TEACHERS AND INNOVATIVE PRACTICES: SOME FACTORS INFLUENCING ADOPTION DECISIONS

by

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TEACHERS AND INNOVATIVE PRACTICES: SOME FACTORS INFLUENCING ADOPTION DECISIONS

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ABSTRACT

The adoption of an innovation is essentially a decision-making process. In this thesis, this process is discussed within the framework of change theory, and a number of influences affecting teachers' decisions to adopt change are identified.

A project to promote the adoption of an innovation among nineteen special education teachers is described and the factors influencing their behaviour are analyzed. Structured interviews were used to gather information from the teachers and from the leader of the project. In additon, a questionnaire was twice completed by the teachers, yielding additional data and an indication of the extent to which the teachers were adopting the innovation.

The influence of the leader of the project, who acted as a change agent, emerged as the most significant influence promoting adoption.

"The persistence of the normal is very strong."

Barbara Tuchman, A Distant Mirror

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INTRODUCTION

Sequence

The first part of this thesis will contain an examination of the process of change, with special reference to change within schools. The second section will focus upon teachers as adopters (or non-adopters). Both of these will include a review of recent research and writing. A case study will then be described with some comparisons between the principles suggested by researchers and writers and the procedures used by the change agent involved in the adoption project that was analyzed.

Statement of the Problem

Teachers are frequently encouraged by school or district officials to use revised curricula, altered learning resources or new teaching practices developed externally to the school. These innovations are generally intended to bring about changes in the way teachers plan and teach. And it is change in this central activity - teachers planning and teaching - that is the ultimate goal of all change projects, because it is through alterations in this central activity that we attempt to increase children's learning.

Changing teaching practice in the classroom is a complex process characterized by a series of decisions made by individual teachers. These decisions, often made during the busy dailiness of the classroom, have an impact on how the teacher teaches and how the students learn, sometimes over a long period of time.

An understanding of the factors influencing teachers' decisions about an innovation is basic to planning for change.

Bias

My comments and observations contained within parts one and two of this thesis and my analysis of the case study presented in parts three and four are coloured by my view of the relationship between adoption and implementation strategies.

Adoption is the decision by teachers to use an innovation, either in its original form or in a shape adapted to each teacher's manner of operating in the classroom (frequently referred to by teachers as their "style"). Implementation, meanwhile, "...is the planning and preparing for the use, in the classroom, of a curriculum". (Common, 1980, p. 3)

Thus, for purposes of this study, adoption is viewed as something one does him/herself, while implementation strategies are any activities by others aimed at promoting adoption. The two are, obviously, intertwined.

Definition of terms

The literature on the study of change within education has already begun to generate a somewhat specialized language, in which some common terms are used in uncommon but, within the field, generally accepted ways. This process of developing specialized meanings is usually useful. The accompanying danger is, of course, the descent into a jargon intended more to create a mystique than to promote effective communication.

Throughout this thesis the specialized meaning of the basic terms of this field are used. Given this, it seems useful to offer at this point definitions for the set of terms which frequently appear in the pages that follow:

adoption period: length of time required for an individual to pass through an adoption process from awareness to adoption

adoption process: the mental process through which an individual passes from first hearing about an innovation to final adoption (Rogers, 1962)

belief: the taken for granted assumptions, values, and expectations that are foundational to ongoing decisions and actions taken in our common-sense situation of teaching and curriculum planning (Werner, 1981)

change agent: a person making deliberate efforts to bring about change

client system: the person or group being helped (Lippitt, Watson, and Westley, 1958)

concern: the composite representation of the feelings, preoccupation, thought, and consideration given to a particular issue or task (Hall, George and Rutherford, 1979)

curriculum change: alteration in course content, learning resources or instructional technique

decision-making: the process by which an evaluation of the meaning and consequences of alternative lines of conduct is made (Rogers, 1962)

divisibility: degree to which an innovation can be tried on a limited basis

final adoption: the state characterized by the individual routinely using the innovation

implementation strategies: planned procedures and techniques designed to promote the putting into practice of a new program or technique

innovation: an idea, object, or practice perceived as new by the individual (Rogers, 1962)

inservice education: a post-certification learning process as the result of which an individual does, knows, or feels something differently and, in consequence, performs differently in his/her responsibilities

opinion leader: individual who is influential in approving/disapproving new ideas (Rogers, 1962)

personal characteristics: qualities associated with the individual, including personality, beliefs and attitudes

planned change: a decision to make a deliberate effort to improve the system (Lippitt, Watson, and Westley, 1958)

precision teaching: a system of instruction whereby the objective is defined in detail, the teaching is designed specifically toward the objective, and evaluation is based on performance relative to the objective

resistance: hesitation, reluctance or refusal to try out an innovation

social system: the dynamic set of roles and relationships existing among persons within a functional unit

PART ONE: THE CHANGE PROCESS

The adoption of innovation by teachers is not an isolated activity, but occurs within a change process with which it is interwoven. The review of literature presented here is not meant to be exhaustive, but to provide perspective for a study presented in part 3 of this thesis.

A brief overview of the change process is first presented, followed by a discussion of the adoption process and of factors influencing teachers' decisions about innovations.

This overview and discussion are coloured by a number of assumptions primarily:

i) change within classrooms is brought about by teachers adopting practices different from their present practices

ii) adoption is a decision-making process

iii) decisions about adoption are influenced by a variety of identifiable factors.

Change models

Havelock and Havelock (1973) have identified four major perspectives on the change process, based primarily on the earlier work of Havelock (Havelock, 1969): change as a problem-solving process beginning with a need which is translated into a problem statement and a diagnosis; change as a research-development-and-diffusion ("R, D and D") process wherin the innovation is researched, developed, and "packaged" prior to mass dissemination; change as a social interaction process emphasizing the intended adopter as a member of a network of social relations

within which informal personal contact is a vital influence on behaviour; change as a linkage process which stresses the "user" as a problem-solver with relationships to the outside resource system (such as resource persons and research studies). Havelock and Havelock also identify a "reward and reward structure" perspective and a "conflict and crisis" view.

The R, D and D approach, first writtem about by Brickell (1961), has been widely used in education. The basic features are high initial cost of innovation development, intensive diffusion programs, and passive consumer. Within this model, the innovation's developers work in isolation from the teacher and appear to assume that the teacher will adopt the innovation because it is "better" than whatever it is intended to replace.

Several researchers have used or commented upon this approach.

The work of Rogers (1962) and Rogers and Shoemaker (1971) represents this view of change. These researchers added "consequences", the results of the adoption of and idea or practice, as an additonal stage.

Common (1980) is not impressed with the view of teachers implicit in the R, D and D approach to change in schools:

> The assumption behind the majority of...innovations is that central development teams can design new curricula which will subsequently be used in a prescribed and fidelity fashion by the schools, and that teachers will use the new materials, will change their practices and affect student learning in useful and more productive ways. The truth, however, is that change in schools just does not happen as easily as was commonly assumed. (p. 1)

House (1974) also questioned the notion of transfer as a

simple and predictable process, while Goodlad (1975) has suggested that the R, D and D sequence produces solutions in search of answers.

Meanwhile, Bolam (1976) has identified three diffusion models similar to those of Havelock: interaction, wherein knowledge is transferred in an unsystematic and unplanned manner along informal networks; R, D and D including testing of prototypes; problem-solving, including evaluation of the solution. He has also held that change models can be distinguished by the strategies utilized by the promoters; power-coercive, empirical-rational, and normative-re-educative.

Classifying change

Changes in education have been classified in a number of ways for purposes of study and/or planning.

Joyce and Showers (1980) have suggested that all changes fall into either "fine tuning" (p.380) or replacement of present practices. They have also suggested improving present behaviour is easier because the magnitude of the change is smaller.

Other attempts at classification emphasize the focus of change efforts and identify three levels of change: improvement of the functioning of the organization (district goals); improvement of the school as a unit; and change within the individual. This typology may be misleading as change at any one of the levels almost always affects the adjacent level(s). It is, however, interesting to observe that changes in the individuals within a school frequently brings about change in the school and can alter the nature of the district, but it is a common

observation that changes at the district level can fail to "filter down".

Classification according to the manner in which the change is attempted has been suggested by others, including Barnes (1969) who defined the approaches as:

i) decree

ii) replacement of persons in key positions

iii) alteration of authority relationships

iv) group decision

v) data discussion

vi) group problem-solving.

Dalin (1977) has stated that the identifying feature of a change project is who owns it and has suggested that:

> The question of who is deciding is crucial. The "ownership" approach to a (change process) is significant, not only because it might illuminate why and how the innovative idea has been introduced, but also because it might tell us something about the possibilities for successful implementation.

Any attempt to create even a simple typology of educational changes eventually begs the question of whether "change" is synonymous with "improvement". The accompanying question of "better for whom?" soon follows. Some writers (e.g. Flanders, 1980; Young, 1979) have argued that almost any change goal promoted by the organization (such as a school district) must necessarily be more beneficial to the organization than to the individuals within it.

Planning for change

A number of researchers have described the apparent stages

of the change process, which have been used as the bases for designing promotional activities.

Bush and Bock (1980) in a study for the Teachers Corps program utilized the following stages:

proposal stage
adoption
planning and preparation
implementation
institutionalization

These five stages were considered critical decision points in the innovation process (p. 35)

Giacquinta (1978) listed the stages as initiation (defining the problem, specifying possible solutions, adopting one of the innovations), implementation (altering organizational members' behaviour and attitudes) and incorporation (stabilizing the new behaviour).

Berman and McLaughlin (1976) viewed the change process as consisting of three stages: planning, during which local school officials conceive and formulate plans; implementation, when project plans must be translated into practice; and incorporation, when an innovation loses its special status and becomes part of routine operations. They noted three types of interaction during the implementation process (p. 352): mutual adaptation, nonimplementation and cooptation (assimilation).

Lippitt, Watson and Westley (1958) identified the stages as:

i) development of need for change
ii) establishment of change relationship
iii) clarification of client-systems' problem

iv) examination of alternative routes and goals: estimating goals and intentions

v) tranformation of intentions into change efforts

vi) generalization/stablization of change

vii) achieving terminal relationship

They expanded on these stages, describing a "Planning Research, Development and Diffusion (PRDD)" model:

i) problem identification

ii) innovative planning

iii) innovative programming/development

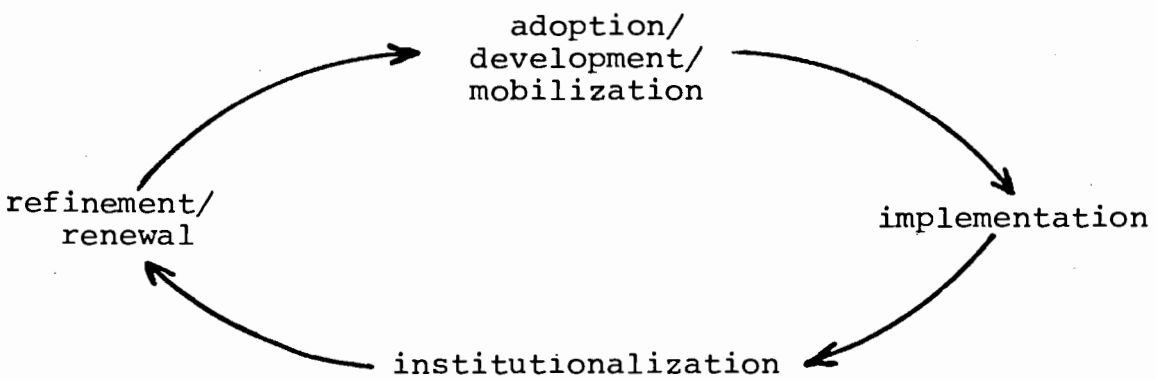
iv) experimentation

v) evaluation and revision

vi) dissemination and production

vii) implementation

Fullan (1980, p.12) has suggested that the stages are cyclical:



Five planning phases have been identified by Rubin (1980): establishing an atmosphere of support, implementing the leadership component, building an appropriate plan, publicizing the benefits, and maintaining stability.

