A STUDY OF
FACTORS AFFECTING THE
ADOPTION OF CURRICULUM

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ABSTRACT

The purpose of this study was to investigate factors affecting the adoption of the current home economics curriculum in Division IV in the province of Saskatchewan. The factors to be investigated were: teacher age, experience, academic qualifications as reflected by degrees, total number of home economics classes at the university level, total number of University of Saskatchewan home economics classes in a specific area of instruction and school enrollments.

Data for the study were collected from a number of sources and were punched onto computer cards and analyzed at the Computing Services Center at the University of Saskatchewan.

Descriptive statistics were used to describe the characteristics of the population. The second part of the analysis involved an investigation of the relationship between the decision to adopt and the selected factors. Percentage cross tabulations were used to describe these relationships. The chi square statistic was utilized and the 5 percent level chosen as the accepted level of significance. When the chi square analysis indicated there was an association, then the corrected coefficient of contingency was utilized to estimate the magnitude of the relationship and an interpretation of the substantive importance of this measure was built into the study.

The population consisted of all Saskatchewan Division IV home economics teachers teaching one-third time or more for the school years 1970-1971, 1971-1972, 1972-1973 (N = 254). The population was found to:

range from 20 to 65 years of age; range from 0 to 37 years of teaching experience; have approximately 40 percent teaching with no university degrees; have approximately 40 percent teaching without a major in home economics and approximately one-third without a single university class in home economics; have approximately 50 percent teaching with no university classes in at least one of the three major areas of Foods and Nutrition, Clothing and Textiles, and Housing and Design; be teaching in schools with enrollments ranging from 54 to 1,785 students.

Significant relationships were found to exist in the analysis of the three curricula (Advanced Foods I, Advanced Clothing I, and Housing and Design) for all factors except Factor 2, teacher age. For this factor a significant relationship ($p \leq .01$) was found to exist for two of the three curricula studied and these were interpreted as strong relationships. This analysis did not support the theory that the older the person the more resistance there is to change. In the analysis of: Factor 1, teaching experience, the group with under three years of experience had the largest percentage of non-adopters; Factor 3, academic qualifications, the B.S.H.Ec. + B.Ed. group had the largest percentage of both adopters and innovators while the group with an unrelated degree (a B.A. or a B.Sc.) or no degree had the largest percentage of non-adopters; Factor 4, university home economics classes, the groups with a teaching major had the highest percentage of adopters and innovators and the group with no classes had the largest percentage of non-adopters; Factor 5, university home economics classes in a specific area of instruction, it was found that as the number of classes increased, so did the number

of both adoptions and innovations; Factor 6, school enrollments, it was found that as school size increased, so did the number of both adoptions and innovations. Profiles of non-adopters, adopters and innovators are provided to assist in the recruitment and placement of teachers.

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THE PROBLEM

Introduction

We exist in a society in which knowledge explosions and technological advances are common-place. This has focussed attention on the importance of the educational system in preparing young people to take their place in society (Haller, 1969). Carlson (1965) and Grosse (1970) suggest that one of the ways school systems attempt to adjust to their environment is through the adoption of new practices in education.

In 1963 the Saskatchewan Department of Education proposed a plan of reorganization for Saskatchewan schools. This proposal indicated the need for change, and the means by which Saskatchewan might adjust to the changing environment.

> In the light of reports . . . the Department feels justified in its attempts to promote a new structure for learning which will eliminate the traditional grade system and will encourage more attention to individual progress and promotion. (Saskatchewan Department of Education, 1963)

The proposed reorganizational plan for Saskatchewan schools was as follows: Kindergarten, Primary Division (Division I), Junior Division (Division II), Intermediate Division (Division III), and Senior Division (Division IV). In May, 1967 the Department of Education published the Division IV prospectus as a blueprint for secondary education in the province of Saskatchewan (McLeod, 1970). It was to become effective in July, 1970. The primary objective of the new Division IV policy was to improve the quality of education and to make appropriate educational

experiences available to the maximum number of students of secondary school age. The number of compulsory subjects was reduced, and the choice of electives broadened; this resulted in the redesigning of present courses of study and the designing of new courses of study. For example, the Home Economics program previously consisted of one course of study for grade 11, and one for grade 12; it now consists of eight half-classes, which are electives requiring no prerequisites.

