In other words, adaptation is the rule, rather than the exception. From these arguments, Berman and McLaughlin (1976) proposed that the implementation process is one characterized by mutual adaptation, in which all three essential curriculum implementation elements are involved.

Dalin (1975) added further credence by citing IMTEC's Case Studies of Educational Innovation which conclusively demonstrated that "schools do not adopt innovations and they do not create them either. Schools adapt and develop innovations" (p. 2). Fullan

and Pomfret (1977) also corroborated Dalin's (1975) conclusion by suggesting that the weight of the evidence from the field supports the notion that implementation purposes, in practice as opposed to theory, are determined through the processes of mutual adaptation.

To conclude, this study proposes that while the purpose of curriculum implementation ideally is to have a curriculum used as intended, in actual fact, a curriculum experiences adaptive change in the process. The degree to which a curriculum can be modified and still be considered to be the original is a question that remains unanswered. For example, a curriculum may be drastically adapted to the receiving organization by the users, so that it is totally transformed while the remaining two implementation elements experience no change. This concept of assimilation to the familiar is termed "cooptation" by McLaughlin and Berman (1975, p. 3). Conversely, a curriculum may be subjected to so much creative, adaptive energy and ideas by the users and organization, that rather than being implemented, it functions as a stimulus to development, whether curricular or organizational. In both

instances, the curriculum, as originally conceived, is lost.

The theoretical purpose of curriculum implementation is fidelity, while the practical consequence is mutual adaptation. Purpose and consequence, in this sense, are synonyms. Therefore both will be considered equivalent by the fact that the descriptive data do not allow for further abstraction. However, the descriptive data does generally conclude that the logical product of curriculum implementation is one of mutual adaptation among the implementation elements. Fidelity implies strict adherence by the teacher user and absolute accommodation by the organization to the curriculum; two eventualities only possible in the realms of fiction or speculation.¹⁸

Two repetitious studies can be cited to further support the conclusions formulated relative to implementation products, and hence predictable purposes. One case in point is the Harvard Social Studies Project. A second is Aoki's (1977) experiences with Project Canada West of the Canada Studies Foundation.

Dumas and Guenther (1972), reporting on the implementation of the Harvard Project, discussed their

findings in light of the assumption that implementation is equated to fidelity teacher use of the materials. They found that the curriculum materials were being utilized in diverse fashions, and this use was totally dependent on the teacher's definition of the purpose of the materials. This suggests that use is contingent upon receiver needs and inclinations.

Aoki (1977) couched this fidelity and adaptation dichotomy of implementation in the language of the economist. If teacher users adopt and implement a curriculum in toto, they could be considered "passive consumers" (p. 53). Alternatively, teachers must be conceived as producer-consumers when they adopt a necessary mutual adaptation stance. As producer-consumers, teachers function as "co-actors in productive activities" through the process of adapting and improving the curriculum relative to their individual needs.

Thus, the plausible and probable purpose of curriculum implementation is one termed mutual adaptation consequence. Fidelity cannot be achieved in actuality. This purpose suggests adaptative change by all implementation elements; namely, the curriculum, the user,

and the organization. Of significance is the fact that this purpose is the realization of the action of instruction. Therefore, curriculum implementation has a purpose and eventual consequence that are action oriented.

Summary

The purpose of the chapter and phase of the study was to analyze critically the descriptive data in order to develop general categories representing apparently fundamental, salient, and essential characteristics of curriculum implementation. The categories emerged from the data, supported or extended by supplementary evidence, and were created in accordance with the particular direction of the investigative research questions. These questions were:

1. What are the component elements of curriculum implementation?
2. What is the purpose of curriculum implementation?
3. Who are the curriculum implementation actors?
4. How does implementation occur?

The study determined that there were four necessary categories of elements of curriculum implementation;

three elements of substance and one element of process. The three substantive categories were the curriculum, the user, and the organization. Each element was determined to have a particular characteristic nature relative to curriculum implementation, and each has a particular function to perform in the process of realizing implementation goals. The process category was identified as one of planning. Specifically, this process was a planning process for action or instructional action and was characterized by the mutual interaction of the three categories of substantive curriculum implementation elements.

Thus, the question relative to the component elements of curriculum implementation was answered. Also, the probable consequences and planned purpose of the implementation process were discovered to be those couched in the term mutual adaptation. This suggests that the end product of the process will be the result of the interaction of the substantive elements and the process element. Further, each particular implementation occurrence will have consequences peculiar unto itself. This implies that the goals or purposes of curriculum implementation will be specific to the

implementation situation but can be generalized and classified as being a mutual adaptation of the individual objectives of each implementation element. Thus, the purpose of curriculum implementation is one of mutual adaptation, or what was termed the category of mutually adaptative consequence.

The essential and possibly central implementation actor was concluded to be the teacher, or the category of user. The rubric user was adopted to distinguish the teacher performing actual implementation functions from the teacher performing other generalized teaching and/or professional functions. The second essential actor was determined to be the manager of curriculum implementation processes. The manager's functions, in fact, could be assumed by the building administrator or principal, or other individuals external to the school such as the implementation/change agent or curriculum developer.

The final investigative research question in the search for the meaning of the process of curriculum implementation asked how implementation occurs. The interactions of the curriculum implementation elements for the purpose of realization of implementation ends

will provide an answer to this question. The objective of the final phase of the study is to generate and construct a theoretical model that will represent the total relationship among the categories in an attempt to explain the meaning of curriculum implementation. This is the purpose of the subsequent chapter and final theoretical phase.

CHAPTER FIVE

Explanation and the Model for the Curriculum Implementation Process

Introduction

The purpose of this study is to formulate a comprehensive, theoretical explanation for curriculum implementation. The form adopted to represent the explanation of the phenomenon of curriculum implementation is the theoretical model, the model for explanation.

Theoretical model construction is a complex process that is firmly grounded in curriculum implementation realities. The model is generated from descriptive evidence relative to curriculum implementation as interpreted by the research literature. The model must stand for or represent the meaning of curriculum implementation that emerges from the study's methodological process. As a result, the model emerges directly from an analysis of the categories that were determined to be essential and necessary to the curriculum implementation process.

The fundamental investigative research question, seeking an answer to the meaning of curriculum implementation, stipulated that the answer could be derived from the solution to four subquestions on specific dimensions of meaning. The subquestions were:

1. What are the component elements of curriculum implementation?
2. What is the purpose of curriculum implementation?
3. Who are the curriculum implementation actors?
4. How does implementation occur?

The theoretical model, to be adequate, must provide an answer to each of the four subquestions. Only in this way can the meaning of curriculum implementation be exposed.

The immediate purpose of this final explanatory phase and chapter of the study is to generate and construct the theoretical model for curriculum implementation. The chapter first reviews and then synthesizes the basic curriculum implementation elements in order to produce a concerted whole interpretation and explication for the curriculum implementation process. To be precise the model represents the meaning of the

process in a dynamic state. However, the model is a linear one, and can only portray the explication of this dynamic state at a given instance of time. The data of the study suggest that the dynamics of the process occur over an extended period of time. Thus a second and ancillary theoretical model is developed to represent the history of the curriculum implementation process.

Finally, extrapolations and projections from the primary curriculum implementation model provide a basis for a theoretical model that extends the original model to its logical and probable extremes. Integrated into this phase are theoretical propositions that emerge from the theoretical methodological procedures of curriculum implementation category analysis as well as the final product of the study, the theoretical model.

The Substantive Category of Curriculum

The nature of the curriculum affects the curriculum implementation process. Consequently the nature of the curriculum will predictably affect the other substantive elements; namely, the user and the organization, and the process element of planning.

The three general qualities or attributes depicting the nature of the curriculum are: complexity, clarity, and practicality. These qualities can be considered to be subsumed within the more inclusive substantive category of the nature of the curriculum. The meaning of each is derived from the descriptive data and is as follows:

1. Complexity: the degree to which the curriculum is considered difficult to use;

2. Clarity: the degree to which the curriculum can be communicated intelligibly to the users;

3. Practicality: the degree to which the curriculum has practical merits and applications to specific situations.

No significance or suggestion of inclusivity is implied by the above sequence. It can be considered to be random, as there is no evidence derived from the descriptive data to indicate otherwise.

It is important to note that the explanations of meaning of the qualities have a dual source; internal or intrinsic qualities peculiar to the curriculum, and external perceptions of that particular quality. For example, the meaning of complexity is derived from

certain internal curriculum design elements and their organization, and from the personal interpretation of the prospective user. Each quality does not pretend to be mutually exclusive, and is acknowledged to be in dynamic interaction with the other qualities. Thus, the meaning of the nature of the curriculum relative to the implementation process can be sufficiently described in terms of the three qualities. In other words, the meaning of the category is determined in terms of its qualities, or subcategories and concomitant interactions.

The curriculum performs a dual function within the curriculum implementation process. First, the curriculum exerts influence on the process, and second, the curriculum adapts to the process activities. The meaning of the prior categorized function can be extended to those implementation activities in which the other essential elements accommodate to the effects of the curriculum. The meaning of the latter includes those actions in which the curriculum experiences or undergoes change or adaptation in concert with the other implementation process elements. The functions,

or subcategories are not mutually exclusive and are not subject to precise definition and explanation.

Figure 7 presents a modular representation of the substantive category of curriculum. It is postulated that the various subcategories of nature and function are in dynamic interaction and are constantly open to redefinition of particular meaning during the implementation process.

The Substantive Category of User

The user of the curriculum is the second necessary category in the curriculum implementation process. The user affects the process as a whole. The inter-related subcategories of the category of user to emerge from the descriptive data are the nature of the user and the function of the user.

The three essential qualities or characteristics of the user that are pertinent to implementation are: the user's knowledge or understanding of the curriculum to be implemented; the user's attitude toward the process; and the user's ability or skill to implement the curriculum.