Chin (1969) has suggested that the sequence is to consult specialists, start innovation, communicate intents, create incentives to "buy in", and to emerging relationships.

Several researchers have commented on the importance of continuation (Rubin, 1980), institutionalization (Fullan, 1980; Bush and Bock, 1980), incorporation (Giacquinta, 1978; Berman and McLaughlin, 1976), achieving terminal relationship (Lippitt, Watson and Westley, 1958), all of which emphasize the importance of the change being more than a temporary adjustment.

The adoption process

Implicit in the foregoing discussion of the change process is the adoption of the innovation by teachers - i.e., the adoption process - which is regarded in this thesis as central to implementing change in the classroon.

This perspective emphasizes the importance of the persons involved in any attempt to introduce change.

The adoption process has been defined by Rogers (1962, p.76) as the mental process through which an individual passes from first hearing about an innovation to final adoption.

Thus bringing about change in how teachers behave in the classroon hinges on effecting change within the teachers. Giacquinta (1978, p.185) has argued that whereas most educational change programs prescribe inservice workshops to impart the appropriate knowledge, attitudes, values, and skills, the difficulty of effecting changes in peoples' basic values, attitudes, and behaviour are often "underplayed" or ignored.

This view was echoed by Hall and Loucks (1978, p.38):

> Change is a highly personal experience. Staff developers, administrators, and other change facilitators often attend closely to the trappings and technology of the innovation and ignore the perceptions and feelings of the people experiencing the change process.

A similiar viewpoint was expressed earlier by Dalin (1977, p.211).

> Resources are spent in the development process while 'host readiness', the willingness and ability of the user to 'take' the innovation, may well present a greater problem than the product development itself.

McLaughlin and Marsh (1978) concluded that change is a function of people rather than of technology and project planning. Fullan and Park (1981) have offered similar views, and have commented (p. 26):

> The one common factor underlying effective principles and plans is the recognition that the success of change is dependent solely on what people do and are prepared to do.

Hall, George, and Rutherford (1979, p.4) have commented:

> Understanding and describing the process of change in educational institutions, while at the same time maintaining sight of the individual, is a challenging task for managers of the change process, as well as for change researchers.

Doyle (1978) has claimed that the changes in role and status of individuals are the true innovation in change projects, not the mere introduction of new practices.

Stages of adoption

Apparent patterns of adoption have been identified by several researchers.

One of the most often cited adoption researchers, Rogers (1962), has named five stages of adoption, based largely on his

research of adoption behaviour.

Rogers' five stages are:

i) awareness, in which the individual is aware of an innovation but is not motivated to seek additional information

ii) interest, characterized by the seeking of additional information

iii) evaluation, when the individual decides whether or not to try out an innovation

iv) trial, often on a small scale

v) adoption

Rogers has also commented (1962, p.99) on the sources of information that seem important at each stage, noting that "impersonal" sources, such as brochures, seem most significant at the awareness level, while "personal" sources are most likely to influence behaviour at the evaluation stage.

Hall, Wallace and Dossett (1973) whose Concerns-based Adoption Model was used as one of the diagnostic procedures used in the study reported later in this thesis, utilized awareness, informational, personal, management, consequence, collaboration and refocusing to designate stages.

Design, awareness and interest, evaluation and judgement, and trials are the adoption stages pointed out by Miles (1964).

Meanwhile, Klausmeir, Karges and Krupa (1977, p.78) identified awareness, commitment, changeover, refinement and renewal as stages of adoption.

It is interesting to note that rejection is not often included as a stage or sub-element, especially in view of the large amount of literature documenting change implementation failures. Campbell (1966) questions the assumption that adoption

follows evaluation and suggests that rejection could be the most natural decision. In fairness to Rogers, it should be pointed out that his "decision tree" (1962, p.94) by which he attempts to trace the sequence of decisions during adoption, shows "discontinuance" as one of the possible actions.

PART TWO: TEACHERS AND THE ADOPTION PROCESS

A host of interrelated factors variously influence teachers' decisions concerning adoption of an innovation.

Personal characteristics

The relationship between personal traits and adoption has been examined by a number of researchers.

Rogers (1962) has formulated a number of generalizations related to adopter categories:

i) innovators who are venturesome and are first to try out something new

ii) early adopters who do not adopt as early as innovators but who are often identified as opinion leaders.

iii) early majority who may deliberate a long time before trying something new

iv) late majority who adopt after most others have adopted, often due to peer pressure

v) laggards who are the last to adopt - if, indeed, they do so - are characteristically suspicious of innovations and of those promoting them

Rogers has cautioned, however, (1962, p.159) that:

> Innovativeness is a continuous dimension in that individuals adopt a new idea at different times. Partitioning this continuum into categories should be viewed as a conceptual device.

Rogers has also noted (1962, p.208) that the numbers of adopters increases as the innovation diffuses.

Bonlen (1964) found (p.279) that innovators and early adopters are more willing to take risks and have shorter adoption periods.

Marcum (1968) and Wygal (1966) noted that young teachers more readily adopted innovations, but Rogers and Shoemaker (1971) have stated, after examining over two hundred studies on adoption, that there is no consistent relationship between age and adoption.

Rogers and Shoemaker (1971) found a relationship between early adoption and a positive attitude towards change. They also suggested that early adopters have a more favourable attitude towards risks.

Anderson (1975) studied the influence of thirty-four personal characteristics on the adoptive behaviour of directors of public school adult education. Participation in professional associations and work satisfaction were shown to be the most significant, although both were minor compared to the factor of the amount of time the director was employed to carry out his duties (many subjects were part-time). He also observes that a negative attitude to innovations in general or to a specific change leads to a lower adoption rate as does a negative attitude to "pressure" and to persons in authority.

Aylen, Anderson and Wideen (1977) analyzed common personal characteristics of one hundred elementary school teachers (as well as selected situational and structural features of their social system) in order to asess the relative impact of these sets of variables on adoption behaviour. They concluded that teachers most likely to adopt new classroon practices were those participating actively in their professional association.

McLaughlin and Marsh (1978) in their analysis of the Rand Corporation's study of innovations funded by the United States Office of Education (commonly referred to as the "Change Agent Study"), observed (p.72) that the study found that teachers' commitment had the most consistently positive relationship to all the project outcomes.

Teacher commitment was held to be influenced by attitude of district staff ("political" and "opportunistic" innovations were rarely adopted), project planning strategies (collaborative planning was suggested as most effective), scope of the change involved (a greater change seemed to lead to a high proportion of commited teachers), and reward (the perceived worth of the innovation in terms of students was found to be strongest). The researcher also notes (p.72) that some practicioners and planners regard teacher commitment as immutable: "...some teachers are eager to learn new practices, and others simply are not."

The relationship between selected characteristics of teachers and attitudes toward educational innovation was the purpose of research done by Beckerman (1971) who found no significant relationship between adoption and personal attributes.

Research done by Peterson (1969) has indicated that adoption is positively related to teachers' degree of cosmopolitanism, cosmopoliteness and opinion leadership.

Characteristics of the innovation

A teacher's perception of the innovation itself colours the decisions he/she makes concerning adoption. Rogers (1962), for example, has suggested that the users' judgement about the

relative advantage of a change strongly influences the degree of adoption. He has also stated that adopters' attitudes will be influenced by the extent to which the change is compatible to existing values and norms, by the complexity of the change, and by the divisibility of the change.

Rogers and Shoemaker (1971) listed relative advantage, compatibility, complexity, divisibility and communicability as characteristics of an innovation useful for the purpose of study of adoption. Allan and Wolf (1978) studied the relationship between characteristics of innovations and their subsequent adoption. They found that the attributes described by Rogers (1962) and by Rogers and Shoemaker (1971) appear appropriate for studying adoption of innovations within education.

Hughes and Keith (1980) investigated the relationship between teachers' perception of an innovative curriculum and the observed degree of implementation of an innovation. They also used the attributes of innovations proposed by Rogers and Shoemaker and found them to be related to the implementation of educational innovations, although the nature of the relationship was not clear.

Common (1980) surveyed recent implementation research results and identified (p.13) six qualities of the innovation that have direct bearing on implementation outcomes: degree of change from the status quo; complexity; explicitness; practicality; relative advantage, and adaptability.

Miles (1964) concluded that attributes of innovations influence the degree and speed with which schools change and that certain attributes make institutionalization of the change

more likely. He suggested that an innovation's cost, its divisibility, and its association with curriculum materials strongly influence adoption.

Fullan and Pomfret (1977) note that explicitness and concreteness are features positively associated with successful implementation.

Doyle and Ponder (1978) have also written on the influence of teachers' perceptions about the practicality of the innovation (p. 6):

> (Innovations) perceived as practical are ones which a given teacher will most likely try to incorporate into classroom procedures. Those perceived as impractical have little chance of being tried.....Studies of the formation suggest that teachers are prone to make judgments rapidly, with minimal experience or evidence.

"Practical" to most teachers suggests that they can relate the objectives of a change project to their everyday work and can envisage using the innovation within their classrooms.

The same writers suggest that the origins of the innovation, teachers' attitude toward its supporters, and the compatibility of the change with their self-image and with the way they relate to students also influence decisions about practicality.

Belief and adoption

A teacher's attitude towards an innovation is in part a reflection of his/her belief system.

Teachers taking part in a change program bring to the session differing sets of presuppositions and beliefs. If the beliefs and presuppositions commonly held by the teachers are similar to those underlying the innovation's objectives the

teachers will be more open and accepting, and thus more likely to adopt. Werner (1981, p. 5) has commented upon this role of belief in influencing adoption decisions:

> We should not expect that things are different with curricula than with what occurs in the rest of our daily world. Everyone of us constantly defines the situations we encounter during the day, and conversely, we act in those situations on the basis of our beliefs and interpretations.

Werner (1981, p.p. 1-2) has also linked the failure of large amounts of federal money to bring about expected changes with teachers' beliefs:

> ...implementation occurs as participants interpret (their) beliefs in the context of their school situations, background experiences, and educational commitments.... The difficulty with many of the large development projects funded in North America during the 1960's and 1970's was not that their materials were poorly packaged or cost prohibitive, nor was it a lack of scholarship and creativity on the part of developers.... But the difficulty was in part that these materials and activities were based on operating assumptions and values not always shared by teachers.

Grieve (1980, p. 50) has expressed views similar to Werner's:

> Teachers rightfully resist change which is not defensible. They will not readily abandon a material or practice for no apparent reason. An understanding of the value system into which change is being introduced is very important because the value system functions as a major screening device through which the judgements of the potential acceptors of change are finally made.

Proposed changes, for instance, that do not fit a teacher's image of what sort of student schools should produce may be treated with skepticism. Egan (1978, p. 124) has suggested that subconscious calculations influence teachers' decisions:

> Underlying most curriculum decisions by most people, lies the usually subconscious calculation of what will more likely lead towards children being made more like him or her .... Usually this is qualified by our desire to have a curriculum that will produce people like us, but without our "defects" - those, that is, we feel able to acknowledge. It would perhaps be better to say that our decisions about curriculum are largely determined by the desire to produce people like our idealized image of ourselves.

Fowler (1979) has described teacher resistance to a revised social studies curriculum in Saskatchewan, commenting (p. 8) that "...many teachers viewed the new course as incompatible with their own views as to the nature of social studies education".

Even demonstrations of an innovation's superiority to present practice do not guarantee that teachers will universally adopt it. Schiffer (1978, p. 6) observed that some promoters of change presumed that:

> ...if it can be demonstrated to teachers that an innovation is in line with school needs or that it is clearly superior to methods they are presently using, they will embrace it without reservation and assiduously set themselves to the task of acquiring the competencies needed to implement it. This "rational assumption" underestimates the degree to which individuals' values, self-interest, previous experiences, expectations, aspirations, needs, and personality traits influence their acceptance or rejection of an idea, as well as their ability to use it.