Dr. L. Marshall (1972), an Executive-Assistant of the Saskatchewan Teachers' Federation, in a report to the Minister of Education indicated that development of new programs, and Departmental approval of such, does not always result in the subsequent adoption of these programs.

> Teachers are reacting indifferently in some cases, negatively in others to programs that have great potential for improving the quality of education in this province. (Marshall, 1972: 1A)

Statement of the Problem

The purpose of this study is to investigate factors affecting the adoption of the current home economics curriculum in Division IV in the province of Saskatchewan. Specifically, an attempt will be made to investigate the following factors:

1. Does teaching experience relate to the decision to adopt a new curriculum?
2. Does teacher age relate to the decision to adopt a new curriculum?

3. Do academic qualifications as reflected in the type of degree or degrees earned relate to the decision to adopt a new curriculum?
4. Does the total number of university home economics classes relate to the decision to adopt a new home economics curriculum?
5. Does the total number of university classes from the University of Saskatchewan in a specific area of instruction relate to the decision to adopt a new curriculum in that area of instruction?
6. Do school enrollments relate to the decision to adopt a new curriculum?

Delimitations of the Problem

The population for this study consisted of all Saskatchewan Division IV home economics teachers teaching one-third time or more. The total population was used in the analysis of all factors.

The specific courses of study to be investigated were: Housing and Interior Design, Advanced Foods I, and Advanced Clothing I. These represent three out of a total of eight half-class electives offered for grades eleven and twelve. These three programs were approved for use by the Department of Education, July 1969, were pilot-taught for the school year 1969-1970, and were available for general use starting the school year 1970-1971 (Young, 1972).

The factors investigated were delimited to those in the statement of the problem, i.e., total years teaching experience, age, academic qualifications (number of university degrees), total number of home economics classes at the post-graduate level, and number of university classes from the University of Saskatchewan in a specific area of instruction, and school enrollments.

The school years investigated were limited to 1970-1971, 1971-1972, and 1972-1973.

Assumptions of the Study

It is assumed in the study that the teacher is responsible for making the decision as to whether or not a new curriculum is adopted in his or her own area of instruction. Furthermore, it is assumed that in a school having two or more Division IV home economics teachers, that the decision to adopt the new curriculum was a joint decision.

Definition of Terms

The terms defined below have a variety of definitions in the literature. The definitions given here convey the meaning intended by their usage in this investigation. Other terms of less importance to the central purpose of the study are defined in the review of the literature.

Course of study:

An inclusive outline of the experience, skills, projects, demonstrations, related information, and methods involved in teaching a school subject, covering a specific period of time. (American Vocational Association, 1954: 14-15)

Curriculum, pl. curricula:

A systematic group of courses (or sequences of subjects required for graduation or certification) in a major field of study, for example, social studies curriculum, physical education curriculum [home economics curriculum]. (Good, 1959:48)

Curriculum change:

This is the movement from one program to another--that is, change occurs as the planned program of learning opportunities becomes different. (Alexander, 1967:341)

Curriculum development:

A process consisting of 4 major steps: (1) selection of objectives, (2) selection of learning experiences, (3) organizing learning experiences, and (4) evaluating the results. (Cormier, 1970:16)

Home economics education:

A program of instruction which assists boys and girls, men and women, to understand and solve problems in personal, home, and family living. The subject matter areas comprising the field of home economics include: foods and nutrition; clothing and textiles; family economics and home management; child development and family relationships; housing, home furnishings and home equipment; family health. The term home economics is often used to designate this educational field at the junior college and university level, which prepares students for such professional services as homemaking teacher, dietitian, nutritionist, nursery school teacher, and institutional manager. (American Vocational Association, 1954:10)

Innovative teacher:

One who tends to adopt innovations earlier than his peers. (Everett Rogers, 1968:29)

Program:

(1) a plan of procedure, (2) voc. ed.) [wherein] all the courses in one field of study, such as business education or industrial trades, [are] organized to fulfill the same general objectives and conducted along similar lines. (Good, 1959:550)

Methods and Procedures

For the purposes of this study, data were collected from the following sources: the Saskatchewan Department of Education forms 8-01-004-1300-70 (-71, -72); the Saskatchewan Teachers' Federation Teacher Information System; and the College of Education and the College of Home Economics, University of Saskatchewan, Saskatoon. Permission was granted from the above sources for the retrieval of the following information: names of Division IV schools teaching home economics, school enrollment, and specific home economics classes taught for the school years 1970-1971, 1971-1972, 1972-1973; names of teachers teaching home economics for the above years, total years teaching experience, age, academic qualifications (number of university degrees), total number of university home economics classes, and number of university classes from the University of Saskatchewan in specific areas of instruction (for example, number of classes in Housing and Interior Design).