The qualities are not separate and exclusive, but highly integrated and interdependent. Although the

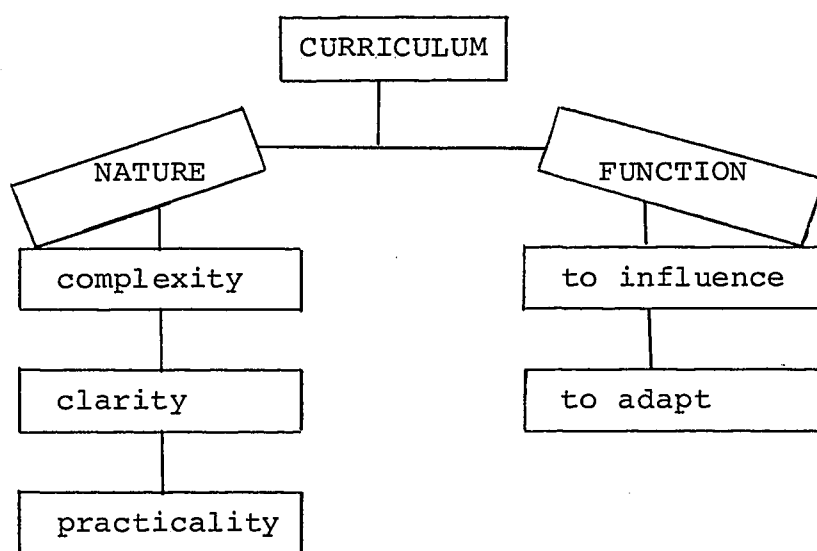


Figure 7: Theoretical Model for the
Substantive Category of Curriculum
(and component dimensions)

data sources discriminated among the three characteristics it must be acknowledged that each is defined in terms of the others, and any alteration in one will affect change in the remaining qualities. For example, if a teacher user receives training in particular, requisite curricular skills, the user should be more willing to attempt to use the curriculum. This in turn should foster or motivate the user's desire to learn more about the curriculum, or in effect, to become more knowledgeable about the curriculum.

The sources of the user's knowledge, ability, and attitude appropriate to implementation appear to present an interesting dilemma. The literature implies that the practical situation in which the user is located plays a fundamental role in determining the particular knowledge, ability level, and attitudes that would be necessary and therefore peculiar to each implementation situation. This contention plays an instrumental role in the meaning suggested for each quality or characteristic, and which is as follows:

1. Knowledge: the degree to which the user understands the nature of the curriculum and its concomitant significance to the implementation situation;

2. Ability: the degree to which the user has the requisite implementation and instructional skills implied by the curriculum and warranted by the implementation situation;

3. Attitude: the degree to which the user perceives a positive need to use a curriculum within a given implementation situation.

With this repertoire of qualities, the user performs three specific and inter-related functions. First, the user must be able to plan for the use of the curriculum within a given context. Concurrently, the user must be able to perform those requisite actions required during implementation planning processes. Thirdly, the user must be able to monitor the success of plans and performances in the realization of implementation purposes.

It is recognized that the subcategories are not mutually exclusive, and are in a dynamic state of interaction and definition. Ambiguity surfaces in the attempt to explicate the meaning of the function of performance, particularly in reference to the distinction between role performance vis-à-vis task performance. The research literature offers little

clarity and therefore this inferred conceptual separation between roles and tasks must be considered cautiously.

A second nebulous area lacking adequate investigation is the relationship between the implementation function of performance and the processes of instruction. It seems obvious that when the user performs, the user is operating within the realm of instruction. This function should not be a direct implementation function, but a manifestation of a prior implementation function, planning. However, the data compiled by the study would not totally and equivocably support such a conclusion. This poses a perplexing dilemma when the total rationality of the categories is considered within the frame of reference that clearly distinguishes among curriculum, implementation, and instruction. Notwithstanding, the study will advocate that the specific performance functions that are incorporated within the subcategory of user performance will include only those functions that occur external to the instructional boundary. Abstracted from the literature, these performance functions are:

1. Actions in relation to the acquisition of the skills necessary to use the curriculum (that is, inservices, personal analyses, and data collection);

2. Actions in relation to the collection and organization of resources needed to accommodate curriculum use;

3. Actions in relation to the manipulation of organizational structures in order to provide for use (that is, time, timetabling, teacher cooperative activities and so on);

4. Actions in relation to altered organizational role relationships as determined necessary to facilitate use (teacher-teacher, teacher-manager);

5. Actions in relation to soliciting the necessary influences (that is, power/status), motivations, and rewards fundamental to initiating and maintaining implementation; and

6. Actions in relation to clinical activities in which new roles/tasks are performed and diagnosed.

These six performance functions are not divorced from planning activities, but are contingent with planning. To demonstrate this dynamic relationship between planning and performance functions, the performance

functions can be regarded as action frames for planning, or simply planning frames.

Evaluation activities receive data from the instructional processes. The feedback from the behaviors or actions and outcomes of the actual teaching/learning process is the substance upon which the user functions. The evaluative assessment is then applied to the plans and planning frames in order to monitor quality control and to indicate avenues for improvement; or in other words, to facilitate user implementation activities.

Figure 8 portrays a theoretical model representing the substantive category of the user in toto. It is assumed that all subcategories and components are in continuous interaction during implementation.

The Substantive Category of Organization

The category of organization is the third, and final category of substance. This category consists of two distinct, but not separate subcomponents; namely, manager and organizational characteristics. From the literature, the culled data can be clustered into two subsumed categories of each component; the subcategories of nature and function.

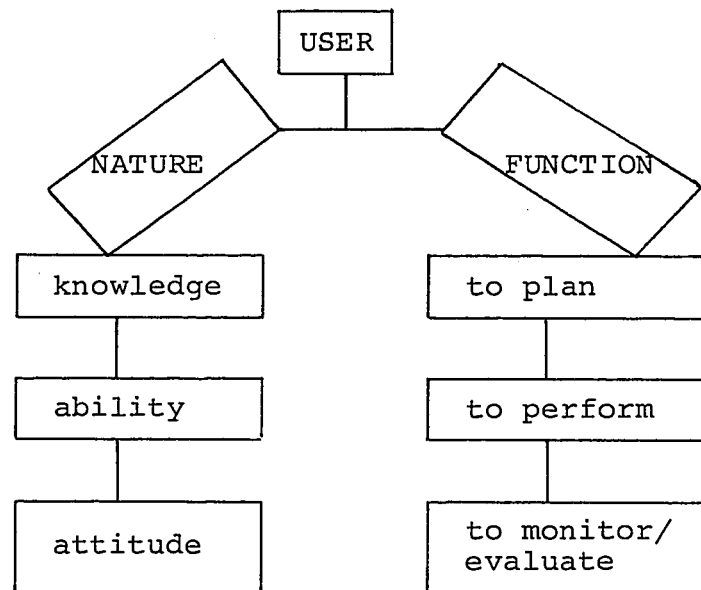


Figure 8: Theoretical Model for the
Substantive Category of User
(and component dimensions)

The manager of the implementation process is an essential and functional implementation actor. First and foremost, the manager must be a leader within the implementation system. As leader the manager must effectuate those specific factors or elements necessary to the given implementation problems emerging from the given organizational context and concomitant exigencies. Secondly, the manager must be knowledgeable of the curriculum, the users, the organization, and the probable interactions ensuing thereof. Finally, the manager must be committed to the use of the curriculum and must believe the curriculum to be of value. The manager's attitude must be positive and supportive. These qualities can be explicated as follows:

1. Leadership Quality: the degree to which the manager initiates, maintains, and effectively and efficiently accomplishes the implementation system's goals;

2. Knowledge: the degree to which the manager understands the three substantive curriculum implementation elements and concomitant interactions;

3. Attitude: the degree to which the manager perceives a positive and supportive need to use a curriculum within a given implementation situation. The manager is in a position to oversee the process in its entirety, to understand the totality of factors at play, and to direct and influence implementation processes. The particular and inter-related manager functions can be generalized from the nature of the manager and from the literature documentation relative to the actions of the manager during implementation.

Primarily the manager must be involved in the planning for and during curriculum implementation. Planning embraces goal formation, problem resolution, and strategy creation. Also, a designated function of the user during implementation is planning. The separation from and relationship with user planning as opposed to manager planning is not satisfactorily delineated in the literature. Two possible conditions could exist. First, the planning process could be a joint or collaborative one with all actors working in harmony. Or each actor could have highly specialized and differentiated tasks, that once brought in concert, would result in a total curriculum implementation

planning process. Any conclusions proposed on this issue must be considered tentative at best, although it seems plausible to suggest that the manager should lead the planning process whatever its actual nature.

The manager, as leader, functions to coordinate or organize those organizational parts or elements that must operate in harmony in order to achieve implementation goals. This involves the locating and organizing of necessary human, material, technical, and financial resources; establishing facilitating organizational structures; creating operating and effective communication networks; and developing viable decision-making procedures. To reiterate, the nature of these decision structures is beyond possible explication. However, the decision-making processes should be consistent with the nature of the open climate which was previously deemed necessary to curriculum implementation success. This leads to the probable conclusion that decision making will be of a participatory nature.

The manager also functions in an evaluative capacity. Evaluation assumes the dual character of formative or process evaluation, and summative evaluation. The effectiveness of the communication channels will

determine the degree to which formative feedback serves to further the implementation system's processes and to monitor degree of implementation interim goal realization.

The final function of the manager is one of motivation. It is the manager who stimulates, encourages, rewards, and remunerates the users in their efforts to surmount the obstacles to successful implementation.

The nature of the organizational characteristics affects implementation consequences. In order to facilitate the implementation process the organization must have an open climate. Additionally the organization must be adaptive, and ultimately be receptive to change and curriculum innovation. The meaning of each organizational characteristic quality emerges from the data and is thus:

1. Openness: the degree to which the organization is influenced or affected by disparate internal and external factors and accommodates their variability;
2. Adaptability: the degree to which the organization is receptive to the curriculum in particular, and innovation in general.

It is inferred from the data that each is a particular characteristic, and each can be subjected to observation. However, logic would suggest that the quality of adaptability can be subsumed within the more generic quality of openness.