Fostering positive attitudes

Edelfelt (1979) has listed six levels of change in terms of difficulty and complexity and has identified attitude change as the most difficult.

Lippitt, Westley, and Watson (1958) earlier expressed a similar view, noting:

> We can visualize the internal dynamics of these (school staffs) much more easily than we can visualize the internal dynamics of the individual...

Stern and Keislar (1977) reviewed the results of research into teachers' attitudes and have offered guidelines (p. 74) for fostering positive attitudes towards innovations: an atmosphere of acceptance and understanding by administrative personnel; participation in a program on a trial basis; giving teachers responsibility for instituting an innovation; supplying good models by opinion leaders; providing evidence of potential benefit to students; sufficient preparation.

Flanders (1980) has suggested that positive attitudes to change can be fostered among teachers if fear of administrative evaluation is removed, participation is voluntary, training activities are under the control of teachers and if help is available in the classroom.

Becker (1969, p. 261) has written that adoption of change among adults is sometimes based on a desire to be successful, while Brewer (1974, p. 52) has emphasized the need for psychological safety.

Influence of the social setting

Individuals make decisions about the adoption of an innovation within a social setting.

For teachers this social setting is primarily the classroom and the school. The nature of this working environment, and the teachers' perceptions about the relationship between their "working situation" and the innovation, influence teachers'

adoption decisions.

Aylen, Anderson and Wideen (1977) researched the influence of the school environment on the adoption of innovation and have commented (p. 3):

> The (studies by many researchers) have clearly dispelled the notion that the adoption of innovation is a process that can be examined out of the context of an entire range of factors comprising the environment in which an adapter lives and works.

These researchers have also stated that (p. 39):

> Not only are the schools complex social systems, but change is a political process and as such is subject to all the nuances and vagaries of power relationships and vested interests.

Berman and McLaughlin (1976) have stated the case more strongly (p. 361):

> An innovation's local institutional setting has the major influence on its prospect for effective implementation...our statistical analysis as well as our fieldwork clearly showed that project outcomes depended more on the characteristics of the project's setting than on any other factor.

Aspects of institutional setting analyzed by these researchers included attitudes of administrators and local organizational climate.

Many researchers (including Common, 1980; House, 1974; Bolan, 1976; Fullan, 1979, 1980; Joyce and Showers, 1980; Regan and Leithwood, 1974; Lortie, 1975; Flanders, 1980; and Loucks and Melle, 1980) have held the school to be the most logical focus for change activities, generally because goals can be worked toward by a functioning group, the opportunity for teachers to participate in goal-setting is increased, and goals

can respond to the schools' unique characteristics.

Goodlad (1974) has reflected this perception:

> The single school, we believe, with its principal, teachers, children, and parents, is the largest organic unit for educational change. All the rest is superstructure, suited at best for communicating exemplary practices and providing a central pool of materials, personnel, and support to enhance the effort of each school to become relevant and dynamic.

Within the school the influence of peer expectations can affect the formation of attitude towards an innovation. As Lippitt and Fox (1969) have stated (p. 80),"...people do what others expect of them."

Assumed roles

Related to the influence of the social setting on teachers' decision-making is the effect of the roles assumed by the various individuals, including the intended adopters within the setting.

There is a huge amount of research literature on the role of the principal in the change process. Only a small portion will be cited here.

Most researchers agree that the principal is in a powerful position in terms of encouraging or discouraging a teacher's decision to adopt an innovation. Regan and Leithwood (1974, p. 74), have concluded:

> ...many planners (of change) have not adequately taken into account the importance of the support that a principal or senior administrator can provide a teacher and the obstacles to change that can arise when these people do not understand what the teacher is attempting to do.

McLaughlin and Marsh (1978, p. 82) agreed that:

> ...the building principal gives subtle but nonetheless strong messages concerning the 'legitimacy' of continuing (innovations) in the school - a message that teachers cannot help but receive and interpret in terms of their professional self-interest.

Lipham (1977, p. 63) described the principal as the head of the ultimate client system to be served and who performs a key "boundary-spanning role" in facilitating the adoption of an innovation within his/her school.

Rubin (1969) stated that "...the objectives of any teacher learning program should be valued and rewarded, either explicitly or implicity, by the power structure of the school and school system".

The teacher's role in the change process is most often examined in relation to the amount of teacher involvement in the design of the process. Many researchers have affirmed that teacher participation during design has positive results. Giacquinta (1978) has argued, however, that the relative merits of introducing change using strategies of participation as compared to introducing change from the top using line authority subordinates are still unclear.

Rewards and adoption

One thing that makes promotion of an innovation more difficult than teacher supervision or teacher preservice education is the absence of an apparent motivation to change. Completion of preservice education is rewarded by certification, and successful visits from supervisors result in positive evaluation reports,

supportive comments, and recommendations for tenure. The pay-offs for participating in a change project are not so apparent.

Rewards for adopting innovations within the classroom are rarely tangible and those that do arise probably come as positive reactions from students, enhanced social status (Rogers, 1962) (if the innovator is not regarded as a deviant), and a feeling of work satisfaction (Leithwood, Holmes, Montgomery, 1979, p. 53).

The student-centredness of teachers in terms of reward was reflected, for instance, in the factors influencing successful implementation identified by thirty teachers participating in a change project studied by Regan and Leithwood (1974). The two strongest influences were found to be teachers' views of what can, or should be, expected of children and the teachers' views of how children learn.

Similarly, Lieberman and Miller (1978, p. 55) observed;

> Most teachers learn their craft in isolation from other adults...(thus) feedback, so essential to all people, comes from one source - the student. It is not difficult to see why teachers then become wary of new schemes, innovations, new packages, or even honest exhortations to do things differently.

In their study of one hundred teachers, however, Aylen, Anderson and Wideen (1977, p. 77) concluded that teachers do not see themselves receiving much encouragement from peers to try new practices and that they operate very much as individuals on their own. These same researchers found the teachers' self-perceptions as professionals were positively related to willingness to try new practices.

The weak incentive system in education was also commented

upon by Lortie (1975) who described the teacher as a highly conservative individual subjected more to influences encouraging the maintenance of present behaviour than to incentives to change.

All three situations - preservice, supervision, and adoption of innovation - can be seen as threatening rather than rewarding. The "threats" during preservice are fairly obvious ("What if I can't control the kids? What if my teacher sponsor fails me? What will my friends and family think if I don't make it"). A visit from supervisory personnel involves similar threats ("What faults are being spotted? Does he think I am a good teacher? Will I get a good report?"). Adoption of innovation involves the threat of change ("But I feel comfortable with what I'm doing and it seems to be working! If I need to improve I must be deficient now. If I go to the workshop, I'll be admitting my weakness.").

The influence of inservice education

Inservice education* is widely used as a direct attempt to influence positively teachers' attitudes towards an innovation as well as to impart the information and skills teachers need to

*Inservice education, professional development, staff development, continuing teacher education, professional growth are all in current usage to describe that portion of a teacher's education following certification and employment. This study will not enter into the debate about which phrase is 'best' but will use 'inservice education' to mean the on-going education of practising teachers.

put the innovation into practice.

Like most other human undertakings, inservice education, if poorly organized without any design, is bound to have little or no positive influence on teachers' decisions about trying out an innovation. The fact that teachers attend workshops and presentations does not guarantee change will follow because changes in behaviour are not brought about by teachers taking part in inservice education activities, but by the decisions concerning adoption that the teachers make during and after the activities.

A number of writers have suggested ways in which adoption can be promoted through inservice education.

Joyce (1979) has stated that inservice education designed to lead teachers through the stages of the change process (discussed earlier in this paper) will more likely result in teachers' feeling secure enough to try out an innovation than if the inservice education is of a "one stage" nature.

Regan and Leithwood (1974, p. 10) are convinced that inservice training limited to sessions prior to teacher use is of no use to the teacher who decides to give up when problems are encountered during use of the innovation, while Bolam (1976, p. 27) has stated that inservice workshops linked to a specific innovation are more likely to affect attitude than are sessions of a more general nature.

Other factors that appear to promote a positive attitude towards the innovation through inservice education include:

i) workshops that reflect the nature of teachers as adult learners

ii) the involvement of an intact group

iii) the declared support by authority for the intended outcomes

iv) the participation of authority in the inservice sessions

v) the identification of limited, specific outcomes

vi) the presence of skilled resource persons who act within a helping relationship

vii) the assurance of follow-up on-site help

ix) the avoidance of the "defect model"

x) the holding at least of some of the sessions during school time

Adoption and change agents

A skilled change agent can positively influence a teachers' attitude towards an innovation and can enhance the chances of adoption by working closely with teachers within a relationship of trust and support, by emphasizing the relative advantage of the innovation and by demonstrating enthusiasm for the change as well as skill in applying it. A change agent often combines research knowledge and practitioner know-how.

Change agents frequently occupy a different position in a school district than do the teachers, and often have different perceptions of teachers' needs. A change agent can even help teachers feel the need that he/she wishes to foster in them in order to promote adoption of an innovation. It is not implied here that change agents simply "dream up" innovations, but that they generally recognize that teachers are unlikely to adopt innovations for which they feel no need. Primarily, however, the

most useful role of a change agent is to give help to teachers.

There are differences between good and poor helpers and it is a defensible claim that it is the general attitude and "people skills" that change agents bring to the relationship that accounts for most of the differences in results.

Lortie, for instance, (1975, p. 193) has stated that an innovation will be more readily adopted if teachers and change agent regard each other as peers.

Young (1979, p. 7), has also observed that effective helpers view their clients as equals. It is the usual case that a change agent may have a different status, have more skills and understand a topic in greater depth than the teachers involved. If, however, this situation forces the teachers into an inferior position and defensiveness, chances of healthy open interaction and useful learning are remote. Change agents who are motivated by a need to demonstrate their superiority rather than to help their colleagues are usually ultimately ineffective in promoting change.

Good helpers are able to view problems from the teachers' point of view. Even where the change agent regards an emerging problem as trivial, he/she has to recognize it is not trivial to the teacher(s) involved, and offering effective help to its solution can have a profound effect on the agent's status.

McLaughlin and Marsh (1978) have supported the principle that it is the quality of assistance rather than the amount that is important in fostering positive teacher attitudes. Classroom assistance, encouragement and practical advice were cited as

significant positive influences. They also pointed out the effect of teachers' sense of efficacy (p. 18):

> Teachers' attitudes about their own professional competence...appear to have a major influence on what happens to change-agent projects and how effective they are.

Lippitt, Watson and Westley (1958) have observed (p. 278) that change agents need strong "relational skills" to act at various times as therapist, counsellor, trainer and consultant.

Bennis (1969, p. 9) has suggested that trust in the initiator of change is an important feature of "the receptive system".

Rogers (1962) has offered the opinion (p. 280) that "... change agents must be more concerned with improving clients' competence than with simply promoting innovations". He also saw (p. 256) that change agents may have role conflicts in attempting to serve the organization (for example, the school district) as well as the client system and has discussed (p.p. 208-209) the effect of the change agent's personal influence on adoption decisions. Concentrating their efforts on opinion leaders in the early stages of the change project is an effective technique according to Rogers (p. 281).

Klein (1969, p. 502) has cautioned, however, than an unskilled change agent can negatively influence teachers' adoption decisions when the planning process is kept secret, objections are not listened to, and the teachers' change agent is not willing to give extra help to late starters:

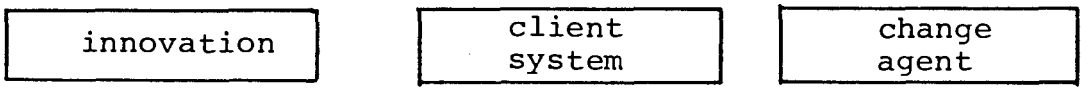
> The result often is that opposition to the recommended change hardens and even grows as the ultimate clients sense that their reactions will not materially influence the outcome in any way short of defeating the plan in open conflict.