The data were punched onto computer cards and then analyzed by the use of frequency and percentage distribution based on cross-tabulation.

Significance

In a report to the Ontario Institute for Studies in Education, Fleming (1966:25) concludes:

> . . . it is obvious that the school has always been engaged in the business of changing the learner through the transmission of culture. . . . We must try to improve our prospects of success by obtaining a better understanding of how we can identify potential leaders and develop their talents . . . of how we can persuade people to follow a specific course of action without generating an unmanageable degree of opposition to it; and of many other equally important matters.

Our schools are engaged in the process of change, but, as Grosse (1970:34) points out, "The change process is far from understood in education." This is supported by Newton (1966:3):

> Little attempt has been made to analyze and to understand the process of change in education, which is a type of social change, and yet there is no doubt that change is very much a part of the educational scene.

One of the educational changes schools undertake involves the introduction of new programs. However, new programs are not adopted simply because they are available (Marshall, 1972). If we intend the introduction of new programs to assist the process of change in education, then it becomes necessary to see that these programs are adopted. Change in theory must become change in practice; the developed program must become the adopted one.

Carlson (1965:5) states that the:

> . . . rate of acceptance of a new practice or idea by individuals or adopting groups depends on (1) the characteristics of the adopting unit (individual and/or group), (2) the way the adopting unit is joined to communication channels and sources of information, and (3) the position the adopting unit holds in the social structure of like units.

Everett Rogers (1968) suggests that there should be more studies with teachers as the unit of adoption. Grosse (1970:130) supports this:

> It appears that characteristics and functioning of the staff are a crucial part of the change process and an extensive analysis . . . would be useful.

Grosse (1970:129) also indicates that if indeed change were perceived to be a need of a school system, then a description of the characteristics that appear to be associated with innovative staff, would have implications for Educational Administration by being useful for teacher recruitment and placement.

Haller (1969:3) expresses the need for studies on teacher acceptance of change to have some practical significance:

> . . . while there may be some theoretical interest in establishing a correlation between personality and change, personality variables offer the professional educator little in the way of leverage to influence the change process.

The results of this study may provide some insights into whether or not the factors under study have any effect on the teacher adoption of curriculum. Finally, by focussing this study on Saskatchewan teachers, it is anticipated that a clearer view of the change process in Saskatchewan education will emerge. Newton supports this and indicates its relevance for not only immediate use but for future use:

> It certainly would seem that a study of an educational change in a Saskatchewan setting would enable us to understand better the change process and to implement future changes more effectively in Saskatchewan schools. (Newton, 1966:4)

Chapter 2

REVIEW OF RELATED LITERATURE

Introduction

A number of specific factors on the contemporary scene have brought about educational change. These include the influences of the Cold War and Vietnam, the phenomenal growth of the knowledge industry, pressures from outside the realm of professional education and advances in the behavioral sciences (Miller, 1967:5-6).

> There may be some who would ask: what is the need for change in education at all? Isn't the need rather for greater stability and consistency in our educational systems? In my judgement, one cannot read of the tremendous student unrest . . . nor can one talk with students, teachers or parents without realizing the tremendous challenges which education is facing today and the fact that it is not meeting them very well. I see our whole educational system at a crisis point, a point of desperately important choice where we will either move forward or our educational system will essentially collapse. (Carl Rogers, 1969:57)

This is essentially the viewpoint to which the writers on change in education subscribe.

Some specific factors cited for "why change" are the changing times, the fact that we know more about kids--their psychology, development and possibilities, and the fact that presently new ideas don't always reach the classroom (Gould, 1966:1).

For the educator today it is no longer enough simply to acknowledge the fact that education is changing; he must now understand this change.