Organizational characteristics perform four functions relative to curriculum implementation. First, the organization must be able to adapt to the demands and implications of the curriculum to be used. Second, the organization must be able to maintain the morale of the user through encouragement, sanctions, and rewards. This function could plausibly be extended to mean the maintenance of an open organizational climate. Third, the organization must provide for the creation of a temporary system within its boundaries. The purpose of this system is to facilitate implementation system processes. This implementation system is essentially a problem-solving one and is geared to solve problems and dilemmas associated with the use of a curriculum new to the organization. Once the curriculum is fully integrated into the organization as a whole, the need for this temporary implementation system ceases and the system disintegrates. Finally, the organization must

be able to provide the contingencies for which the temporary implementation system was created. Simply, the organization must facilitate the needs of the problem-solving process.

Figure 9 details a theoretical model for the category of organization and the subcomponents of organizational characteristics and manager of implementation processes. From this total analysis of the curriculum implementation substantive elements, two basic theoretical propositions emerge and are presented in Figure 10.

The Process Category of Planning

The curriculum implementation process was described in the literature as being a planning process. Specifically, a planning process that has an action end. It is via planning that implementation goals are achieved. Essentially planning is the answer to the question of how implementation occurs or how implementation achieves its ends. Planning is the means of implementation. In other words, the category of planning is the generalized process of implementation.

However, planning is not a simple matter and does not precede decision making and problem solving.

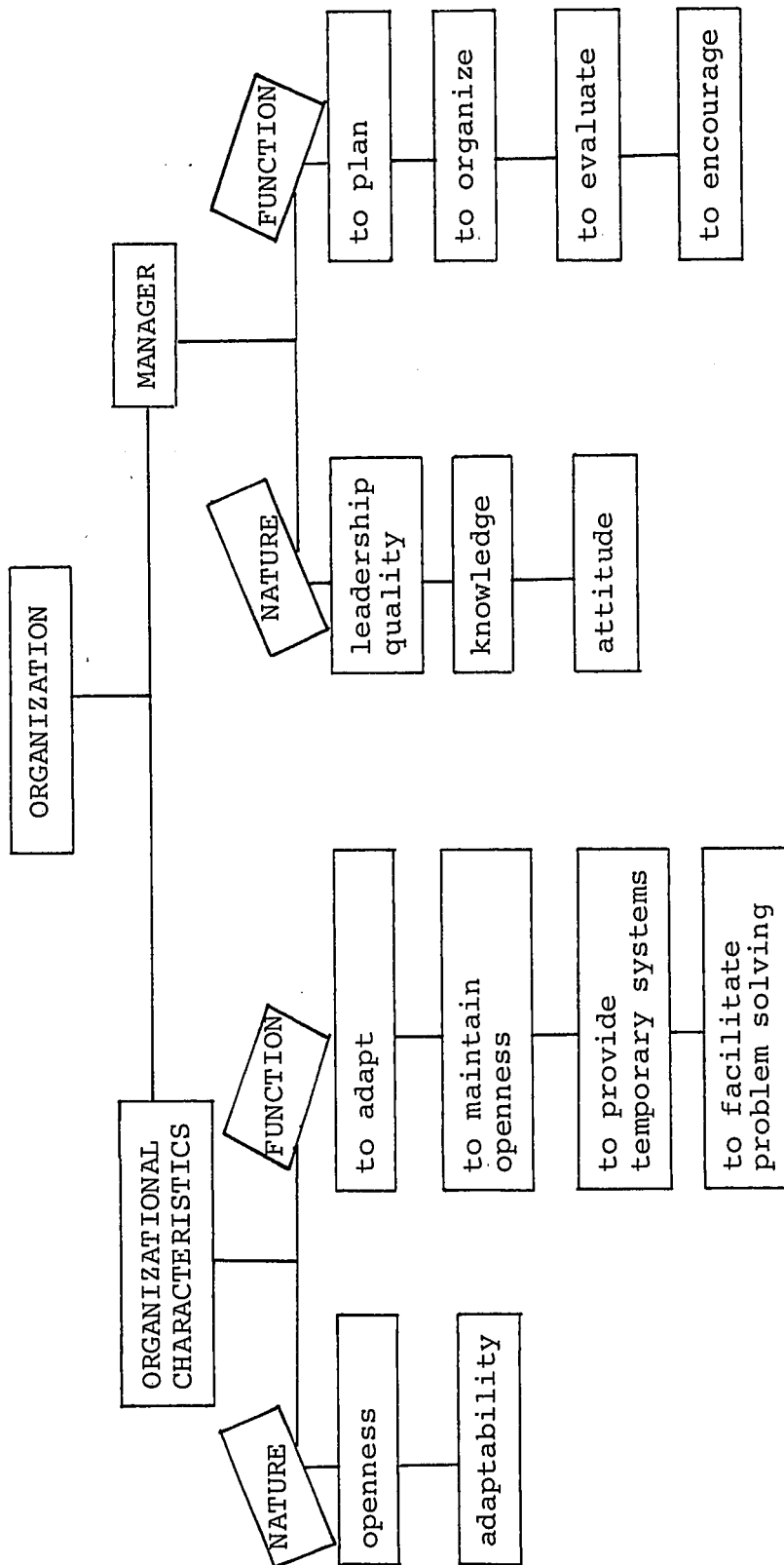


Figure 9: Theoretical Model for the Substantive
Category of Organization (and component
dimensions)

- #1. The basic elements of substance of curriculum implementation are the curriculum, the user, and the organization.
- #2. Each substantive element has a particular or characteristic nature and a function that influences the total process of curriculum implementation.

Figure 10: Curriculum Implementation
Elements of Substance Propositions

Planning is an all-encompassing purposeful process involving all categories of substantive curriculum implementation elements. Zaltman, Florio, and Sikorski (1977) regarded intentional planning as the "sine qua non" of successful implementation (p. 125). They argued that planning is the "systematic preparation and decision making for action" (p. 125). Implementation planning is subsequent to adoption, but precedes actual instruction. Instruction is the action end to which implementation plans are aimed. The function of planning is to provide a set of prior conditions within an organization so that instruction can eventuate. Thus, one fundamental premise is that a curriculum implementation plan is an attempt to predict the interactions among the curriculum implementation elements necessary to achieve implementation goals.

Predicting is intricably bound to planning. When planning occurs, future forecasting occurs. Implementation plans are founded on probable, intended, and subsequent instructional actions. The predicted action state is the consequence to which planning is directed. Therefore, curriculum implementation planning is directional.

Curriculum planning, as a process, is dynamic and must be responsive to perceived and actualized instructional states. Planning, which is directed to achieve a prespecified action state, must also be responsive to that action state. Planning processes must function in concert with the concomitant action ends. Deliberate, continuous, and pervasive feedback must influence the system in which planning occurs, and plans must be continually readjusted to satisfy changing action exigencies. A fourth fundamental premise then is that curriculum implementation planning is dynamic and in a constant state of redefinition.

The Theoretical Model for Curriculum Implementation

It was argued that planning is a process involving all substantive elements of the process of curriculum implementation. The nature and type of plans will be a product of the interactions among the three elements. It was proposed that each element has a function to perform within implementation. Thus each will influence to some degree the goals of implementation, and each will play a role in shaping the actual process. The particular shape the process, or plan, will assume will be determined by the degree of influence each

element exerts at given times in the curriculum implementation process. Inbar (1971) suggested that each implementation goal requires implementation plans peculiar to it. Again, because the process is dynamic or changing, and responsive, the actual impact or influence of the elements will also, like the process, be the subjects of constant redefinition. A fifth planning proposition states that the type of curriculum implementation plan is determined by the nature and consequence of the interactions of the three substantive curriculum implementation elements. The planning propositions are presented in Figure 11.

It is significant to note that planning as defined by the study implies change. Therefore, curriculum implementation implies change in theory, and consequently change in educational practice.

Figure 12 portrays in model form the curriculum implementation elements of substance. The nature of their interactions is the process of implementation planning. As the actual nature of the planning interrelationships are not explicated in the literature, the type of interactions cannot be represented in the model.

- # 3. A curriculum implementation plan is an attempt to predict interactions among the implementation elements necessary for the achievement of implementation goals.
- # 4. Curriculum implementation planning is dynamic and in a constant state of re-definition.
- # 5. The type of curriculum implementation plan is determined by the nature and consequence of the interactions of the substantive curriculum implementation elements.

Figure 11: Curriculum Implementation
Planning Process Propositions

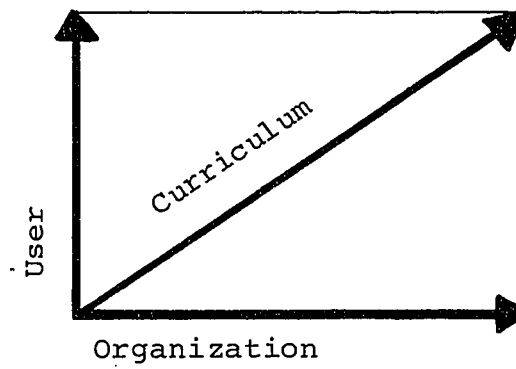


Figure 12: Theoretical Model for the Curriculum
Implementation Process: Static
Representation of Curriculum Imple-
mentation Substantive Elements

Hence, the model implies relationships, but does not describe relationships.

It has been assumed that this planning process occurs within a school organization. All of the representative studies cited in the descriptive phase of the study are in agreement with this conclusion. However, not all elements are involved in implementation planning. It was determined that the essential actors of the implementation process are the users or teachers, and the process manager. These actors interact in order to plan for instruction. Their interactions have been conceptualized by the literature as a subsystem within the supra-system of the school. This implementation system, by definition, is determined by the actions of the implementation actors as they perform implementation functions. Only when teachers are performing user functions and are interacting with the manager, who in turn is performing defined implementation functions, can an implementation system be in operation. Accordingly, the boundary of this system is defined by the total sphere of action and interactions of the implementation actors. This boundary becomes complex when the curriculum implementation manager's functions are

assumed by agents external to the school, rather than by the school administrator. Therefore, the previous assumption forwarded relative to implementation occurring within a school has bearing on the implementation process, but does not provide for the definition of the actual implementation system.