Havelock (1971) has suggested nine "stances" that a change agent may assume while promoting an innovation; consultant, conveyor, trainer, leader, innovator, defender, knowledge builder, practitioner, and user.

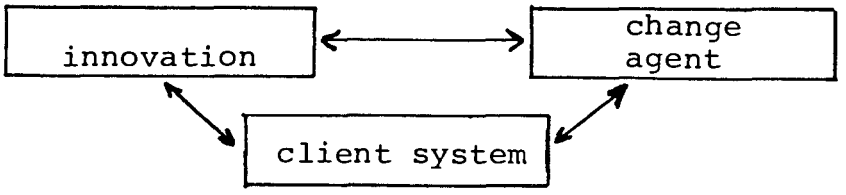
A successful change agent is able to move rapidly from one to another depending on the circumstances.

House (1974) in a study of innovations within the state of Illinois utilized the extent of personal face-to-face interaction with a change agent as a measurement, theorizing that "...personal contact is essential in innovation because it provides the opportunity for two-way questioning, persuading, and intense interaction that must accompany radical changes in behaviour".

Bolam (1976) has illustrated the relationship among the client system (the intended adopters), the innovation and the change agent before a change project:



and during the adoption period;



The initial differences between the change agent and the teachers were commented upon by Anderson, (1975, p. 37) who observed that they "...very likely do not talk the same language".

Berman and McLaughlin (1976) have commented on the significance of a change agent who is able to supply help in the

classroom. Through these visits, positive feedback can be supplied, teacher morale can be improved, learnings reinforced, problems shared, and individualized help can be given in a manner that group inservice cannot replace. The researchers concluded (p. 105) that:

> Without such assistance, teachers would be less likely either to implement the innovations effectively or to change their own pattern and style of teaching; nor would they be likely to assimilate the methods of the innovation in ways that assure its continuation.

Bennis (1969, p. 77) concluded that "...the quality of the client agent relationship is pivotal to the success of the change program".

Resistance to change

For a variety of reasons, teachers may decide either to not try out an innovation or to not adopt it as part of their normal teaching practices. They have, in effect, resisted the intended influence of the forces such as implementation strategies and the activities of a change agent promoting adoption.

Barnes (1969) has defined (p. 488) resistant forces as all those forces within the adopter's personality and social system contributing to stability. He has analyzed resistance arising from within the individual and influencing his/her attitude towards innovation, and has identified:

i) homeostasis, i.e., the concept of the individual as naturally complacent

ii) habit which is generally satisfying and preferred to the unknown

iii) primacy, wherein the first experience sets the pattern of attitude

iv) selection perception and retention which cause the individual to "hear" according to mental set and fit messages in to present attitudes

v) self-distrust

vi) insecurity and regression to former patterns

Sieber (1968) noted three sources of resistance to change among teachers: self-image of teachers as professionals who may regard innovations proposed by the administration as encroachments on their autonomy; vagueness about long-range school goals which may lead to overcompliance with present methods; the need to control and coordinate large numbers of students attending involuntarily which may raise fears that even slight changes requiring organizational adjustments may disrupt normal operations.

Skilbeck (1976) has documented teachers' "deep distrust" of change projects being managed by scholars and bureaucrats. He noted that teachers especially resisted managerially dominated project "...which treated the teacher as a functionary ...whose alleged incapacities could be surmounted by that system's producing 'teacher-proof' learning packages" (p. 76).

The criticism implicit in the mounting of a change project is also commented upon by Rubin (1980, p. 3):

> Since educational change is frequently perceived as an indictment of existing practice and practitioners, resistance by teachers and school administrators can be expected.

Giacquinta (1978) stated that regarding resistance as a

practical difficulty requiring a remedy may not be as useful as viewing it as a social phenomenon requiring systematic inquiry.

Resistance may arise from teachers feeling overloaded as Woods (1967, p. 42) has suggested:

> ...the load on teachers at all times is heavy and it is difficult enough for them to conduct existing programmes well, much less carry out new ones. With a busy person every little bit helps - workshops, materials, guides, consultants - and any one of these can make the difference between adoption and rejection.

Klein (1969) observed that resistance can arise when the planning for the promotion of the innovation is kept secret.

The durability of norms and resistance to change has been examined by Sarason (1971, p. 88):

> In social organizations, patterns of behaviour become established and are of great stability because individuals work out drive-reducing ways of adapting, and (they) fear that any change will be to their disadvantage in some way.

Doyle (1978, p. 8) agreed that:

> (teachers)...legitimately seek a state of equilibrium in order to sustain themselves, and broad, sweeping change...militates against the achievement of that steady state.

Resistance may arise because teachers do not have a clear idea of what they are expected to do, have not been taught how to do it, or have not been given appropriate resources or support.

In a study of a project to introduce a child-centred approach to teaching within an elementary school, Gross, Giacquinta and Bernstein (1975) found that the innovation was

not adopted as envisaged by the promoters and concluded that most of the teachers did not have a clear idea of what was expected of them, many did not know how to carry out the innovation and some never acquired the materials that the staff agreed were necessary to the project. They also found that evaluation systems did not change, and that confusion existed on the part of the administrators who either failed to recognize the problems or did not organize any solutions.

Regan and Leithwood (1974) similarly noted that resistance within a change project they studied was in part the result of "...failure to communicate to teachers what the program was designed to do and how it was designed to do it" (p. 12). They also suggested that focus on the product rather than on the process of change and teachers' perceptions made adoption less likely.

Resistance may result from teachers not knowing what to do. Goodlad (1974) has expressed the opinion (p. 110) that:

> ...teachers simply are not exposed to exemplary models (of innovations). They seek to nongrade, team teach, and individualize instruction while possessing only the vaguest insights into the nature and actual conduct of such practices.

The preceding review is intended to help illustrate that teachers' decisions about adopting an innovation are influenced by a wide variety of factors related to the school setting, to social norms, to teachers' beliefs and assumptions and to the nature of the innovation itself.

PART THREE: RESEARCH STUDY

Introduction

The purpose of the foregoing sections of this thesis is to provide a background against which the case study contained in these latter sections can be placed. The central theme contained within the statement of the problem that change in the classroom results from teachers' decisions about innovations constitutes the focus of this case study.

The major purpose of this section, then, is to describe and analyze a change project which brought about the adoption of an innovation by a group of teachers. The circumstances and setting surrounding this case study are common to many schools and school districts. The methods whereby the innovation was implemented are not typical but do reflect current theories of successful implementation, with some notable exceptions.

Special attention was paid to the influence on teachers' behaviour of the change agent involved. The relationship between teachers; concerns and adoption was examined as was the relationship between teachers' attitude towards an innovation and their degree of adoption.

The perceptions and conclusions are offered to contribute to an understanding of some of the factors which influence teachers when they are asked to adopt an innovation.

Procedure

In order to examine the relationship between teachers'

concerns and adoption, Hall's Stages of Concern questionnaire was used to gain information concerning change in the teachers' concerns during adoption of Individual Education Program (IEP) procedures. Structured interviews were used to gather more detailed information and teachers attitudes and perceptions. The change agent involved, the district special education coordinator, was also interviewed. The detailed procedure used in the data and information collection, and the method of analysis are discussed later under the headings, "data collection" and "data analysis".

In order to set the study within a broader perspective, a description of implementation activities intended to promote the change is presented with special attention being paid to those strategies intended to influence teachers' adoptive behaviour.

About the innovation

The objective of the Individual Education Program procedures is to enable the teacher of children with special needs to plan, and put into effect, an individual program for each child.

The program consists of three phases:

i) the development, through tests, interviews and conferences of goals and of the resources needed

ii) the formulation of specific objectives to be accomplished over a stated time frame and the measurement procedures to be used to evaluation student progress

iii) the development of a detailed plan sheet which specifies instructional strategies and day-to-day instruction

The objectives of IEP do not, on the surface, appear to be a large-scale change from commonplace practice but they do require what Regan and Leithwood (1974, p. 1) referred to as "...a fundamental reordering of methods of instruction and orientation toward educational outcomes". The use of very specific goals as the basis for lesson plans and instruction requires a high level of complexity and adherence to a determined procedure.

The instructional phase of IEP is a particular form of precision teaching in which the teacher must pin-point the exact behaviour called for in the child's IEP, then decide the extent to which a behaviour should change. During and following instruction, the teacher counts the number of times the desired behaviour occurs within a specified period of time and records this information, typically on a chart. Based on the daily progress, the teacher can decide to change the child's program or continue scheduling the one currently in effect.

The population

All twenty special education teachers from the elementary schools of Delta School District were invited by letter to take part in the study. Nineteen twice completed the questionnaires and were interviewed; one teacher declined as she was leaving the district.

The adoption project

The IEP adoption project was set in a relatively large school district (19,000 students) within British Columbia. The

district has twenty-five elementary schools.

IEP was developed externally to the district and was identified as an innovation to be implemented among special education teachers by the Director of Student Services, who is responsible for the district's special education programs, and to whom the coordinator of special education (hereinafter "the coordinator") is responsible. There was no teacher involvement in either the selection of the innovation or in the manner in which it would be implemented.

The history of the implementation of IEP spans three school years, 1978 to 1981, and is largely the story of the promotional efforts of the coordinator who became the primary change agent. The project involved only the elementary special education teachers.

The strategies used to implement IEP included group in-service sessions, the face-to-face contact with teachers, classroom visits, demonstration lessons, distribution of information and assessment materials, and some "pressure" from line authority.

During 1978/79, the coordinator spent half his time in three schools as a consultant and the other half visiting special education teachers at their requests and presenting inservice sessions.

The coordinator first introduced IEP to the teachers during the 1978/79 school year at three workshops, one held on professional development day and two held after school hours. Attendance at these sessions was voluntary and all the special education

teachers did not attend any one session.

The emphasis at these initial sessions was on information about systematic instruction with special reference to IEP. The teachers had no involvement in the design of these sessions which were of the lecture-discussion type. The director attended the largest meeting and expressed his support for IEP.

During 1978/79, the coordinator visited every special education teacher and discussed assessment techniques, recording student proficiency data, and behaviour management procedures. He spent "many hours" working with teachers in their classrooms and often observed the teacher student(s) interacting. He frequently demonstrated the techniques he suggested, working directly with students. He also helped a limited number of teachers write IEP plans: the director became directly involved with the writing of one plan.

During each school visit, the coordinator visited with the principal to inform him/her about the IEP project and about his activities within the school.

The coordinator was aware of the positive impact of the support of opinion leaders, but no such leader was clearly identifiable.

During this and all the other years of the change project, the special education teachers had no formal professional association and worked, according to the coordinator, largely in isolation from each other. Inter-school visitations by teachers were rare.

The teachers frequently pointed out the absence of assessment materials to support the systematic instruction which the

coordinator was promoting. As a result, the coordinator distributed a package of materials, some of which he adapted from other districts and some of which he prepared himself. These materials became the basis of assessment within IEP.

At the end of the 1978/79 school year, the director requested that the coordinator enable the teachers to write detailed IEP plans by the end of 1980.

During 1979/80, the coordinator wrote at least one IEP plan with each teacher. In each case he arranged a conference of the teacher, the student's parent(s), the district psychologist assigned to the school and the principal (some of whom did not attend). After each plan was written, the coordinator regularly visited the teacher to answer questions, to encourage and to demonstrate techniques. As in 1978/79 he continued to keep principals informed by informal visits while he was in their schools. He felt that the principal's role should be to facilitate the planning conference, especially to ensure that parents attend, and to be informed enough about IEP to give on-site supervision.

By the end of this year, the coordinator felt confident that all the teachers could write an IEP plan. He had, however, observed that "only some" of the teachers used the systematic instruction techniques that he recommended and that formed part of the materials package distributed during the year.

At the end of this year, as at the end of 1978/79, a number of teachers left the district or transferred to other assignments: only fifty per cent of the group remained intact

during the three school years. The coordinator visited each newcomer to the role, supplied him/her with materials and assessment packages and other information, demonstrated and observed, and set up an IEP planning conference involving one of the newcomer's students.