It is essential that those engaged in the process of education be prepared to accept the challenge of change in education for:

> Changing secondary schools can be an exciting and rewarding endeavor. What is even more important, the results of change can produce individuals who will lead and adjust better to the different world that man's increasing knowledge is bringing so dramatically and rapidly in the closing years of the twentieth century. (Trump, 1967:75)

In accepting this challenge "sometimes one is reminded of Alice and how she must have felt as she ran alongside the Red Queen," (Radcliffe, 1967:226):

> "In our country," said Alice, panting a little, "you'd generally get to somewhere else - if you ran very fast for a long time as we've been doing."
>
> "A slow sort of country!" said the Queen, "now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere, you must run at least twice as fast as that." (Carroll, 1923:185)

Change Defined

Change simply defined is a shift from what exists (Goodlad, 1966:7). A more explicit definition is given as follows:

> To alter by substituting something else for, or by giving up for something else; to put or take another or others in place of; to make substitution of, for or among things of the same kind; . . . (Chin, 1967:333)

Change in education is a social change, it is the process by which alteration occurs in its systems structure and function (Carl Rogers, 1969:57).

Social change occurs within a social system which Rogers and Shoemaker (1971:28) define as:

> a collectivity of units which are functionally differentiated and engaged in joint problem solving with respect to a common goal. The members or units of a social system may be individuals, informal groups, complex organizations or subsystems.

This definition is supported by Thomas:

> The term system . . . refers to units that interact in their pursuit of common or conflicting goals under particular environmental conditions . . .
>
> The units in this system are humans who, either as individuals or as groups (subsystems) act in a singular fashion. (Thomas,Sands and Brubaker, 1968:8)

Innovation

Innovation Defined

Innovation is a species of the genus change (Miles, 1964:14). To innovate is to make changes; innovation is a type of change, although this term implies more self-initiation and spontaneity (Chin, 1967:334). It is a deliberate, normal, and specific change that has been willed and planned for and is thought to be better able to accomplish the goals of the system (Miles, 1964:14). Innovation is viewed as the creation of a new idea and practice (Lippitt, 1967:317), and also as the perception of an idea, practice or object as new by an individual - if the idea seems new to the individual, it is an innovation (Rogers and Shoemaker, 1971:19).

Every idea has been an innovation sometime (Rogers and Shoemaker, 1971:19).

Innovation in education ordinarily refers to a change having a defined and particular character rather than being vague and diffuse (Miles, 1964:14).

Characteristics of Innovations

Innovations have a number of characteristics some of which are:

1. Unlike reform and revolution the focus is on the new, not on the old (Schaller, 1972:54-55).

2. Innovation is not likely to come about unless the need is clearly perceived (Mayhew and Ford, 1971:117).

3. Innovation tends to avoid some of the ideological problems that often produce a polarizing paralysis that halts all efforts at change from within (Schaller, 1972:54-55).

4. Innovation contains the element of novelty (Lippitt, 1967: 320) implying a recombination of parts or a qualitative difference from existing forces (Miles, 1964:14).

5. Innovation is a high risk venture (Schaller, 1972:54-55; Lippitt, 1967:320). This element of risk can be delineated into the three major areas (Druker, 1959:46-50) of: a) the risk of making obsolete current practices and patterns of operation; b) the risk of the innovation failing; and c) the risk of the innovation succeeding, but in doing so creating unforseen new problems.

6. Innovation has a built-in dynamic characteristic that tends to create and perpetuate an openness to change (Schaller, 1972: 54-55).

The Process of Change

The Process of Change consists basically of three sequential steps (Rogers and Shoemaker, 1971:7): (1) invention; (2) diffusion; and (3) consequences.

Invention

Invention is the process by which new ideas are created or developed (Rogers and Shoemaker, 1971:7).

Diffusion

Diffusion is the process by which new ideas are communicated to the members of a social system (Rogers and Shoemaker, 1971:7). It is a special type of communication, for in the case of diffusion the messages are new and therefore a degree of risk for the receiver is present. The presence of this element of risk results in the receiver behaving differently than he would if he were receiving messages about routine ideas (Rogers and Shoemaker, 1971:12).

> The diffusion period, defined in its broadest context, is the spread of an innovation or idea from its original source to its ultimate adopters. More specifically, the diffusion process is viewed as the spread of an idea from the first adopter to the last adopter within a designated population. (Leuthold, 1966:42)

The main elements in diffusion are: (1) the innovation itself, (2) which is communicated through certain channels, (3) over time, (4) among members of a specific social system.

These four elements of diffusion differ only in nomenclature from the essential elements of most communication models (Rogers and Shoemaker, 1971:39). This is expressed diagramatically in Figure 1 where the elements in diffusion are compared with the elements in the S-M-C-R-E communication model.