It must be noted that the implementation system has been considered to be a temporary one. Temporary in the sense that it was created to achieve specified implementation goals, or in other words, specified instructional actions. Once the goals have been accomplished there is no longer a need for the system, thus it is not maintained and disappears from the larger organization. Implementation actors will no longer be performing implementation functions so the interactive implementation system disintegrates.

The boundaries of the implementation system must be permeable. This is necessary to allow feedback from instruction to influence planning. Proposition #2 stated that curriculum implementation planning is dynamic and in a constant state of redefinition. Two sources for the redefinition are the interactions of the substantive elements and the degree of

implementation goal achievement. This is consistent with the argument that the organization within which implementation occurs must be characterized by openness and adaptability.

Curriculum implementation goals have been expressed in terms of fidelity and mutual adaptation. Fidelity implies no change in the element of curriculum, and accommodation by the remaining two elements. Adaptation, as the name indicates, results in some change or alteration by all substantive curriculum implementation elements. However, the weight of the evidence coupled with the argument that implementation processes are a product of the three interactive elements; namely; the curriculum, the organization, and the user; suggest that the plausible, if not logical end of implementation is mutual adaptation.

Figure 12 portrays a theoretical model of the process of implementation at a given moment in time, or in a static state as it were. It was as if a micro-slice had been severed from the continuous process of implementation planning. The model, in actual fact, portrays the process in a condition of non-change. No element has been affected by or has affected

the other elements. No instructional actions have been produced to influence the elements. This state can be approximated with the condition immediately following adoption but preceding implementation. In contrast, Figure 7 suggests via the mode of the theoretical model the implications when the probability of change has been introduced into the process.

Relative to Figure 13, the intersection point of the arrows representing the substantive elements posits that no interaction of the elements has occurred. This is labelled the point of non-change. A greater distance from this indicator means a greater degree of change experienced by each element. The longer the line or arrow, the greater will be the change. This change will affect both the nature and function of each element. This is significant as there are two dimensions of each category. How each dimension is affected and the associated consequences are not portrayed by the model. There is no research evidence to allow for any extrapolation beyond what is conceptualized.

The curriculum, at the moment of non-change, can be considered to be in a fidelity state. It has experienced no alteration. However, implementation

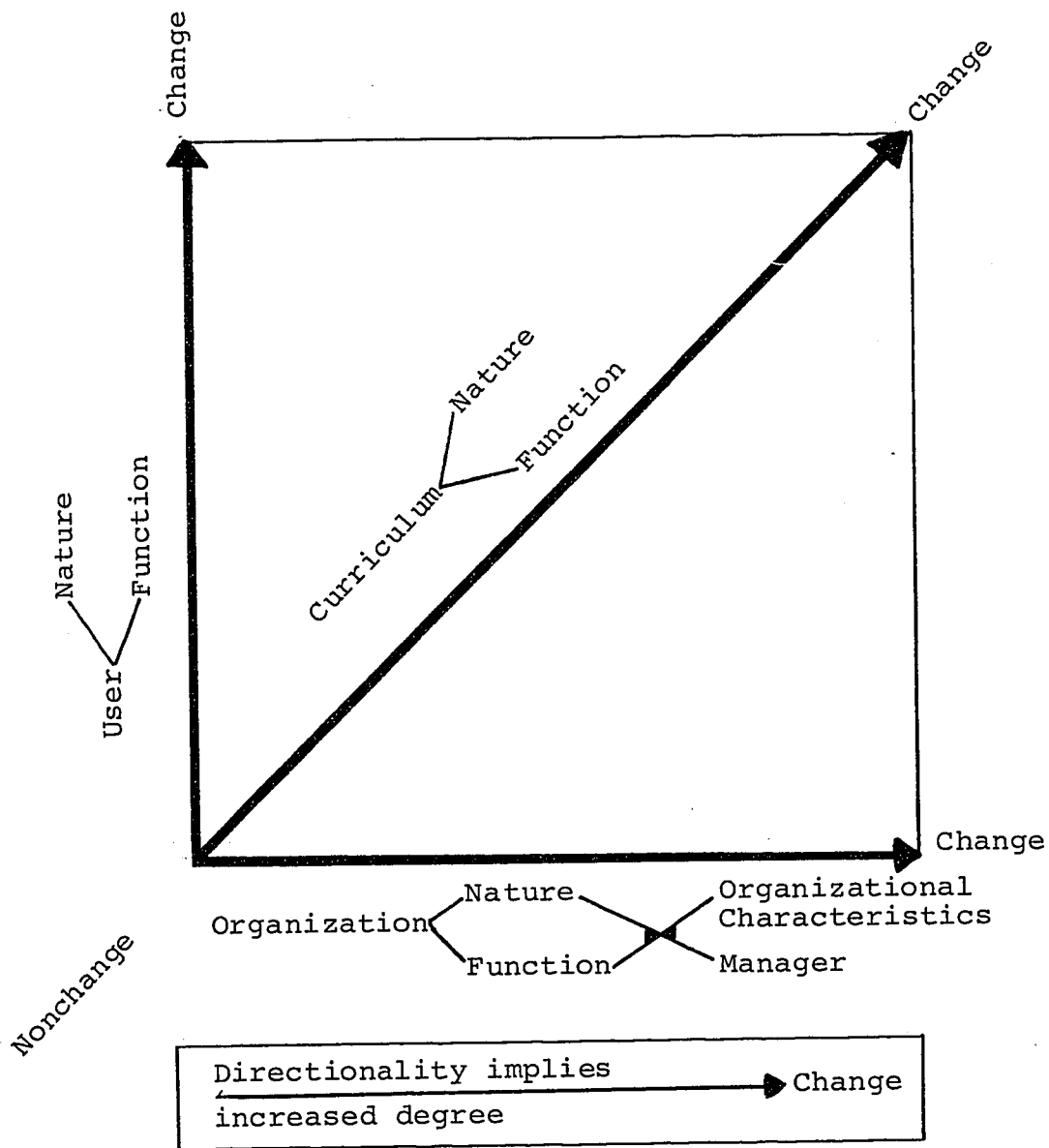


Figure 13: Theoretical Model for the Curriculum Implementation Process: Incorporation of Change Possibility to Static Representation of Curriculum Implementation Substantive Elements

consequences are not couched in fidelity goals. Implementation as a process commences when actual planning interactions begin. As soon as the user and organization exert influence on the curriculum, it is removed from its fidelity state. Concurrently the curriculum influences the user and the organization, thus causing them to move away from an inert state and suffer some degree of change.

To reiterate, the research literature has suggested that the inevitable aim or goal of the continuous implementation planning process is one of mutual adaptation. All elements are altered in the process. The degree of alteration is determined by the dynamics of the total process. Figure 14 represents the theoretical model for the implementation planning process in operation, or in a dynamic state of change. Essentially, this is the summative model for curriculum implementation. The model suggests in conceptual terms the boundaries of the curriculum implementation system. Propositions emerging from the model for curriculum implementation are presented in Figure 15.

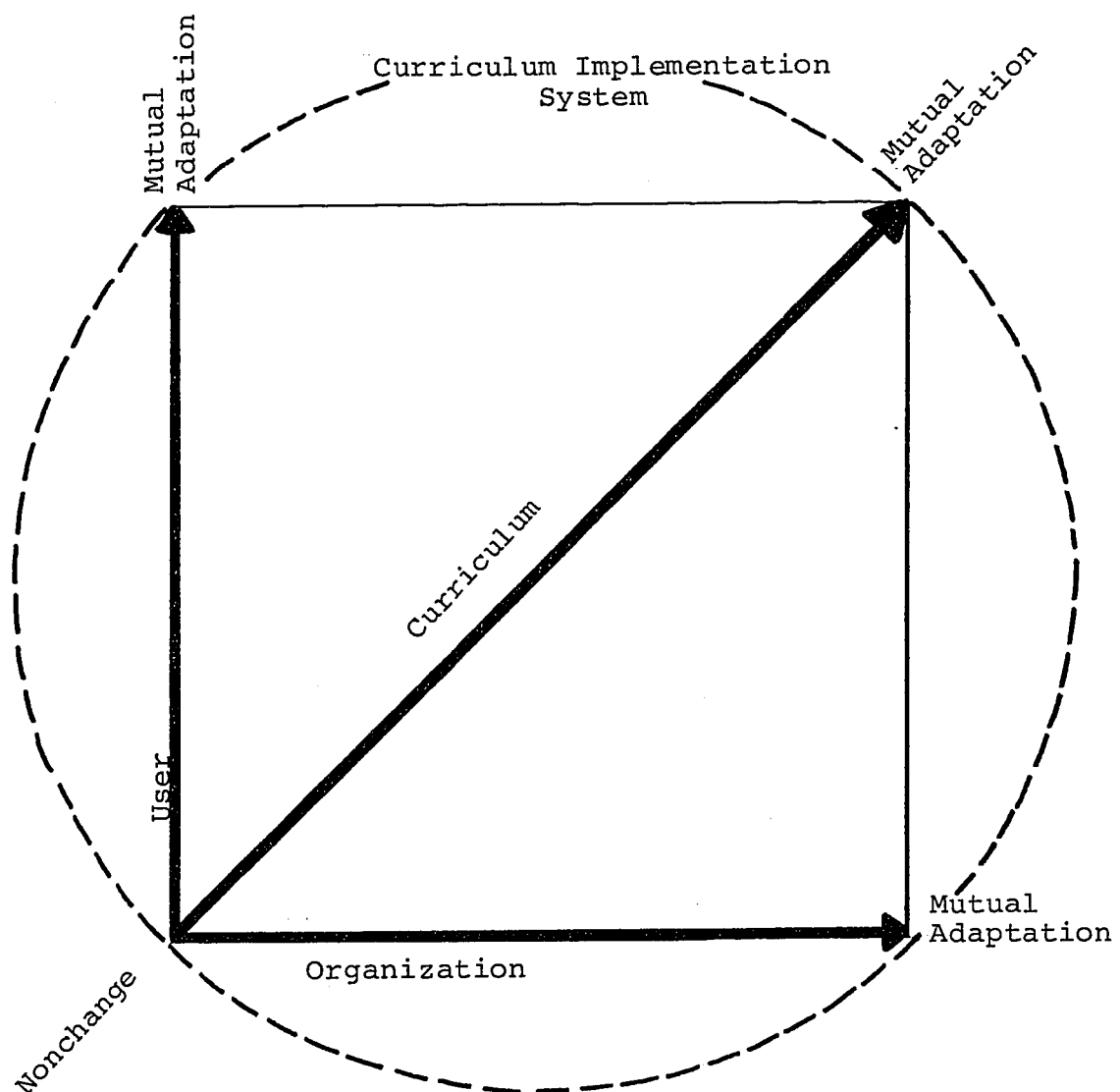


Figure 14: Theoretical Model for Curriculum Implementation

- # 6. The curriculum implementation planning process occurs within a temporary organizational subsystem termed the implementation system.
- # 7. The boundary of the implementation system is defined by the totality of actions and interactions by the curriculum implementation actors, user and manager.
- # 8. Curriculum implementation goals are defined in terms of mutual adaptation among the three curriculum implementation substantive elements.
- # 9. Curriculum implementation process consequences are the products of the interactions among the three substantive elements.
- #10. Change is an essential characteristic of the nature of curriculum implementation.