The main aim of the coordinator during 1980/81 was to increase the involvement of principals and of district psychologists while he continued on-site coaching with the teachers. He promoted the principals' and psychologists' involvement primarily by face-to-face dialogue, by vigorously encouraging their participation in IEP planning conferences and by presenting three half-day inservice sessions (during April and May 1981) to which he invited all the elementary principals and the district psychologists. The teachers' attendance at these sessions was compulsory, each being released from school duties for a half-day.

Out of twenty-four principals, one attended all three sessions while two attended intermittently. All six psychologists attended.

At these most recent inservice sessions, the coordinator first presented an overview of the objectives of IEP, of the planning procedures and of precision teaching techniques. The director's introductory remarks emphasized that the innovation had been mandated by the school board trustees. As in 1978/79, the coordinator used a lecture-discussion format. The agenda included:

i) overview of parents' rights

ii) elements of writing an IEP plan sheet

iii) instructional techniques for teaching the plan

In reference to the inservice sessions, the coordinator commented, "I lecture a lot as I have something to say. I involve people in discussion well." He also remarked that he was aware it was not held to be the "best way" to lead an in-service session, but added that he also brought "cartons and cartons" of materials to the sessions. Although the teachers have had no direct part in planning the inservice sessions, the coordinator reported that he has paid close attention to the feedback that the teachers have given him during his class-room visits.

Data and information collection

The nineteen teachers involved completed the Stages of Concern questionnaire (Hall, Wallace and Dossett, 1973) twice during the implementation period; prior to the inservice workshops had been held (three sessions in one month), and immediately after the conclusion of the inservice workshop. The same form of the questionnaire was used in each case (see Appendix B, p. 68).

The teachers were interviewed before the first inservice sessions. The interview related specifically to the teachers involved and was designed to gain information concerning level of use of the innovation, perceptions about the practicality of the innovation and about sources of motivation and help.

The change agent, the district special education coordinator, was interviewed at length to gain an understanding of the origins of the innovations and of his and his colleagues' activities to promote adoption.

About the Concerns-Based Adoption Model

Fuller (1969, 1970) is generally credited with originating the concept of Concerns, and identified six different levels of concern that preservice teachers expressed at different times in the training program. She noted that these concerns often moved from unrelated concerns about teaching, to concerns about self, to task concerns, and finally to impact concerns.

The development of the Concerns-based Adoption Model (Hall, Wallace and Dossett, 1973) grew out of Fuller's work and is based on extensive experience in implementing educational innovations.

Among the assumptions upon which the CBAM rests are (Hall and Loucks, 1978):

i) change in schools and colleges is a process, not an event; change takes time and is achieved only in stages.

ii) change is a highly personal experience: individuals' satisfactions, frustrations, concerns, motivations, and perceptions all play a part in determining the success or failure of a change initiative.

iii) the change process is not an undifferentiated continuum: individuals involved go through stages in perceptions and feelings about the innovation as well as in their skill and sophistication in using the innovation.

The key assumption of this model is that change is a personal experience, as Hall (1978, p. 5) notes:

> Everyone, as they approach a change, as they initially implement an innovation, and as they develop skill in using the innovation, will have certain perceptions, feelings, motivations, frustrations, and satisfactions about the innovation and the change process. In the CBAM, the concept of "concerns" has been developed to describe these perceptions, feelings and motivations of innovation users and non-users.

These concerns do not appear in a haphazard manner, but rather in a pattern which appears to parallel a set of stages that people seem to move through as they adopt an innovation. Hall and his associate call these stages "stages of concern". The CBAM identifies seven stages of concern (Hall, George and Rutherford, 1979): awareness, informational, personal, management, consequence, collaboration, and refocusing (see Table 1).

The Stages of Concern questionnaire consists of 35 items, with five items at each of the seven stages in random order. The responses can be evaluated either by hand or by use of a Fortran computer program.

Stages of Concern profiles are produced by plotting the average relative intensity of each stage for the entire group. Figure 1 illustrates idealized profiles for types of users.

Validity and reliability measurements have been undertaken by Hall, George and Rutherford (1979) who summarize their research by noting (p. 20):

> During the two and one-half years (1974-1976) of research related to measuring Stages of Concern About the Innovation, the 35-item Stages of Concern Questionaire was developed. In a one-week test-retest study,

Table 1: Stages of Concern about the innovation (Hall, George and Rutherford, 1979, p.7)

0 AWARENESS: Little concern about or involvement with the innovation is indicated.

1 INFORMATIONAL: A general awareness of the innovation and interest in learning more detail about it is indicated. The person seems to be unworried about herself/himself in relation to the innovation. She/he is interested in substantive aspects of the innovation in a selfless manner such as general characteristics, effects, and requirements for use.

2 PERSONAL: Individual is uncertain about the demands of the innovation, her/his inadequacy to meet those demands, and her/his role with the innovation. This includes analysis of her/his role in relation to the reward structure of the organization, decision making, and consideration of potential conflicts with existing structures or personal commitment. Financial or status implications of the program for self and colleagues may also be reflected.

3 MANAGEMENT: Attention is focused on the processes and tasks of using the innovation and the best use of information and resources. Issues related to efficiency, organizing, managing, scheduling, and time demands are utmost.

4 CONSEQUENCE: Attention focuses on impact of the innovation on students in her/his immediate sphere of influence. The focus is on relevance of the innovation for students, evaluation of student outcomes, including performance and competencies, and changes needed to increase student outcomes.

5 COLLABORATION: The focus is on coordination and cooperation with others regarding use of the innovation.

6 REFOCUSING: The focus is on exploration of more universal benfits from the innovation, including the possibility of major changes or replacement with a more powerful alternative. Individual has definite ideas about alternatives to the proposed or existing form of the innovation.

> stage score correlations ranged from .65 to .86 with four of the seven correlations being above .80. Estimates of internal consistency (alpha coefficients) range from .64 to .83 with six of the seven coefficients being above .70. A series of validity studies was conducted, all of which provided increased confidence that the SoC Questionnaire measures the hypothesized Stages of Concern.

Data and information analysis

The average score for each statement for each of the three administrations of the stages of concern questionnaire was calculated by hand and four profiles were constructed in accordance with scoring instructions contained within Measuring Stages of Concern About the Innovation: A Manual for Use of the SoC Questionnaire (Hall, George and Rutherford, 1979, p.p. 111-117).

Two of the profiles (figures 2 and 3) constructed represent a composite picture of the concerns of the group immediately after the sessions ended. The third profile (figure 4) was a combination of the others to allow change to be studied.

The teachers' and the change agent's responses during the interviews were analyzed in an attempt to gain insights into their perceptions about the innovation, the change project, as well as their feelings about the relative influence of the inservice sessions and the activities of the change agent on their decisions to adopt or reject the innovation.

Analysis of teacher interviews

The teacher interview was centred on these questions:

1. With which phase or phases of IEP - writing the overall plan, designing lesson plans in keeping with the plan, and teaching to achieve the plans's objectives - have you had experience?

2. (if positive response) Do you feel that planning IEP's is worth the time it takes?

3. Do you feel that the lesson planning is worth the time it takes?

4. How practical do you feel is the overall approach?

5. (if negative response to no. 1) Have you used, or are you using, procedures similar to IEP? From where did these come?

6. What do you think should be your principal's role?

7. To whom do you go for help?

8. Are you presently being asked to make other changes in your job? (if yes) What are they? (if yes) How will you fit the IEP procedures with these demands?

During the interviews, the teachers were encouraged to elaborate their answers.

Of the nineteen teachers interviewed, fifteen reported that they had written an IEP plan for at least one of their students, twelve had written lessons designed to promote the plan's objectives, and eleven claimed experience teaching the designed lessons and assessing the results.

These adopters all felt that writing the plans and the lessons was "worth the time" it required, although one teacher who had attempted to create an IEP plan for every students had concluded that a detailed daily plan for each child was not possible. They were also unanimous in judging

the innovation to be "practical", some teachers adding qualifiers such as "It creates extra paper work", "It isn't practical to do (the plan) as completely as in the workshop", and "There's always a shortage of time". Others suggested "(IEP) is the best evaluation of my teaching", "It focuses everybody's attention". No teacher expressed hostility towards the innovation or its promoters.

All the teachers expressed views on the role of the principal, the most frequent being that he/she should act to facilitate the IEP planning conferences, especially to ensure the appropriate persons attend. Several teachers suggested the principal had more "clout" to ensure that the parents attended. Most agreed that the principal should have a basic understanding of the principles of IEP, but his/her attendance at the conference was not held to be necessary by all the teachers. Several felt that the principal should be somewhat familiar with the students involved in the IEP's.

The coordinator was named as the person to whom the teachers most frequently (9/19) turned for help. Others named (in descending order of frequency) colleagues, a district psychologist, the director, the school's learning assistance teacher, and the principal.

Only two teachers indicated that they were involved in other change projects - one with an attempt to improve coordination between her school and the secondary school, and one with a self-assessment program - but neither felt this hindered their adoption of the IEP procedures.

Analysis of Stages of Concern Questionnaire responses

Pratt and his colleagues (1980, p. 8) have noted that individuals appear to follow a predictable pattern of growth in both their feelings about, and the skills in using, new program, changing as they become more familiar with and experienced in use.

> According to the research on concerns, individuals who adopt new programs experience a change in their concerns which begins with a need for general information about what the program is and how they will be affected to concerns about management and logistics, and finally to concerns about how the program is affecting students and how it can be improved.

Although it is not primarily intended to measure level of use, the SoC questionnaire (reproduced in Appendix A) does yield results that reflect the extent to which the responding individuals or group have used the innovation. Typically, awareness or informational concerns (stages 0 and 1) are expressed by individuals who have not adopted the innovation, while personal, management, and consequence concerns (stages 2, 3 and 4) characterize individuals trying out new teaching techniques, collaboration and refocusing concerns (stages 5 and 6) are usually linked with individuals who have adopted the innovation and may even have become promoters of the change.

Interpretation of profiles

The reader is referred to Table 1 (p. 47) for description of stages.

The group as a whole reflected their most intense concerns

at stages 0, 1 and 2 when they first completed the SoC questionnaire prior to the April-May 1981 inservice sessions. This pattern shown on figure 2 is typical of nonusers and beginning users who are aware of the innovation, are seeking, or at least receptive to, information and are very concerned about his/her personal position and well-being.

The least intense concern was with impact on students.

The relatively high strength of stages 5 and 6 with high values at stages 0, 1 and 2 is uncommon. A possible explanation for this apparent anomaly is the presence, based on the teacher interview information, of a sub-group of non-users and beginning users and a sub-group of experienced and enthusiastic users.

Figure 3 represents the group's concerns, as expressed on the SoC questionnaire, immediately after the inservice sessions reflects a sharp decrease in the intensity of concerns at stages 0, 1 and 2. A tentative conclusion could be that the three sessions addressed some of the group's concerns at these stages.

The increase in intensity at stage 3 (Management) is typical, indicating greater concerns about the logistics of using the innovation. This shift to the right, of profile peaks, is indicative of a group positively inclined to adopting an innovation.

The profile pattern at stages 4, 5 and 6 shows little change from the earlier profile, probably indicating that the experienced sub-group's enthusiasm and desire to collaborate with their colleagues remain strong.