Consequences

Consequences are the changes that occur within a social system as a result of the adoption or rejection (the innovation decision process) of the innovation (Rogers and Shoemaker, 1971:17).

The Innovation-Decision Process and/or the Adoption Process Defined

The adoption process has been defined as the stages by which one passes from awareness to adoption (Leuthold and Wilkening, 1965:33). "The essential features in the adoption process are that time is involved and that different factors influence the passing from one stage to the next" (Leuthold and Wilkening, 1965:35).

The "Innovation-Decision Process" is basically the new terminology used to replace the "Adoption Process." Rogers (1962:76) used the latter terminology as late as 1962 when he defined the Process of Adoption as:

> The adoption process is the mental process through which an individual passes from first hearing about an innovation to a final adoption. The adoption process should be distinguished from the diffusion process

Figure 1-2
Elements in the diffusion of innovations and the S-M-C-R-E communication model are similar.

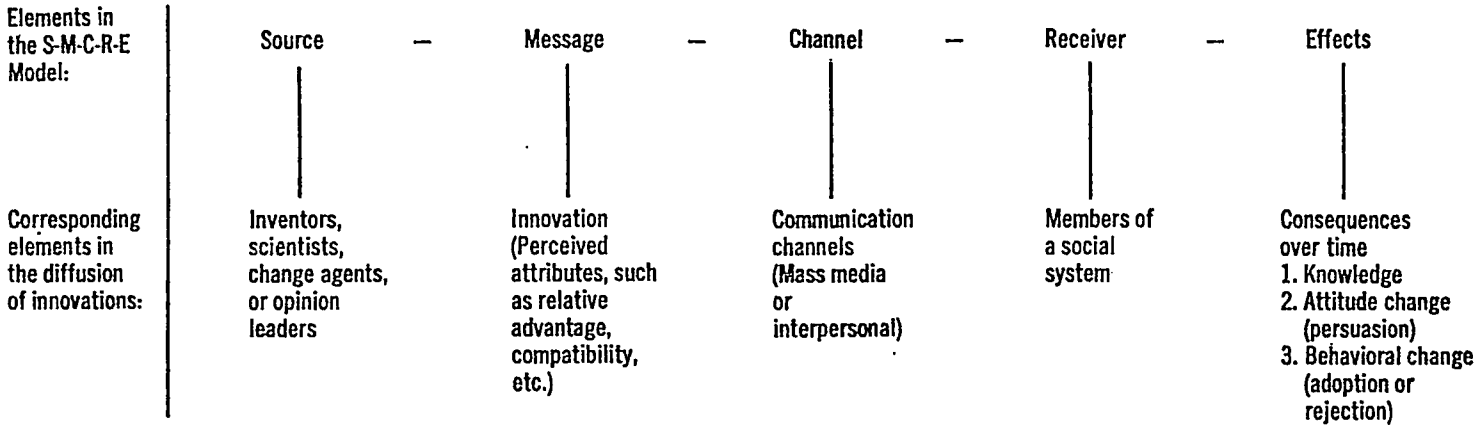

Figure 1*

*Taken from Rogers and Shoemaker, 1971, p. 20.

> which is the spread of a new idea from its source of invention or creation to its ultimate users or adopters. A major difference between the diffusion process and the adoption process is that diffusion occurs among persons, while adoption is an individual matter.

By 1971 Rogers and Shoemaker (1971:99) were using the terminology "Innovation-Decision Process" which they defined as:

> . . . the mental process through which an individual passes from first knowledge of an innovation to a decision to adopt or reject and to confirmation of the decision. This process should be distinguished. . . . (etc., etc., much as in the original definition).

Rogers and Shoemaker (1971:99) explain this change in terminology in the following manner:

> . . . 'the adoption process' . . . implies that all individuals adopt rather than reject new ideas as a result of the process. Further, our original notion of the adoption process did not allow for behavior which takes place after the decision to adopt. We prefer the convention of "innovation-decision process" in the present book, a terminology broader in scope than 'adoption process.'
>
> The innovation-decision is a special type of decision-making; it has certain characteristics not found in other kinds of decision making situations. In the case of the adoption of an innovation, an individual must choose a <u>new</u> alternative over those previously in existence. Therefore, the newness of the alternative is a distinctive aspect of innovation-decision making.