Figure 15: Curriculum Implementation
Planning Process Propositions

This model explicating the meaning of curriculum implementation portrays the process at a given moment in its history when all substantive elements are in interaction. The model explains what the curriculum implementation elements are, what the purpose of the process is, who the actors are, and how the process of implementation occurs. In this way the model has accomplished the research purpose as it presents the meaning of curriculum implementation.

However there are various periods in the implementation process history when the substantive elements interplay for differing reasons and purposes. In other words, there are separate, different stages or periods in the process of curriculum implementation planning. This necessitates a second or ancillary theoretical model for an explication of the history of the curriculum implementation process.

The History of the Curriculum Implementation Process

Figure 16, a simplified theoretical model, attempts to conceptualize the duration of the curriculum implementation process during its history. There are various definitive periods or stages in this history

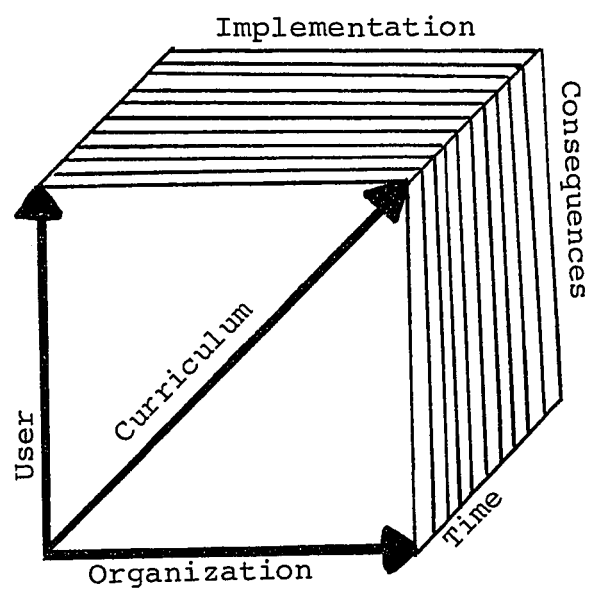


Figure 16: Simplified Theoretical Model
for the History of Curriculum
Implementation

that can be abstracted from the literature. Figure 17 describes the complexity of the history in modular form.

Although the model appears naively to suggest a linear and rational progression of periods, various situational factors as well as the individual history of the process will produce a variety of alterations in any given sequence of events leading to curriculum implementation consequences. Feedback into any period will produce a reinitiation to action of that period and the subsequent stages to goal realization.

Relative to Figure 10, the necessary precondition for implementation is the decision to adopt the curriculum. In effect, adoption represents the decision to use the curriculum. This decision should be a knowledgeable one, based on a rational needs assessment of the receiving implementation system and larger supra-organization. The assumption is the curriculum is needed when it is introduced into the organization.

The implementation system must be aware of organizational needs, the adoption decision, and the possible amelioration of the needs via the use of the curriculum. Subsequently, the system must define the

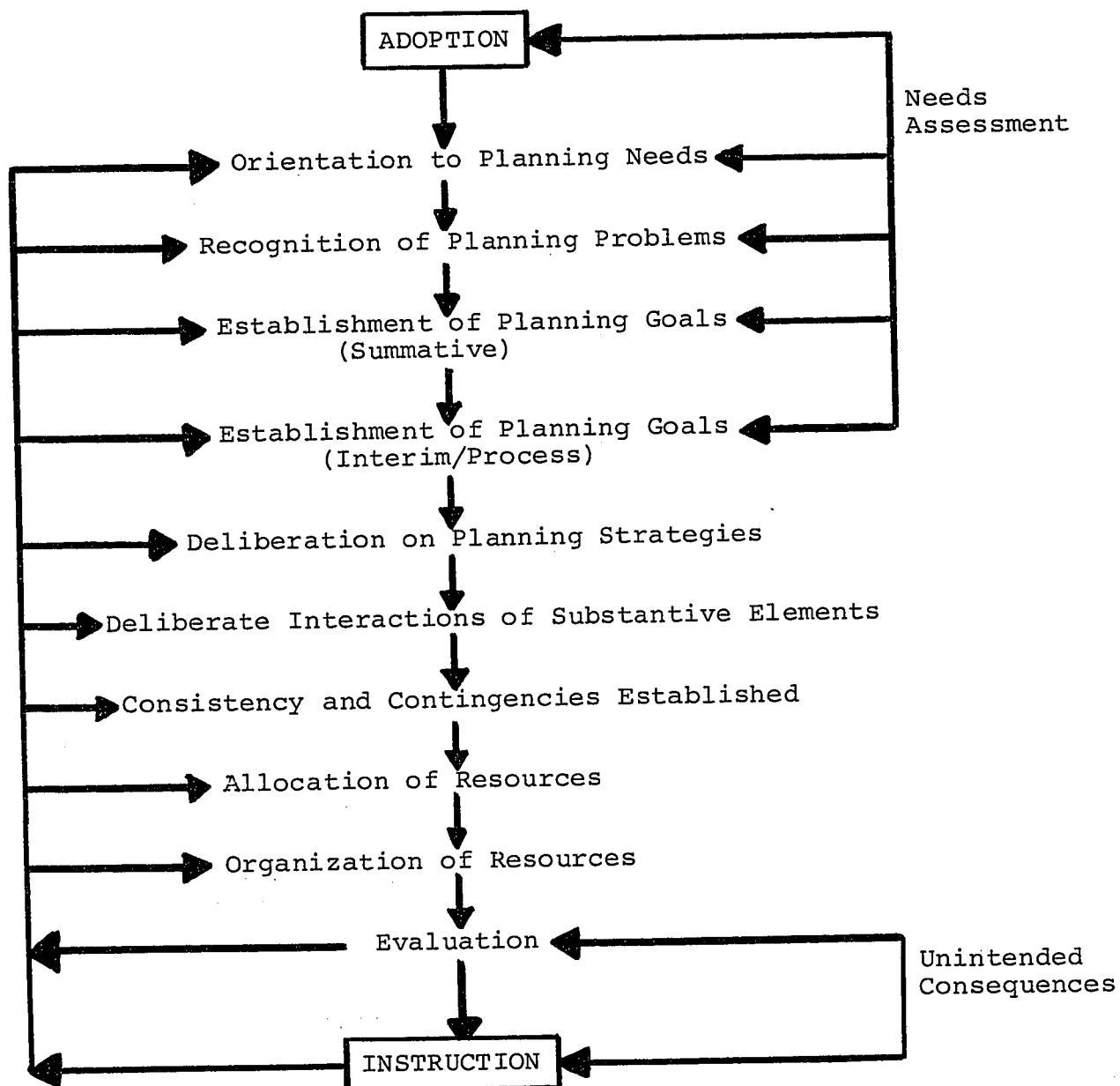


Figure 17: A Theoretical Model for the History of the Curriculum Implementation Process

probable implementation problems and from needs and problem definition, generate planning goals.

Planning goals are of two types; summative, and interim or process. Summative goals, although not rigid and flexible, direct the total, mutually adaptive planning process. Interim goals serve to monitor the process and can be determined by each substantive implementation element. In other words, each element has its own individual purpose within the process, a purpose which must facilitate overall implementation system goals. Attention must be directed at the role of the needs assessment process in these periods or stages in the curriculum implementation process.

Planning strategies emerge from the goal determination and in actual fact predict intended interactions of the substantive elements. Strategy plans must reflect consideration of potential implementation problems, and retarding and facilitating factors and conditions. Plans must also consider the existing resources, their organization, consumption, and ensuing scarcity. Once the plans are actualized, they must be subjected to evaluative assessment in light of summative planning or implementation goals. Considered

must be possible spin-offs or unintended consequences emerging from the plans or planning processes. Also, when the plan is put into action, continuous feedback must also assess its procedural and final adequacy.

In comparison, Pressman and Wildavsky (1973) envisaged a somewhat similar conceptualization of the implementation process. They argued that the boundaries of the implementation system are determined by the organizational or structural positions of the implementation participants and their concomitant interactions. Pressman and Wildavsky (1973) offered the analogy that implementation can be regarded as a chain of causal movements from simplicity to complexity. The longer the chain of causality, the more numerous are the reciprocal relationships among the links of the chain. The idea of chain can be compared with planning process periods.

Amplification of Pressman and Wildavsky's (1973) analogy implies that the more relationships in the implementation process, the more complex the process becomes. Implementation then is the ability to forge subsequent links in the causal chain in order to effect the desired results. The implementation system,

albeit temporary, consists of the substantive links and the interactive causal interactions among the links. Implementation commences once the program has been developed from spawning "initial conditions" (p. xiv). Pressman and Wildavsky elaborated thus:

A program exists when the initial conditions - the 'if' stage of policy hypothesis - have been met. The word 'program' signifies the conversion of a hypothesis into ... action.... The degree to which the predicted consequences (the 'then' stage) take place we call implementation. Implementation may be viewed as a process of interaction between the setting of goals and actions geared to achieving them.