The very low intensity of the group's concerns at stage 4

Figure 1: Idealized profiles
(Adopted from Hall, George and Rutherford, 1979, p.35)

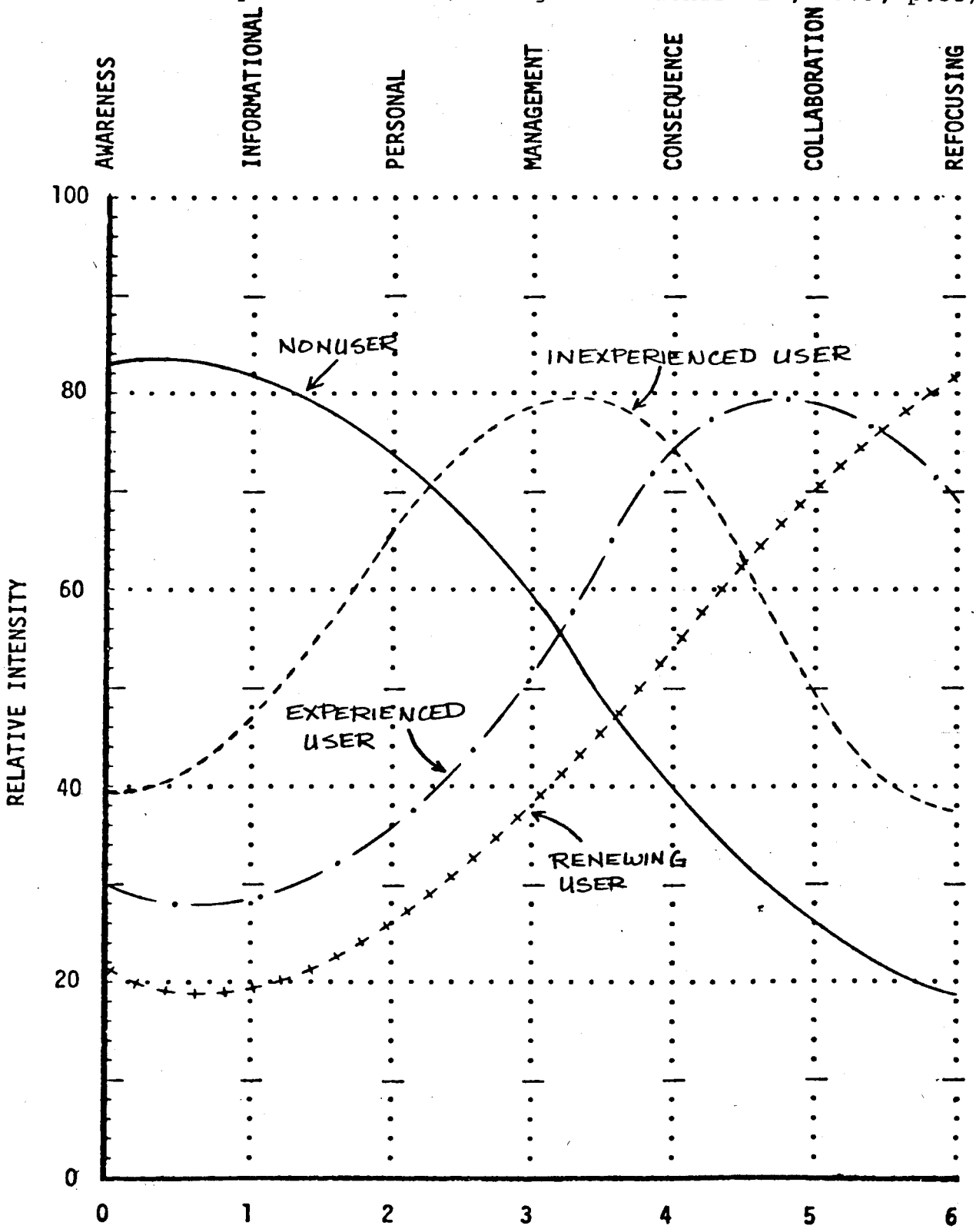


Figure 2: Group profile before April/May inservice sessions

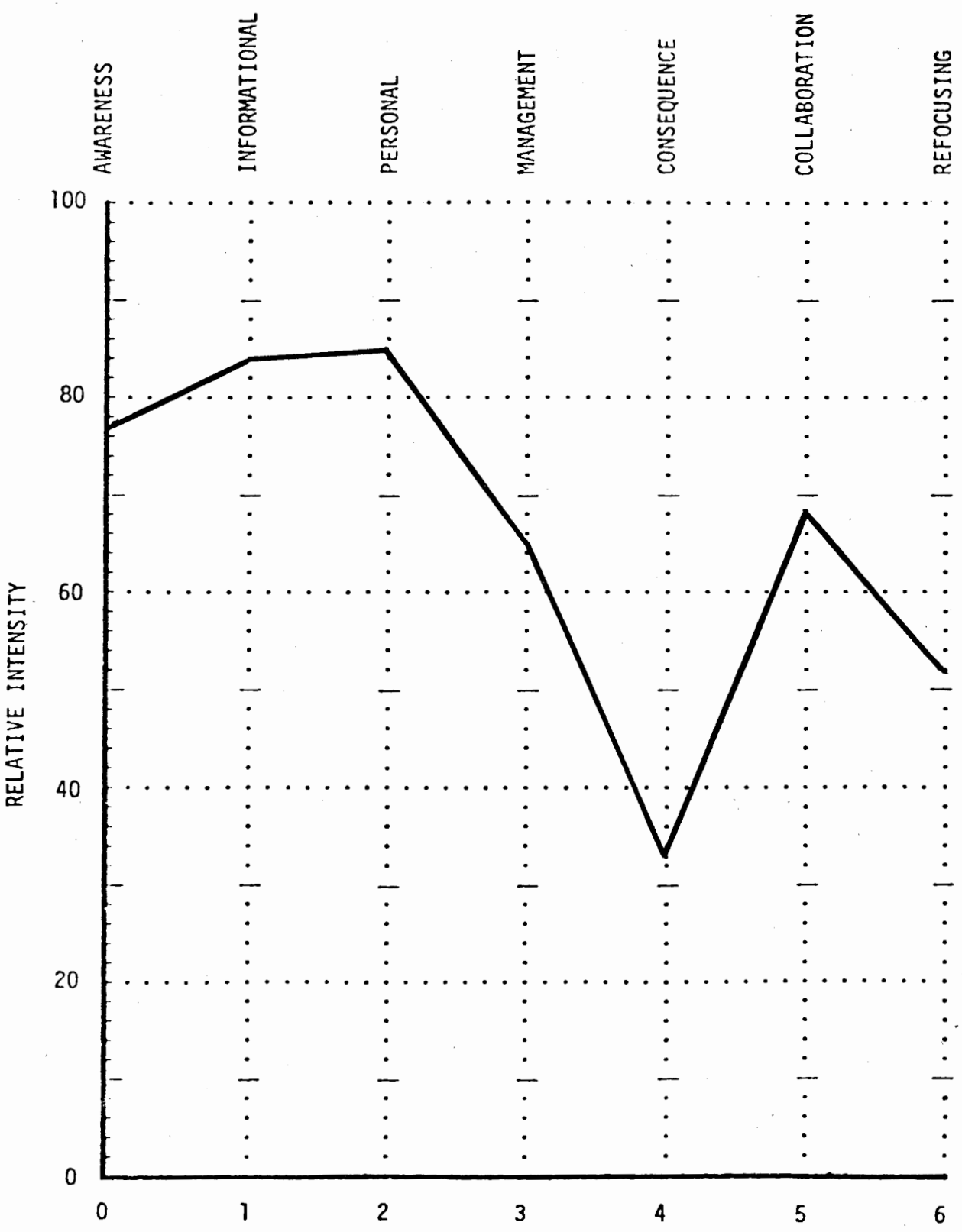


Figure 3: Group profiles after April/May inservice sessions

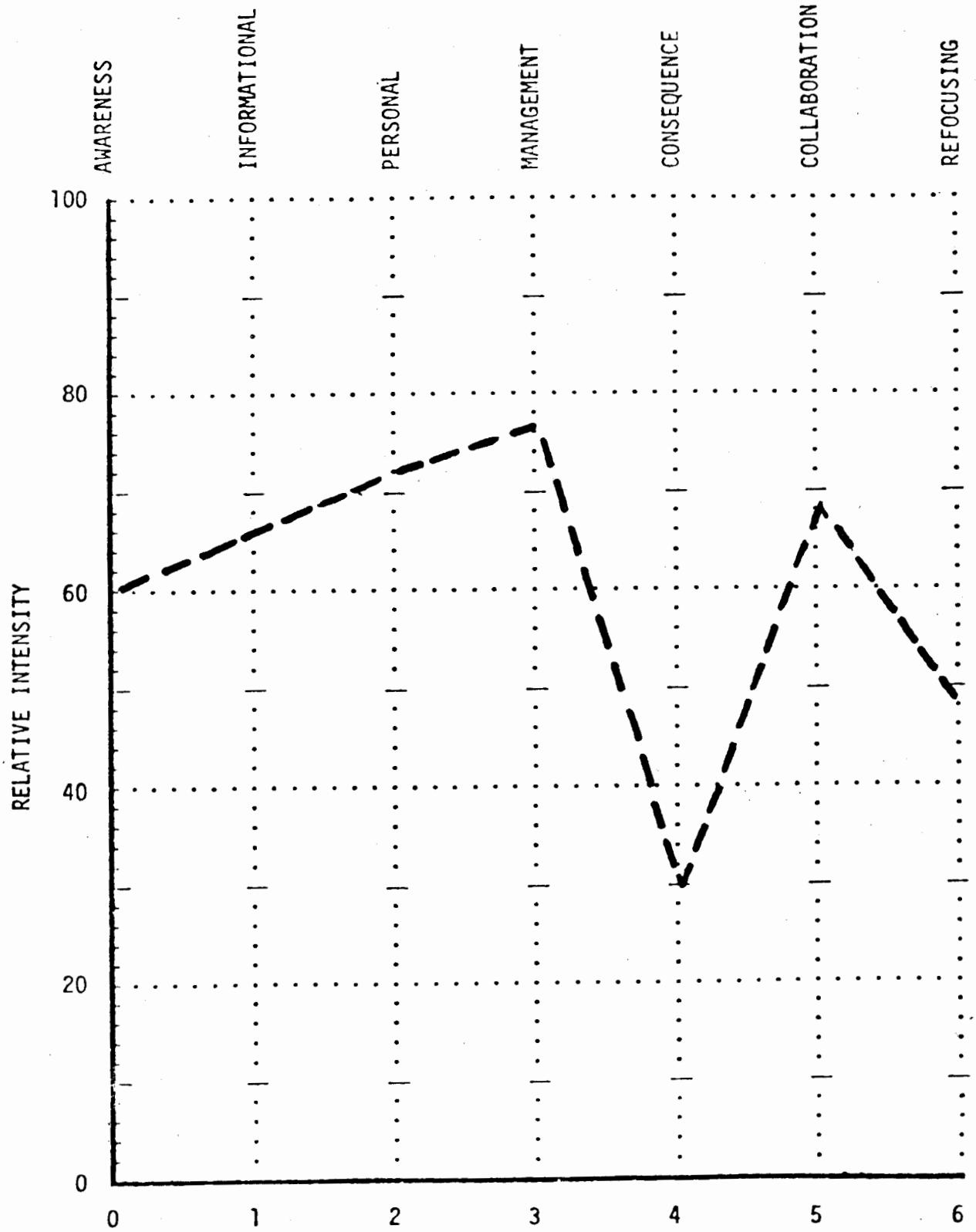
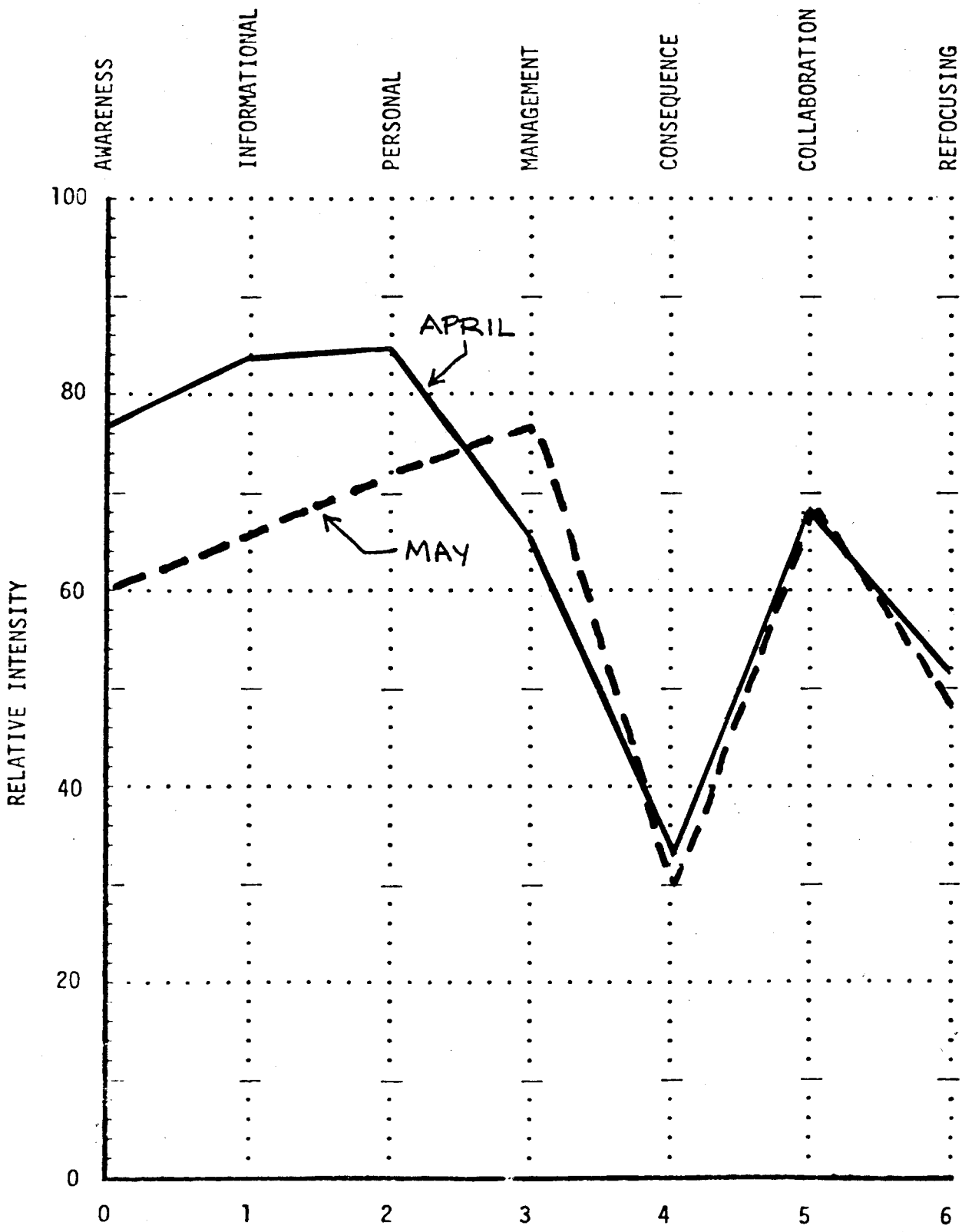