Stages in the Process of Innovation-Decision and the Process of Adoption

While few persons would deny that adoption of an innovation is a process with certain definable characteristics, the delineation of the number of stages varies with the research problem and fewer or greater number of stages may be delineated. (Leuthold, 1966:2).

In 1955 a five-stage process was delineated as follows:

1) Awareness - The individual learns about a new idea or practice but has little specific knowledge about it.

2) Interest - The individual gives some consideration to the idea and seeks further advice and information thereby determining its possible usefulness and applicability.

3) Evaluation - The individual and/or group decides to try, drop, or further consider the new idea or program. This decision is reached by the weighing and sifting of the information and evidence available and considered in relation to existing conditions.

4) Trial - The new idea or program is tried, usually on a small scale and on an experimental basis. He may require the assistance of outside personnel to put the innovation to use.

5) Adoption - The innovation is completely accepted and its continued use becomes standard procedure.

(Subcommittee for the Study of Diffusion of Farm Practices, 1955)

In 1966 this five stage process was expanded to a seven stage process by the addition of two stages. One is termed "generalized interest" and is defined as the change-orientation and receptivity to new practices in general and it is used as the first step in the process. The second stage is called "trial-evaluation" and can be defined as

the assessment which follows trial and would fit between the trial stage and the adoption stage (Leuthold, 1966:36-40).

In 1971 Rogers and Shoemaker proposed a model (figure 2) of the innovation-decision process consisting of only four functions or stages, these being:

1) Knowledge - The knowledge function occurs when the individual is exposed to the innovation's existence and gains some understanding of how it functions.

2) Persuasion - The persuasion function occurs when the individual forms a favorable or unfavorable attitude toward the innovation.

3) Decision - The decision function occurs when the individual engaged in activities which lead to a choice to adopt or reject the innovation.

4) Confirmation - The confirmation function occurs when the individual seeks reinforcement for the innovation-decision he has made, but he may reverse his previous decision if exposed to conflicting messages about the innovation.

(Rogers and Shoemaker, 1971:101-104)

The model (figure 2) contains three major divisions: 1) antecedents, (2) process, and (3) consequences. Antecedents are those variables present in any given situation prior to the introduction of an innovation.

The social system's norms serve as incentives or restraints on the individual's decisions. Communication sources and channels provide stimuli to the individual during the innovation-decision process.