(p. xv)

Participation in implementation processes involves those whose cooperation is necessary for a program to be carried out. Hence, Pressman and Wildavsky (1973) concluded that the boundaries of the implementation process are determined by the organizational or structural positions of the implementation participants and their concomitant interactions.

To return to the model for the history of implementation, the planning stages or periods do not attempt to suggest who should be involved in planning deliberations. The categories for curriculum implementation propose that this is a function of both actors, the user and the manager. No extension or extrapolation beyond this conclusion is forwarded.

The historical model is acknowledged to be conceptually simple, but it must not be considered naive. It is recognized that changes in the larger organization will affect the history of the curriculum implementation process. The implementation system's boundaries are permeable, and external political, social, economic, and technological factors will influence the various stages and associated sequences. The history also has a starting point, adoption of the curriculum, and an ending or closure point, which is instruction. The implementation history commences with a decision, but terminates with action. This is consistent with the generalized concept of a temporary system (Zaltman et al, 1977). Thus, the history of implementation planning occurs with the boundaries of the implementation system. Propositions emerging from

the history of the curriculum implementation process are presented in Figure 18.

Extension of the Model for Curriculum Implementation

The theoretical model for curriculum implementation (Figure 14) suggests an interaction among the substantive curriculum implementation elements in order to achieve goals of mutual adaptation. During this process, each element experiences change, or adaptation to the other elements' demands, needs, and limitations. Correspondingly each element produces or effects change in the remaining elements. The logical, theoretical consequences of this interaction are forwarded in Figure 19.

Aoki (1977) provided an example of one effect of this process in his analogy of the teacher user, in a mutually adaptive implementation process, to be conceived as a producer-consumer. The teachers' function as co-actors in production activities through the process of adapting and improving the curriculum to suit their needs. Similarly, the organizational element will experience change in accommodating possible structural needs relative to the teacher's requirements, as well as those exigencies of the curriculum. Through

- # 11. One necessary precondition for curriculum implementation is the decision to adopt the curriculum.
- # 12. Although the curriculum implementation process is a rational process, it is not necessarily a logically sequenced process, and is subject to extraneous influences.
- # 13. The two actors of the curriculum implementation process are the user and the manager.
- # 14. The consequence of curriculum implementation planning is the action of instruction.

Figure 18: Curriculum Implementation
History Propositions

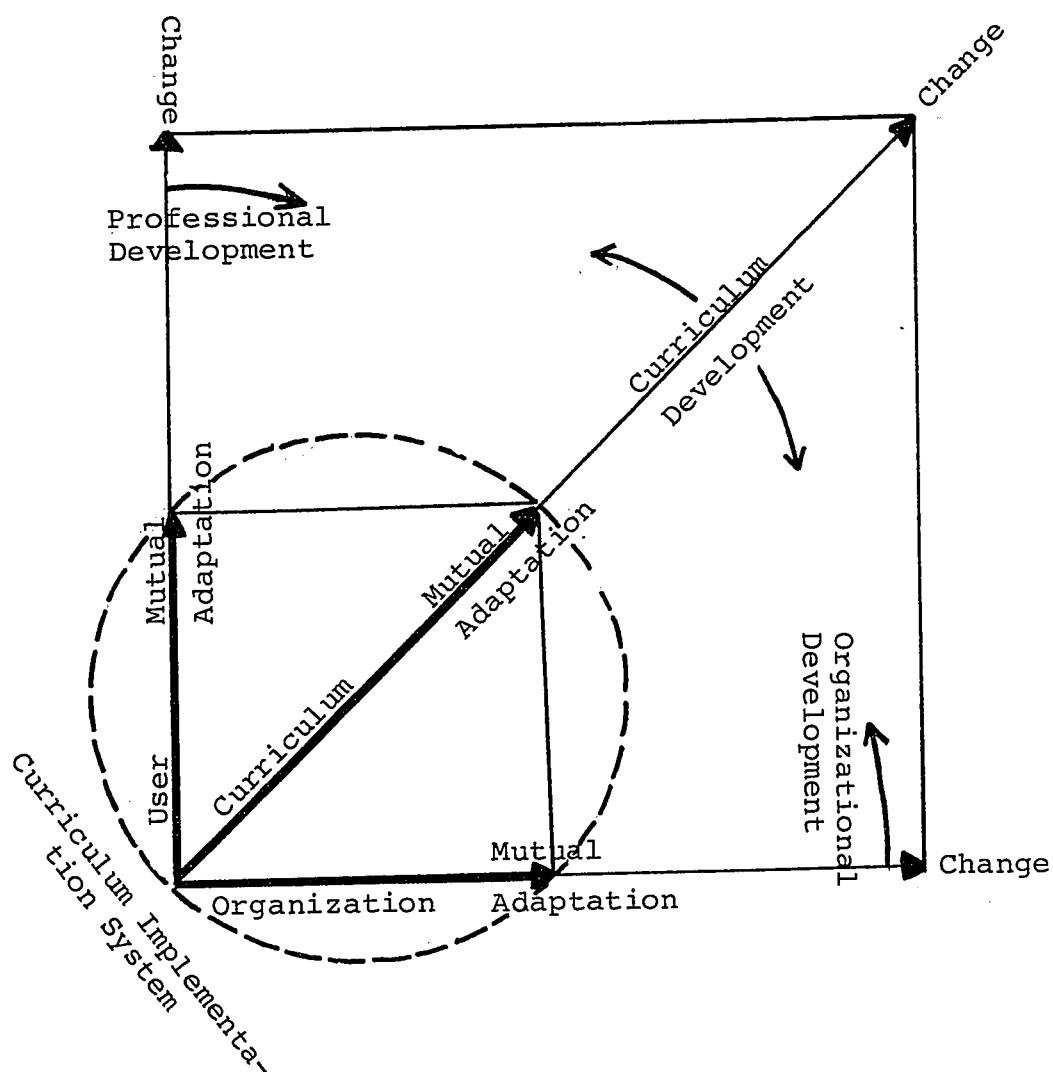


Figure 19: Ideal Extension of the Theoretical Model
for Curriculum Implementation

this process, the curriculum is modified to the given, original and changing states of the teacher or user and the organization. Figure 19 is a theoretical model for the possible extension of the original model for curriculum implementation. The basic assumption of the model is that change within the substantive elements is continuous and the consequence is one of mutual adaptation. A second assumption, attendant upon the first, is that the change is positive in the sense that it is healthy, and growth oriented.

Mutual adaptation requires user input. This input can be in the nature of applied skills and creative talents relative to curriculum change. As the user modifies the curriculum, the amount of user input and impetus increases until a point is reached when the user has extended the curriculum beyond its original intent and spirit. In fact, the user has moved from the realm of curriculum implementation and has ventured into the area of curriculum development. At the same time the original stimulus for implementation, the adopted curriculum, experiences so much extension and possible distension, that it undergoes not implementation, but rather redevelopment, or simply development.

To pursue this conceptualization, the organization element also influences the other two implementation substantive elements, but also is affected by them. The implementation planning process is largely a problem-solving process, with the adopted curriculum and impending implementation a problem for the organization to resolve. Essential to this planning process is the establishment of specific strategy plans, or deliberate intervention of the substantive elements as it were. The premise of the curriculum adoption decision is that the curriculum to be used will, in some predictable way, affect the organization in a positive sense. Usually, the effect would be improvement. Implementation for organizational improvement implies shared functions, particularly planning and problem-solving functions, between the organizational members involved in implementation; namely, the user and manager. The attributed stimulus to these events is the curriculum.

From the above analysis, the organization experiences a type of change during the implementation process. This description of change can be cautiously compared with the description of organizational

development changes espoused by French and Bell (1973) who wrote:

Organization development is a long-range effort to improve an organization's problem-solving and renewal processes, particularly through a more effective and collaborative management of organization culture ... with the assistance of a change agent, or catalyst. (p. 15)

Dalin (1975) also proposed that synonymous with implementation is development of the organization, as well as the users. Dalin (1975) describes implementation in terms of "mutual development" (p. 2). His amplified argument is as follows:

The individual school is looked upon as a creative unit in a larger system ... Successful implementation would mean the ability of the school to be responsive to centrally or externally developed and/or directed innovations, on the one hand and, at the same time, the ability to develop a creative growth and improvement process within the school itself ... Degree of implementation in this case would not only be a measure of the degree to which the school, as a unit, adopts

centrally developed innovations and at the same time takes care of its own development needs.

... In other words, to what extent the total system is responsive to the needs of development.

... The process [of implementation] implies continuous development. (p. 2)

Therefore, the model suggests that the consequence of implementation for the organizational substantive element is one of development.

At no time does the change proposed in the extended model imply retrogressive change in the sense that there is a return to a previous status quo. There is no supposition that change is assimilation to the familiar. Rather, change is directional, increasing, and positive, or to put it another way, change is developmental. The three outcomes of the curriculum implementation process are proposed to professional development, organizational development, and curriculum development.

Although the model is recognizably ideal and speculative, it does effect an interesting, innovative, and particular total relationship among the three established processes of curriculum development, organization development, and implementation.

Additionally it postulates that a curriculum can be one seminal source for these development changes.

Summary

The purpose of the chapter and phase of the study was to formulate a comprehensive theoretical model to explain the meaning of curriculum implementation. In order to accomplish this task, the model must be able to identify the component elements of curriculum implementation, stipulate the purpose of curriculum implementation, isolate the curriculum implementation actors, and describe how implementation occurs. The primary theoretical model for curriculum implementation as generated, achieves all of these goals (Figure 14).

The model explained that curriculum implementation consists of four elements; three of substance or the curriculum, the user, and the organization, and one of process or planning. The model also explicated the curriculum implementation process as one of mutual adaptation among the curriculum implementation elements of substance. Additionally, the model incorporates within its categories the two implementation actors, the user and the manager. Finally, the model describes the relationships that exist among the elements as they

interact during the planning process known as curriculum implementation.