Figure 4: April and May profiles compared



(consequence) is puzzling, especially in view of the generally accepted image of special education teachers as caring, child-centred individuals.

PART FOUR: CONCLUSIONS

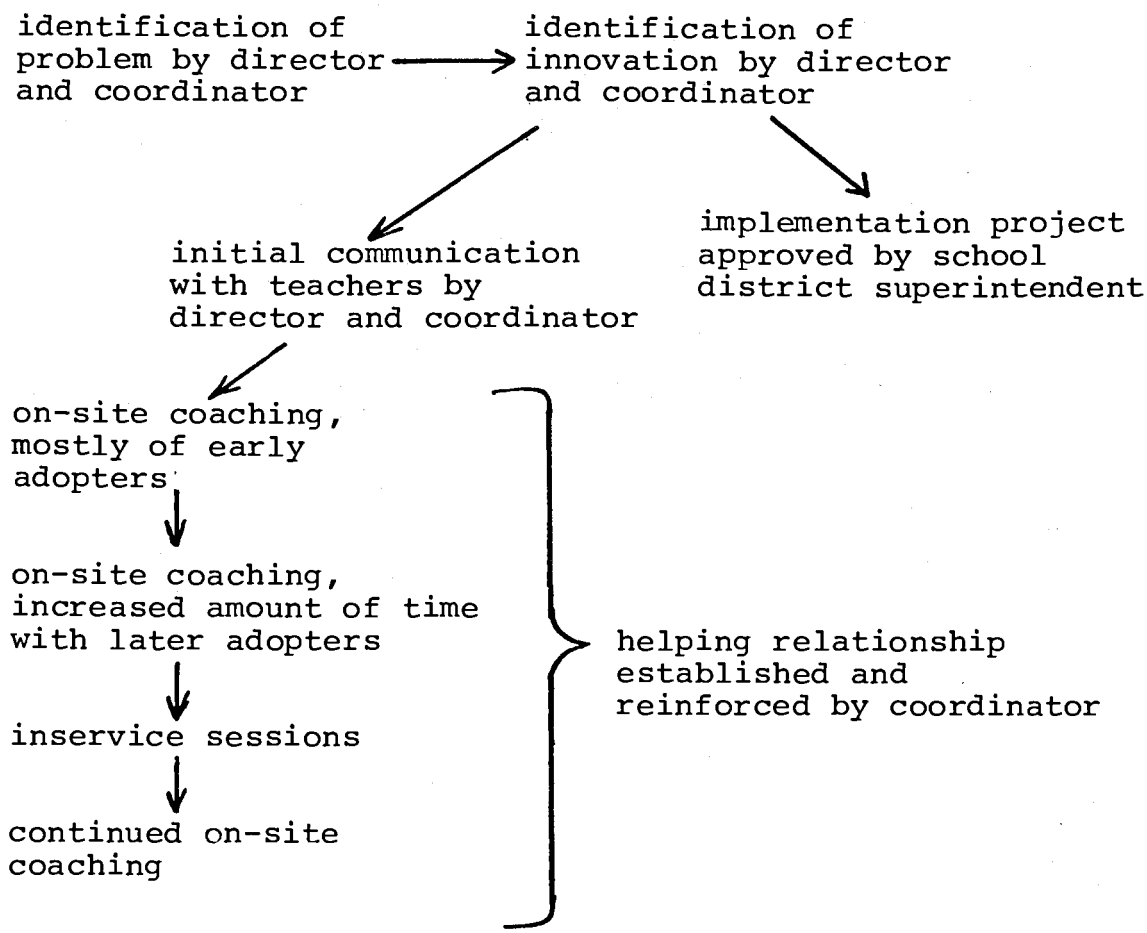
Classifying this project using the typology of Havelock and Havelock (1973) is not simple as elements of the "problem-solving", the "social interaction" and the "linkage process" models can be found within it. It most resembles the "normative re-educative" model of Bolam (1976), although here, too, the fit is not perfect.

In terms of the type of change, the shift from present behaviour to using IEP procedures appears to more than the "fine tuning" described by Joyce and Showers (1980). Based on information from the change agent interview, it is apparent that, prior to involvement in the project, most of the teachers undertook some formal or informal diagnosis of student educational problems (a vital step in the IEP procedures), but no teacher used either a broad-based planning conference in setting specific objectives nor precision teaching techniques.

Although the formal inservice sessions involved groups of teachers from a number of schools (the district's elementary schools neatly divide into "north" and "south and central") the teachers, except for three itinerants, were based in schools and the change agent gave extensive coaching within the classroom. Thus the change effort is school-based, described as desirable by a large number of researchers.

The project has not exactly followed the pattern suggested by the researchers cited earlier. The sequence could be

simplified thus:



Adoption of the innovation

The primary reason for the success of this project to date was the influence of the change agent, the coordinator, whose credibility was established among the teachers by his enthusiasm, his "people skills" and his knowledge of IEP and of precision teaching. His on-site coaching was probably the strongest factor influencing adoption. It is significant that helping special education teachers within their classrooms and promoting IEP was the major part of his role within the district, i.e., that these two tasks were not buried amidst a larger

list nor were they regarded by authority as "side-line" activities. It is also significant that he spent most of his workday in classrooms.

The coordinator's leading the various workshops also strengthened his credibility, as did the public declarations of the director. His involvement in the individual IEP planning conferences, especially when it was a teacher's first experience, provided further evidence of his commitment to the process and to helping the teachers. His working with teacher on routine problems as well as helping them use IEP procedures, as reported by teachers during the interviews, probably did as much for establishing positive attitudes to IEP as it did to increase the teachers' trust of him as colleague and confidant.

Through the information and perceptions he offered during the interview, and by the nature of his implementation strategies, the coordinator has displayed a view of change congruent with that of Rogers (1962), Giacquinta (1978), Hall and Loucks (1978), Dalin (1977), Fullan (1979), and McLaughlin and Marsh (1978) all of whom emphasize change as a personal experience.

In spite of the coordinator's misgivings that for the non-user group he may have created a "paper dragon" (in conversation, August 4, 1981), the goal of the change project - special education teachers using IEP procedures - is gradually being attained. The group had a positive attitude towards the innovation and some are enthusiastic, and principals appear to be either supportive or at least neutral, although few have attended the inservice sessions.

The teachers have reported a positive attitude to the

innovation, regarding it generally as practical, a characteristic whose importance to adoption has been pointed out by Doyle and Ponder (1978) and by Fullan and Pomfret (1977), both cited earlier.

Teachers did not see themselves as loaded down with demands to change behaviours.

Both the teachers and the coordinator have described the parents as either generally or very, supportive.

In terms of role, the coordinator did not feel any conflict between the expectations of the school district and the expectations of the teachers, but did express some feelings of frustrations at not being able to fulfill all the teachers' demands on his time.

In response to a question about teachers adapting the IEP procedures to fit their own style or situation, the coordinator replied that he was "...more concerned about outcomes." He also volunteered the information that he has found it "depressing" if a teacher's adaptation appeared to result in no stated aims for a student's program.

A comment on the implementation strategies used

Many of the implementation strategies that the coordinator used were in keeping with principles and generalized findings cited in the literature reviewed earlier in this thesis with some notable exceptions.

The teachers were not involved in the selection of the innovation, nor in the design of the inservice sessions and their attendance at the April-May 1981 sessions was compul-

sory. A case could be made that any or all of these should have hindered adoption. The effect of non-involvement with inservice planning may have been offset by the coordinators' paying close attention to teacher feedback about earlier sessions (as previously mentioned) and by his first-hand knowledge of the teachers' classroom practices.

The coordinator has stated that he and the director will continue to promote the adoption of IEP during the coming school year, indicating his conviction that implementation of an innovation is a long-term, on-going process. He has also expressed concern about teachers continuing to use IEP procedures if he changes his role within the district or if the district psychologists become responsible for providing leadership in the use of IEP.

It is not clear from the interview with the coordinator whether he purposely set out to follow generally accepted principles of implementation or whether his well-developed "people skills" and store of common sense about teachers and teaching enabled him to be successful.