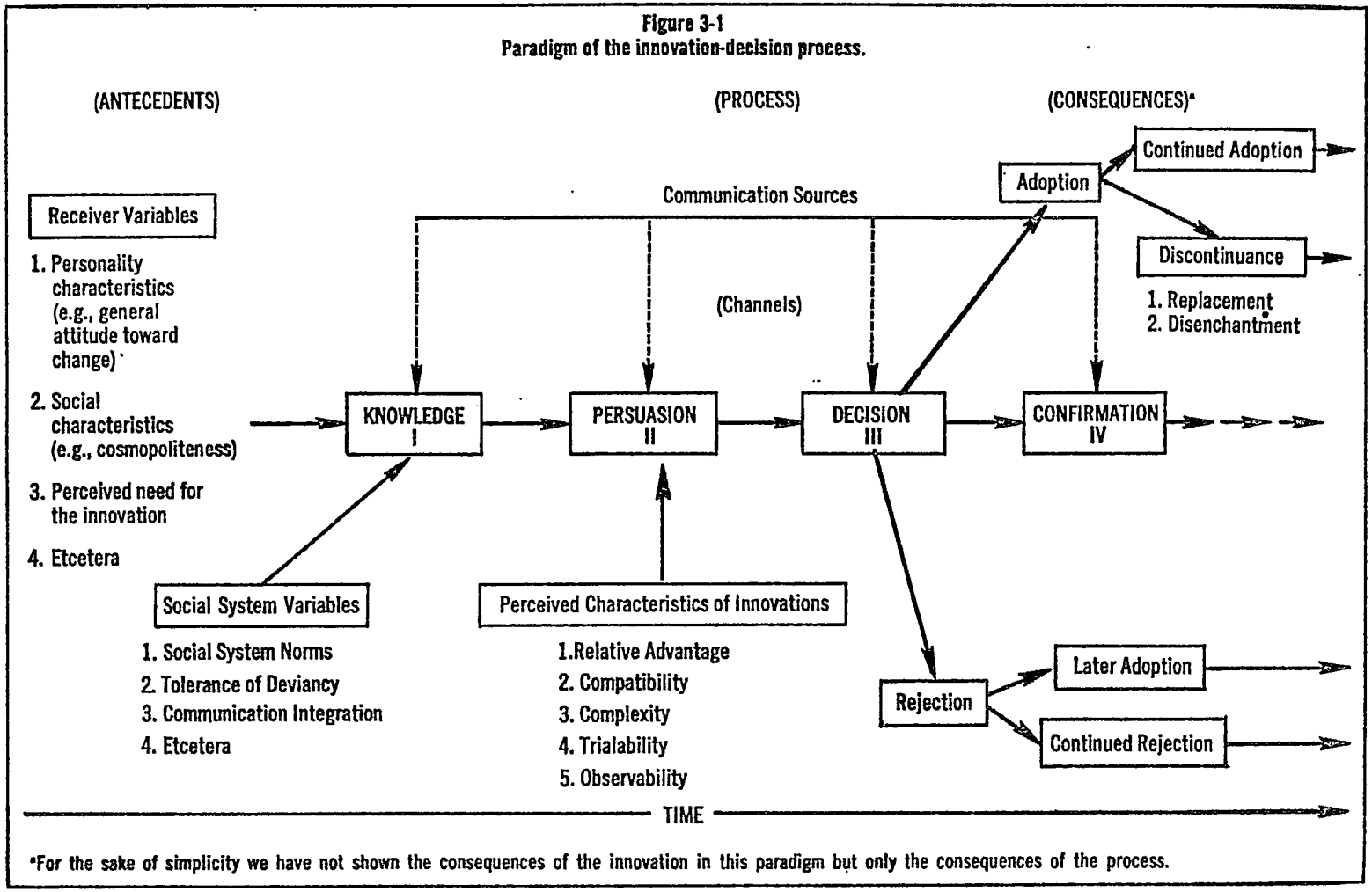

Figure 2 *

*Taken from Rogers and Shoemaker, 1971, p. 102.

In contrast to the above precisely defined decision process, some writers point out that not all decisions involve a clear cut stage sequence; some decisions:

> . . . are made simply on the basis of habit or tradition or at least without extended deliberation. Also, the decision sequence can be truncated at any point, or stages may be so blended that it is impossible to distinguish where one begins and the other ends. Furthermore, after final adoption any issue may be reopened for consideration and the whole process started again.(Lionberger, 1960:24)

Selected Factors and Their Relation to the Innovation-Decision Process

The following characteristics have been drawn primarily from farm practice adoption research. These characteristics [along with some specific educational examples] are included here as a guide for developing educational programs which advocate change (Lionberger, 1960:1). Three main types, the Characteristics of the Practice, Communication Variable, and Situation Factors will be explored (Leuthold, 1966:49).

Type I Characteristics of the Practice

Five characteristics of the practice; relative advantage, compatability, complexity, divisibility and visibility are included here. These may be briefly explained as follows:

1) relative advantage

> The relative advantage of a new idea is often the dominant factor influencing adoption. Relative advantage is most generally viewed as the economic profitability of the idea, but it can also mean other things, such as convenience, dependability, etc. Relative advantages change through time. A crisis often serves to illustrate the advantage of some new ideas.(Leuthold, 1966:49-50)

In all cases a need must first be perceived before adoption is considered (Lionberger, 1960:12). Generally changes which cost little tend to be adopted more quickly (Lionberger, 1960:13).

This factor in its "economic profitability" sense would generally not be applicable to any individual within the educational system, as individuals within the system seldom receive any direct economic benefit from adopting innovations. It could, however, apply to the educational system itself, and the factor of relative advantage would apply to both the individual and the system in its non-economic sense.

2) compatability

Compatability is generally viewed in terms of values and belief of the operators who have an influence on the adoption decisions (Leuthold, 1966:50-51). Generally practices which are compatible with existing ideas and beliefs are most likely to be adopted quickly (Lionberger, 1960:12).

Compatability can also mean whether or not a new idea will alter another system of operations (Leuthold, 1966:50-51).

3) complexity

Complexity influences the rate of acceptance of adoptions and extent of diffusion of the adoptions (Leuthold, 1966:51). Generally, the more complex the innovation, the slower the rate of adoptions.

4) divisibility

Divisibility indicates the extent to which the innovation may be used on a limited bases (Leuthold, 1966:51-52).