Emerging from the primary theoretical model was a second, but ancillary theoretical model of the history of the curriculum implementation planning process. A speculative extension of the primary model was evidenced in the theoretical model advocating that the ultimate consequence of the mutual adaptation process of implementation planning is development, or to be more precise user or professional, organizational, and curricular development.

Additionally, fourteen fundamental, theoretical propositions originated from the model and are proposed as being germane to the curriculum implementation process. These propositions will have direct implications to the theory and practice of that educational phenomenon known as curriculum implementation.

CHAPTER SIX

Conclusion

Review of the Study

Many curriculum innovations introduced into schools have experienced implementation failure. From this seminal condition emerged a problem for investigation. It was determined that there has been a dearth of information in the research literature on the problem of implementation, and conceptualization on the nature of this educational phenomenon is in a neophyte and disturbing stage. Education has an immediate need for cogent and pervasive speculations relative to curriculum implementation.

It was this apparent need that gave rise to the purpose of the study — the formulation of a comprehensive, theoretical explanation for the process of curriculum implementation. The study did not engage in the production of empirical facts about implementation. Instead what was developed was a framework, or theoretical model, for making intelligible the facts already available. The central foundation or data base for the theoretical model was the descriptive

data procured from twenty-five research studies on implementation. Additional evidence was drawn from numerous ancillary studies when further explication and elaboration was necessary to support or extend generalizations and categories emerging from the analysis of the central, descriptive data.

The methodology was rigorous, deliberate, and creative and was labelled as an interpretative-theoretical type. The methodology consisted of four fundamental, interdependent, sequenced but distinct phases. Phase one, or exploration, established the general purpose, research direction, and definitional limits of the study. The second phase was one of description. This phase required a descriptive enumeration of twenty-five curriculum implementation studies. This, in turn, produced the foundational data base of the study. Phase three, or categorization, produced the essential and necessary categories of the curriculum implementation process. These categories emerged through abstractions and generalizations from the descriptive data base, and were supported and extended by additional evidence derived from ancillary implementation studies.

The fourth and final stage of the study was the construction of a theoretical model that would represent the meaning of curriculum implementation. In order to accomplish this purpose, the theoretical model provided explication on the following research questions:

1. What are the component elements of curriculum implementation?
2. What is the purpose of curriculum implementation?
3. Who are the curriculum implementation actors?
4. How does implementation occur?

The study concluded that the curriculum implementation process is composed of four necessary categories of essential elements; three elements of substance and one element of process. The three substantive categories were the curriculum, the user, and the organization. Each element was determined to have a particular characteristic nature relative to curriculum implementation, and each has a particular function to perform in the process of realizing implementation goals. The process category was identified as one of planning. This was a planning process for action, or more specifically instructional action, and was

characterized by the mutual interaction of the three categories of substantive curriculum implementation elements. The probable consequences, and intended purpose, of the implementation process were classified as one of mutual adaptation among the three substantive elements.

The two essential implementation actors were determined to be the curriculum user and the manager of the curriculum implementation process and implementation system. It was concluded that implementation occurs as a consequence of the interactions of the three substantive elements during the process of implementation planning.

Categories: Criteria for Adequacy

Seven necessary conditions were established by the study that would provide for the production of adequate categories or an adequate categorization scheme. To reiterate, these categories were:

1. Sufficiency in that the categories correspond to, and can be generalizable to empirical events.
2. Originality in that the categories are seminally founded in the description of the phenomenon.

3. Consistency in that the categories are logically consistent with one another.

4. Exclusivity in that the categories are mutually exclusive of one another.

5. Significance in that the categories provide a presumably innovative way of explaining the phenomenon.

6. Power in that the categories have the ability to render meaningful a phenomenon.

7. Generation in that the categories can generate propositions and hypotheses to be subjected to empirical tests.

It is advocated that the categories generated by the study satisfy all the aforementioned conditions, with the exception of exclusivity.

The categories are sufficient to the extent that they were abstracted from descriptive research data on curriculum implementation. Consequently they can be generalized back to the empirical events described in the representative studies in the descriptive phase. It is also suggested that the categories should be generalizable to future implementation procedures occurring in educational practice. Similarly, the

categories are characterized by originality in that they directly derive their origin in the descriptions of the phenomenon of curriculum implementation.

The consistency of the categories is demonstrated in the logic of their final product, the theoretical model for curriculum implementation. The categories are also characterized by both significance and power. They acquire significance simply because they are different, yet innovative. They have power because they do possess the ability to render meaningful in a wholistic sense the phenomenon of curriculum implementation.

Finally, the categories ostensibly display the condition of generation in that fourteen theoretical propositions were proposed that offer possibilities for and opportunities to researchers involved in empirical investigations. These propositions emerged directly from the categories and indirectly from the theoretical model that harmonizes into a concerted whole the categories of curriculum implementation.

However, the categories are not mutually exclusive of one another. The categories are somewhat recognizably distinct, and each reflects peculiar

attributes and functions, but there is a close, interdependent relationship between the subcategories, or nature and function, of each substantive and process category. Additionally, the meaning of all subcategorical characteristics and events is more often than not derived circuitously, with many seeking definition in terms of the others. The proposed singular cause of this is the neophyte state of knowledge relative to curriculum implementation. Much more empirical evidence is vitally necessary before definitive, theoretical conclusions can be formulated.

Theoretical Model: Criteria for Adequacy

The purpose of the theoretical model is to convey the meaning of a particular educational phenomenon. The model purports to present the description and explanation relative to curriculum implementation. The theoretical model, in essence, is a way of thinking about curriculum implementation. Therefore, the model can serve as an interpretative framework for the analysis and understanding of curriculum implementation in practice and in research. However, in order to achieve these purposes the model must constitute an adequate representation of reality.

To be accurate, and hence adequate, certain conditions of congruence must exist between the model and its subject in reality. Congruence requires that the model's boundaries correspond to the implementation phenomenon's boundaries. Additionally, the theoretical model must be characterized by what is termed isomorphism. To be an isomorph, the model must correspond to the logical structure, but not the substance of curriculum implementation. To summarize, the model must directly correspond to those empirical events known as curriculum implementation.

It is proposed that the theoretical model generated in the study displays the qualities of congruence and isomorphism. The model is derived directly from the analysis of implementation descriptive data and reflects the logical classification of that data. The theoretical model is founded on the assumption derived from practical events that curriculum implementation is a process; a process that is a necessary precondition for instruction. This proposal of adequacy is one based on logic, and not one supported by further empirical tests and additional critical analysis. Such activities and deliberations are required in order to further the

claim. Notwithstanding, these tests of adequacy must eventuate from a clear understanding of the nature and purpose of the theoretical model for curriculum implementation. The model is descriptive and explanatory and constitutes one way of thinking about practical implementation activities. Although the model functions as an interpretative framework, it makes no pretence to have direct predictive significance.

Implications for Educational Research

Emerging from the methodology and concomitant product or model are fourteen theoretical propositions. These propositions function to explain the meaning of the curriculum implementation process and to provide avenues for the creation of future research hypotheses, and future theoretical considerations. The advocacy and import of these propositions by the study suggest that relationships among the implementation elements and associated influencing factors are in dire need of exploration. Many previous conceptualizations have provided what Thompson (1967) terms a "conceptual inventory", yet have been quite deficient in presenting what can be considered as patterned relationships among the variables or factors (p. viii). Therefore, the

theoretical model presents a view of these relationships in the round, or to be more accurate, within their total system. The propositions are precise interpretations of specific, particular relationships that can be subjected to rigorous scrutiny and inquiry. These theoretical propositions are as follows:

1. The basic elements of substance of curriculum implementation are the curriculum, the user, and the organization.
2. Each substantive element has a particular or characteristic nature and a function that influence the total process of curriculum implementation.
3. A curriculum implementation plan is an attempt to predict interactions among the implementation elements necessary for the achievement of implementation goals.
4. Curriculum implementation planning is dynamic and in a constant state of redefinition.
5. The type of curriculum implementation plan is determined by the nature and consequence of the interactions of the substantive curriculum implementation elements.

6. The curriculum implementation planning process occurs within a temporary organizational subsystem termed the implementation system.

7. The boundary of the implementation system is defined by the totality of actions and interactions by the curriculum implementation actors, user and manager.

8. Curriculum implementation goals are defined in terms of mutual adaptation among the three curriculum implementation substantive elements.

9. Curriculum implementation process consequences are the products of the interactions among the three substantive elements.

10. Change is an essential characteristic of the nature of curriculum implementation.

11. One necessary precondition for curriculum implementation is the decision to adopt the curriculum.

12. Although the curriculum implementation process is a rational process, it is not necessarily a logically sequenced process, and is subject to extraneous influences.

13. The two actors of the curriculum implementation process are the user and the manager.

14. The consequence of curriculum implementation planning is the action of instruction.

Implications for Educational Practice

The theoretical model and emergent propositions provide an interpretive framework for the practical activity of curriculum implementation. The model and propositions reflect a certain suggestiveness in the acknowledgement of existing necessary elements and factors and patterns of relationships among the elements and factors, and in the advancement of the requisite rationality of the implementation process. Curriculum implementation does not just happen. The research literature has concluded that if implementation activities are left to chance, there will be little likelihood of implementation success. The curriculum implementation process must be a deliberate, planned activity. Identified is the general history of this planning process that can provide the practitioner with a set of expectations and requirements for practical events.

Notwithstanding the claim that the theoretical model does not purport to be prescriptive, the model does foster certain practical issues that should be

resolved during the course of implementation planning. These issues, worded in terms of questions, do have an influence on the nature of implementation deliberations in educational practice. It is not assumed that question resolution will guide implementation processes, but it is suggested that the question resolution could possibly provide a considerate understanding of the factors affecting curriculum implementation. These curriculum implementation questions for practical deliberations are:

1. What is the receiving unit or organizational system for curriculum implementation activities?
2. Who are the relevant and functional actors in the implementation system?
3. What is the specific function of each actor?
4. Is there harmony or conflict among actors' functions and natures?
5. Who is to be involved in the planning processes?
6. Who is responsible for implementation decisions, and specifically, implementation goals?
7. What is the present authority and/or power structure among the implementation actors?