Appendix A: Sample IEP materials(Auerbach, 1980): 60% of actual size

INDIVIDUAL EDUCATIONAL PLANNING FORM

CONFERENCE PARTICIPANTS: _____ DATE: _____

_____ REVIEW DATE: _____

_____

PUPIL'S NAME: _____ BIRTHDATE: _____

PARENTS: _____, _____ HOME PHONE: _____

PHYSICIAN: _____ PHONE: _____

SCHOOL: _____ PROGRAM: _____

TEACHER: _____

HANDICAPPING CONDITIONS AND ACCOMPANYING PROGRAMMING CONSTRAINTS: _____

_____

_____

_____

MEDICATIONS REGULARLY TAKEN: POSSIBLE SIDE EFFECTS:

_____ _____

_____ _____

_____ _____

SPECIAL DIET: _____

GOALS:

1. Person Responsible
2. (Additional Resource Requested)

OVERALL: _____ 1. _____

_____ 2. _____

ACADEMIC: _____ 1. _____

_____ 2. _____

LANGUAGE: _____ 1. _____

_____ 2. _____

SOCIAL DEVELOPMENT: _____ 1. _____

_____ 2. _____

SELF-HELP: _____ 1. _____

_____ 2. _____

MOTOR: _____ 1. _____

_____ 2. _____

PRESENT INTEGRATION: _____ DESIRED INTEGRATION: _____

_____ _____

_____ _____

_____ _____

NOTES: _____

_____

_____

_____

_____

_____

PLAN SHEET

STUDENT: _____ OBJECTIVE AIM: _____

TEACHER: _____

PROGRAM PHASE PLAN DATE	MATERIAL/PROGRAM	INSTRUCTIONAL ARRANGEMENT (Group size, prompt, cue, etc.)	CORRECT ANSWER/ BEHAVIOUR CRITERIA	TEACHER/RESPONSE	ERROR ANSWERS/ BEHAVIOUR	TEACHER/RESPONSE

PUPIL'S NAME: _____

TEACHER'S NAME: _____

DATE SET: _____

REVIEW DATE: _____ / _____
(planned) (meeting date)

SHORT TERM PLAN

CONFERENCE PARTICIPANTS:

_____ _____

_____ _____

_____ _____

AREAS	MOTOR		LANGUAGE	ACADEMIC			SOCIAL DEVELOPMENT	SELF-HELP SKILLS
	GROSS	FINE		READING	MATHEMATICS	WRITING		
AIM (OBJECTIVE)								
PERSON RESPONSIBLE								
BASIS OF REVIEW								
REVIEW: Better than Met Less than								
NOTES								

Appendix B: The Stages of Concern questionnaire(after Hall, Wallace and Dossett, 1973): 60% of actual size

Introductory Page

Concerns Questionnaire

Date Completed _____

The purpose of this questionnaire is to determine what people who are using or thinking about various programs are concerned about at various times during the innovation adoption process. The items were developed from typical responses of school and college teachers who ranged from no knowledge at all about various innovations to many years experience in using them. Therefore, a good part of the items may appear to be of little relevance or irrelevant to you at this time. For the completely irrelevant items, please circle "0" on the scale. Other items will represent those concerns you do have, in varying degrees of intensity, and should be marked higher on the scale, according to the explanation at the top of each of the following pages.

For example:

0 1 2 3 4 5 6 (7)	**This statement is very true of me at this time.**
0 1 2 3 (4) 5 6 7	**This statement is somewhat true of me now.**
0 (1) 2 3 4 5 6 7	**This statement is not at all true of me at this time.**
(0) 1 2 3 4 5 6 7	**This statement seems irrelevant to me.**

Please respond to the items in terms of your present concerns, or how you feel about your involvement or potential involvement with INDIVIDUAL EDUCATION PROGRAM (I.E.P.) planning. Since this questionnaire is used for a variety of innovations, the name INDIVIDUAL EDUCATION PROGRAM (I.E.P.) planning never appears. However, phrases such as "the innovation," "this approach," and "the new system" all refer to INDIVIDUAL EDUCATION PROGRAM (I.E.P.) planning. Remember to respond to each item in terms of your present concerns about your involvement or potential involvement with INDIVIDUAL EDUCATION PROGRAM (I.E.P.) planning.

Thank you for taking time to complete this task.

SoC QUESTIONNAIRE ITEMS

0 Irrelevant | 1 Not true of me now | 3 Somewhat true of me now | 5 | 6 Very true of me now | 7

1.	I am concerned about students' attitudes toward this innovation.	0	1	2	3	4	5	6	7
2.	I now know of some other approaches that might work better.	0	1	2	3	4	5	6	7
3.	I don't even know what the innovation is.	0	1	2	3	4	5	6	7
4.	I am concerned about not having enough time to organize myself each day.	0	1	2	3	4	5	6	7
5.	I would like to help other faculty in their use of the innovation.	0	1	2	3	4	5	6	7
6.	I have a very limited knowledge about the innovation.	0	1	2	3	4	5	6	7
7.	I would like to know the effect of reorganization on my professional status.	0	1	2	3	4	5	6	7
8.	I am concerned about conflict between my interests and my responsibilities.	0	1	2	3	4	5	6	7
9.	I am concerned about revising my use of the innovation.	0	1	2	3	4	5	6	7
10.	I would like to develop working relationships with both our ~~teachers~~ and outside ~~teachers~~ using this innovation.	0	1	2	3	4	5	6	7
11.	I am concerned about how the innovation affects students.	0	1	2	3	4	5	6	7
12.	I am not concerned about this innovation.	0	1	2	3	4	5	6	7
13.	I would like to know who will make the decisions in the new system.	0	1	2	3	4	5	6	7
14.	I would like to discuss the possibility of using the innovation.	0	1	2	3	4	5	6	7
15.	I would like to know what resources are available if we decide to adopt this innovation.	0	1	2	3	4	5	6	7
16.	I am concerned about my inability to manage all the innovation requires.	0	1	2	3	4	5	6	7
17.	I would like to know how my teaching or administration is supposed to change.	0	1	2	3	4	5	6	7
18.	I would like to familiarize other departments or persons with the progress of this new approach.	0	1	2	3	4	5	6	7

	0 Irrelevant	1 Not true of me now	2	3 Somewhat true of me now	4	5	6 Very true of me now	7

19.	I am concerned about evaluating my impact on students.	0	1	2	3	4	5	6	7
20.	I would like to revise the innovation's instructional approach.	0	1	2	3	4	5	6	7
21.	I am completely occupied with other things.	0	1	2	3	4	5	6	7
22.	I would like to modify our use of the innovation based on the experiences of our students.	0	1	2	3	4	5	6	7
23.	Although I don't know about this innovation, I am concerned about things in the area.	0	1	2	3	4	5	6	7
24.	I would like to excite my students about their part in this approach.	0	1	2	3	4	5	6	7
25.	I am concerned about time spent working with nonacademic problems related to this innovation.	0	1	2	3	4	5	6	7
26.	I would like to know what the use of the innovation will require in the immediate future.	0	1	2	3	4	5	6	7
27.	I would like to coordinate my effort with others to maximize the innovation's effects.	0	1	2	3	4	5	6	7
28.	I would like to have more information on time and energy commitments required by this innovation.	0	1	2	3	4	5	6	7
29.	I would like to know what other teachers are doing in this area.	0	1	2	3	4	5	6	7
30.	At this time, I am not interested in learning about this innovation.	0	1	2	3	4	5	6	7
31.	I would like to determine how to supplement, enhance, or replace the innovation.	0	1	2	3	4	5	6	7
32.	I would like to use feedback from students to change the program.	0	1	2	3	4	5	6	7
33.	I would like to know how my role will change when I am using the innovation.	0	1	2	3	4	5	6	7
34.	Coordination of tasks and people is taking too much of my time.	0	1	2	3	4	5	6	7
35.	I would like to know how this innovation is better than what we have now.	0	1	2	3	4	5	6	7

Statements on the Stages of Concern Questionnaire Arranged According to Stage

Item Number	Statement
	STAGE 0
3	I don't even know what the innovation is.
12	I am not concerned about this innovation.
21	I am completely occupied with other things.
23	Although I don't know about this innovation, I am concerned about things in the area.
30	At this time, I am not interested in learning about this innovation.
	STAGE 1
6	I have a very limited knowledge about the innovation.
14	I would like to discuss the possibility of using the innovation.
15	I would like to know what resources are available if we decide to adopt this innovation.
26	I would like to know what the use of the innovation will require in the immediate future.
35	I would like to know how this innovation is better than what we have now.
	STAGE 2
7	I would like to know the effect of reorganization on my professional status.
13	I would like to know who will make the decisions in the new system.
17	I would like to know how my teaching or administration is supposed to change.
28	I would like to have more information on time and energy commitments required by this innovation.
33	I would like to know how my role will change when I am using the innovation.
	STAGE 3
4	I am concerned about not having enough time to organize myself each day.
8	I am concerned about conflict between my interests and my responsibilities.
16	I am concerned about my inability to manage all the innovation requires.
25	I am concerned about time spent working with non-academic problems related to this innovation.
34	Coordination of tasks and people is taking too much of my time.
	STAGE 4
1	I am concerned about students' attitudes toward this innovation.
11	I am concerned about how the innovation affects students.
19	I am concerned about evaluating my impact on students.
24	I would like to excite my students about their part in this approach.
32	I would like to use feedback from students to change the program.
	STAGE 5
5	I would like to help other faculty in their use of the innovation.
10	I would like to develop working relationships with both our faculty and outside faculty using this innovation.
18	I would like to familiarize other departments or persons with the progress of this new approach.
27	I would like to coordinate my effort with others to maximize the innovation's effects.
29	I would like to know what other faculty are doing in this area.
	STAGE 6
2	I now know of some other approaches that might work better.
9	I am concerned about revising my use of the innovation.
20	I would like to revise the innovation's instructional approach.
22	I would like to modify our use of the innovation based on the experiences of our students.
31	I would like to determine how to supplement, enhance, or replace the innovation.

Appendix C: Permission to use copyrighted materials

To whom it may concern

I hereby grant Jack Cresswell permission to reproduce and use the SoC Questionnaire in his study of an adoption project.

Dr. Gene Hall

Austin, Texas
April, 1981

Appendix D: Invitation to participants and agreement form: 60% of actual size

13459 56 Avenue
Surrey, B. C.
V3W 1H2

April 20, 1981

In order to complete my master's thesis, I would like to study a situation in which teachers are being encouraged to try a new practice (called an "innovation" on the attached proposal).

I understand that you have been asked to attend three inservice sessions on Individual Education Program (I.E.P.) planning and are being encouraged to adopt I.E.P. planning procedures and to subsequently put the plans into effect with the children in your care.

I would like to do a case study of this project and would appreciate your helping me out by consenting to respond on three occasions to a simple 35-item questionnaire and to take part in two brief interviews at a time most convenient to you. I attach details of the project and the cover page of the questionnaire. The questionnaire completion is schedule to take place at the beginning of the inservice session on April 27.

My basic premise in my proposed thesis is that teachers adopt new practices gradually and that their frustrations, feelings, and motivations (collectively called "concerns" in the study) influence whether or not they do in fact use the new practice.

I must stress that my purpose is to study the project, not to "check up" on whether you, or any other teacher, actually ignore, try out, or use the I.E.P. procedures. I am totally netural as to whether you adopt or do not adopt the approach. The questionnaires will not contain your name, nor will the interview notes. At no time will I do anything to threaten the confidentiality of your participation.

I have the permission of the Curriculum Management Team of Delta School District to undertake this study and have promised ethical behaviour.

If you feel you can help me out, I would be grateful if you would sign and return to me one copy of the enclosed form, using the self-addressed envelope. Please phone me at 594-9256 if you have questions.

Sincerely,

Jack Cresswell

Informed consent by a person to participate
in a research project

The University and those conducting this project subscribe to the ethical conduct of research and to the protection at all times of the interests, comfort, and safety of persons participating. This form and the information it contains are given to you for your own protection and full understanding of the procedures involved. Your signature on this form does not take away any rights you may have under law; rather, it insures that you have received all information necessary to give a truly informed consent to your taking part.

Consent Form

I have been asked by Jack Cresswell, a graduate student at Simon Fraser University, to participate in a research project entitled "A Study of the Adoption of an Innovation Using Hall's Concerns-Based Adoption Model."

I understand the procedures to be used in this study and also understand that the procedures may be terminated at any time at my request. I also understand that I may register any complaint I might have about the study with Mr. Cresswell or with Dr. Jaap Tuinman, Chairman of the Graduate Studies Department (Education), Simon Fraser University.

I may obtain a copy of the results of this study, upon its completion, by contacting Dr. Tuinman or Mr. Cresswell.

I agree to participate by responding to questionnaires three times and by taking part in two brief interviews between April 1981 and April 1982.

I have received a copy of the research proposal.

Date _____

Name _____

Signature _____

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