8. Will the authority structure of the implementation system violate the present organizational authority/power structure?

9. What are the present implementation knowledge and skills of all actors?

10. What are the necessary knowledge and skills needed by all actors?

11. How can knowledge and skill discrepancies be resolved?

12. What is the current attitude and willingness of actors toward change?

13. Is the implementation system adaptive and receptive to internal and external influences, stresses, and strains?

14. Can the system accommodate all demands of the implementation actors?

15. Can the system accommodate the demands of the adopted curriculum?

16. Does the adopted curriculum satisfy organizational needs, the organization's environment needs, or political needs?

17. Will the alternative roles of the curriculum in needs satisfaction be accepted by implementation actors?

18. How will the implementation process be supervised and evaluated?

19. How much time will be allowed for the curriculum implementation process?

20. Will the curriculum implementation effects foster the development of the actors and the organization in toto?

21. Will the curriculum implementation effects ultimately provide for increased and better student learning opportunities and outcomes?

The answers to the questions will be particular to each implementation situation. The questions are designed to identify pertinent and critical implementation issues. In this way, the questions assume the role of a diagnostic tool for all implementation actors, but definitely are not an elixer for all implementation problems within the realm of practice.

Conclusion

The theoretical model for curriculum implementation is an innovative way of thinking about what is

known about curriculum implementation, and is the product of a particular mode of theorizing. These two claims of contribution give the study a degree of significance within the educational communities of theory and praxis.

The interpretative-theoretical methodology advanced in the study provides one alternative way of interpreting and for explaining existing implementation knowledge in order to render it meaningful. It is an open and elaborate method, and hence reconstructable. It is proposed that the methodology, which claims to be controlled, rigorous, analytical, and fruitful provides a research mode that can be utilized with various phenomenal data in order to derive needed conceptual formulations for a variety of educational phenomena.

The theoretical model is significant simply in its ability to explain the meaning of curriculum implementation. Its import is enhanced by its proven seminal ability to provide the impetus for formulating theoretical propositions that have implications for educational research and practice.

Notwithstanding that curriculum implementation is a characteristic of an educational organization, it is not to be confused with organizational implementation.

Too often curriculum implementation research has been cloaked by the preconceived notion that it should be investigated within the realm of organizational change. Curriculum implementation is an educational phenomenon in its own right.

The conclusions advanced by this study must join the ranks of other neophyte curriculum implementation studies. So much is presently not understood about the process of curriculum implementation. More pervasive empirical and theoretical research is necessary for curriculum implementation knowledge to advance along the avenue of understanding in order to achieve the goal of intellectual maturity.

Footnotes

¹Kritek (1976), proposed that teacher understanding of curriculum intents can be hindered if goals are couched in global and/or theoretical terms that apparently defy practical interpretation. Similar conclusions were offered by Charters and Pellegrin (1973), Crowther (1974), Mahler (1976), Naumann-Etienne (1974), Nicodemus (1977), and Starling (1973).

²Leithwood et al (1976b) posited that one of the reasons for the failure of implementation efforts is the "inappropriate match between the existing characteristics of a system and the innovation" (p. 219). An example of this is "discrepancies between the philosophy of a program and the philosophy of instruction held by teachers who were expected to implement it" (p. 219). In this vein, Berman and McLaughlin (1976) wrote of the need for "consonance" of the values and goals implicit in the curriculum design to those of the receiving organization and prospective users (p. 359).

Researchers in the area of teacher behavior, Doyle and Ponder (1977-78) and Tom (1973) have presented an amplification of and extension of the

practical nature of a curriculum as it relates to curriculum decision-making. While the focus is not solely on implementation deliberations, the argument has applicability to this study and is deserving of some consideration as an additional support to the proposition that the intrinsic quality of curriculum practicality is one determinant in the implementation process.

³One aspect of the practical implications of the curriculum that can affect or influence implementation is its comparative advantage as contrasted with other curricula. Teachers must, argued Bolam (1975) and Rogers and Shoemaker (1971), consider the adopted curriculum to have a relative advantage over the current curriculum in use. A curriculum will be measured by its "competitive strength" against other innovations and activities that demand consumption of scarce organizational resources (Bolam, 1975, p. 280).

Rogers and Shoemaker (1971) concluded that perceived compatibility of an innovation with the existing user system's values and practices is a crucial factor in the implementation process.

⁴Consider also the research of Brown (1973); Cole and Herlihy (1971); Lipham and Hoeh (1974); and Starling (1973).

⁵For additional reference refer to Bolam (1975); Butt and Wideen (1973); Brown (1973); Charters and Pellegrin (1973); Cole and Herlihy (1971); Connelly (1972); Crowther (1972); Dahllöf (1970); Doyle and Ponder (1977-78); Dwyer (1976); Goodlad and Klein (1970); Hanson (1973); Herron (1971); Kritek (1976); Mahler (1976); Patterson (1976); Poll (1970); Reynolds (1971); Rogers and Shoemaker (1971); Slas (1973); Starling (1973); Thier (1971); Tom (1973); Tushingham (1974); Walker (1973); and Whiteley (1971).

⁶However, Doyle and Ponder (1977-78) further clarified that, in actual fact, "so little is known about the user of educational innovations. User reaction seems to be displaced by the conditions under which school change is traditionally studied" (p. 3). However, it must be recognized that the ultimate fate or destiny of an implemented curriculum would seem to depend for a large part upon user decisions and actions (Doyle and Ponder, 1977-78).

⁷According to Starling (1973), teachers will be willing to implement a curriculum if they believe that they will benefit from the implementation. Conversely, if teachers are forced to implement by taking time away from tasks they feel are crucial to doing what they consider to be a good job of teaching, they will display minimal commitment to the curriculum and subsequent implementation processes. Because of this, a coercive strategy imposed by administrators will produce negative efforts towards use of the curriculum.

Brown (1973) stated that teachers will not implement if they do not find the curriculum meaningful in a personal, as well as professional sense. Both Brown (1973) and Goodlad and Klein (1970) concluded that without meaning, a teacher will probably manipulate the curriculum so that curricular intents are either not realized or not recognizable.

⁸Continuing this theme, Walker (1973) considered that the motivation to implement is external to the user. The source of this motivation is the informal, social group in which a particular user operates. His findings "showed that teachers chose as their colleagues to whom they go for advice, or with whom they discuss

ideas, or with whom they socialize, a group of other teachers in the same building as themselves who had degrees of implementation closely resembling their own" (p. 78). Therefore, high implementers associated with other high implementers. Conversely, low implementers interacted closely with other low implementers.

⁹For additional reference consider Atkinson (1976); Badham (1975); Charters and Pellegrin (1973); Dahllöf (1970); Doyle and Ponder (1977-78); Hoyle (1975); Kritek (1976); Leithwood et al (1976); Naumann-Etienne (1974); MacDonald (1974); Patterson (1976); Reynolds (1971); Tom (1973); Tushingham (1974); and Whiteley (1971).

¹⁰Supplementary studies to consider: Arnold and Goodloe (1974); Atkinson (1976); Badham (1975); Bolam (1975); Brown (1973); Butt and Wideen (1973); Charters and Pellegrin (1973); Cole and Herlihy (1971); Doak (1970); Crowther (1972); Dahllöf et al (1971); Doyle and Ponder (1977-78); Goodlad and Klein (1970); Inbar (1971); Hanson (1973); Hoyle (1975); Hall and Kester (1974); Karmos and Jacko (1977); Keith (1975); Kritek (1976); Lipham and Hoeh (1974); Marcum (1968); MacDonald (1974); McNeil (1977); Patterson (1976);

Paul (1976); Pressman and Wildavsky (1973); Slas (1973); Stephens (1974); Schmuck and Miles (1971); Thier (1971); and Tushingham (1974).

¹¹Charters and Pellegrin (1973) also posited that implementation success is contingent upon the managerial processes that are in effect in any implementation system.

¹²Hoyle (1975) referred to this as a "deliberate restructuring of the situation by a superordinate having necessary authority" (p. 293).

¹³Miller (1970) pointed out the need for a resource support system that would provide emotional as well as professional advice, encouragement and rewards, and training for on-the-spot implementation problem-solving.

¹⁴Hanson (1973) explained that a school consists of many subsystems; some temporary, some permanent. "Each of the subsystems have all the ingredients that are identified as making up a social system. Each of the subsystems, therefore, has its own reality quite apart, although not divorced, from the other subsystems as well as the system as a whole" (p. 273). Thus, the implementation system has a definite but

interdependent reality within the school system or organization. However, Hanson (1973) issued a cautionary note warning that the educational subsystem or subsystems which, in order to adopt the innovation, are required to make the greatest modifications in their normal procedures of operation will raise the highest level of human resistance.

¹⁵Slas (1973) asked whether certain types of organizational structural patterns are more conducive to implementation efforts. Slas (1973) supported one hypothesis which stated that "organizational structural characteristics accounted for a greater proportion of the variance of new programs implemented by teachers than did the teacher personal characteristic variables" (p. 74).

¹⁶For additional reference consider Arnold and Goodloe (1974); Badham (1975); Charters and Pellegrin (1973); Dahllöf (1970); Dalin (1973); Karmos and Jacko (1977); Kritek (1976); Larson (1968); Patterson (1976); Pressman and Wildavsky (1973); and Tom (1973).

¹⁷Eisner (1970) also argued that maximum implementation implies mutual adaptation, for as he put it "no elixer can have any effect without contacting the organism" (p. 6).

¹⁸Fidelity prescriptions demand total teacher adherence to curricular goals and structures. The aim would be to make the curriculum teacher-proof. To extend this argument, Doyle and Ponder (1977) called the teacher-proof curriculum an elusive ideal, while Eisner (1970) retorted that such an eventuality "is a misguided mirage subscribed to by those who have little contact with the subtleties of the classroom" (p. 8).

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