AN INVESTIGATION INTO THE CONSTRUCTION OF AN INSTRUMENT TO MEASURE THE TEACHER'S DEFINITION OF THE SITUATION

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AN INVESTIGATION INTO THE CONSTRUCTION OF AN INSTRUMENT TO MEASURE THE TEACHER'S DEFINITION OF THE SITUATION

by

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ABSTRACT

The present study developed an instrument to measure perceptions of elements important in the decision making process. A theoretical framework for the instrument was developed through a review of literature. That framework involved three key components: teacher predispositions (or attitudes, beliefs, and values), the objective situation (or all the elements in a situation), and the definition of the situation (or the teacher's perception of the situation). Presumably, by controlling the elements in the objective situation, teacher perceptions as influenced by teacher predispositions would result. The instrument devised consisted of elements of the objective situation generated through the literature reviewed, brainstorming sessions with researchers and graduate students, and interviews with teachers. Because of the hierarchical nature of elements in the objective situation, Q-Sort methodology was selected as the method of instrument design. Considerations were given as to the advantages and disadvantages of the Q-Sort technique.

A pilot study was conducted to ensure that instructions and items were sufficiently clear. A test-retest reliability study with a one week interval was then conducted. Test-retest reliability was .64, a level judged acceptable for research purposes. Because of the procedures used in

generating items, the instrument was considered to have both content and construct validity.

The instrument devised was considered to be of use to researchers studying the teacher decision-making process and trying to link that process with observable behaviors in the classroom.

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CHAPTER I

INTRODUCTION

Philip Jackson indicated in 1968 that life in classrooms is one of myriad activity. In fact, Jackson cited evidence from one of his research efforts in which the teacher was observed as having engaged in "as many as 1000 interpersonal interchanges each day" (p. 11). Over the past two to three decades interactions in classrooms have been a key focus of educational research. Instruments and procedures for systematically observing and recording classroom behaviors have been devised, innumerable variables have been investigated, and various conceptual models or frameworks have been generated in an attempt to come to terms with the teaching-learning process.

In general, models or frameworks of teaching have been based upon presage/process/product notions--listing variables which are present before a teaching activity occurs, indicating that some type of interaction occurs, and indicating the possible outcomes of the interactions. Variables present prior to the commencement of the teaching activity have generally been conceived of as being one of three types--teacher variables, student variables, and environmental variables. Such variables would logically appear to have some type of impact upon the teaching situation.

Variations of such frameworks have been developed by

researchers such as Dunkin and Biddle (1974) and McDonald and Elias (1976). Ultimately, sets of variables are depicted as aspects of the classroom or learning situation. Within that situation, the focus of research has been on observable behaviors. However, such frameworks have often failed to address or acknowledge the unobservable mediational process which contributes to and shapes the teacher behavior in the classroom. This unobservable mediational process could be called decision-making. Such a process may occur immediately prior to a teaching behavior or may be the result of a detailed instructional plan. Whatever the case, the teacher decision can be said to be an antecedent of the teacher behavior.

As an example of the occurrence of the decision-making mediational process, one teaching situation may be considered, that of fielding student questions. Hyman (1980) has listed sixteen response options which are available to teachers when fielding a student question and has indicated that numerous other options exist. Among the options listed by Hyman (1980) are: "responding and giving the answer as requested...relaying the question to a specific classmate... rejecting the question . . .continuing on in the interaction as if the question was not asked" (p. 40). In selecting a response option, it is clear that the teacher is making a decision. This decision concerning the appropriate teacher behavior could perhaps be conceived of as being influenced by such variables as teacher sex, age, socioeconomic

background, training and personality--the presage characteristics in the Dunkin and Biddle (1974) review. However, Crocker, Boak, Janes, & Spain (1976) argue that "since much of teacher's behavior is related to coping with an immediate situation, then it would be expected that teacher beliefs, expectations, and norms will exert a significant influence on behavior" (p. 41). The effect of teacher beliefs and attitudes, in particular, in guiding teacher behavior has been noted by Crocker et al. (1976), Hunt and Sullivan (1974), Dunkin and Biddle (1974), and Victor (1974). Teacher beliefs and attitudes, then, can be seen as interacting with the elements in the situation in a perceptual process allowing the teacher to make an interpretation of that situation. This perceptual process, in essence, involves a definition being placed upon a situation by the teacher. Such a definition would become the pivot for the decision-making process and would be the antecedent to teacher behavior. Although the importance of teacher beliefs and attitudes has been acknowledged, the dearth of research literature relating them to the decision-making process is notable.

In July 1976, the Institute for Educational Research and Development at Memorial University developed a research proposal which was designed to investigate the causes and classroom behavioral consequences of strategies of teaching in elementary schools in Newfoundland. The specific objectives of the project were as follows:

1. To develop a teacher interview instrument, a classroom observation instrument, and auxilary instrumentation required to explore teacher planning, teacher perceptions, and classroom behaviors for a sample of elementary teachers.

2. To investigate the relationship between school and classroom setting (boundary condition) variables and the teaching strategies used, and to examine possible interactions between teacher characteristics, teacher perceptions, and school and classroom setting variables as they influence teaching strategies.

3. To examine the relationships between planned teaching strategies and classroom behaviors.

4. To explore the feedback process in the classroom whereby teacher behavior may be successively modified by pupil behavior in a planned manner (as part of a teaching strategy), or in an uncontrolled manner (as interference with teaching strategy).

Crocker et al., 1976, p.3

The present study comprised one facet of the Teaching Strategies Project (TSP), that of the study of teacher decision-making as guided or directed by teacher perceptions.

Purpose of the Study

The purpose of the present study was to construct an instrument which could be used to study the teacher's definition of the situation as it applies in teacher decision-making. To accomplish this purpose, a theoretical base for the study of constructs which influence classroom behavior was developed. An instrument was designed (using the theoretical base generated) to examine individual teacher perceptions of the schools, of themselves, of the children

being taught, and of the external factors which may affect teacher decision-making. The instrument allowed for the emergence of individual teacher's perceptions of factors important in decision-making. Measures were taken to establish the reliability and validity of the instrument.

Significance of the Study

This study was intended to provide an instrument allowing for the examination of similarities among individual teachers with regard to the elements of a situation they perceived as important when making a decision. Variation in responses among teachers could be considered as resulting from teacher beliefs and attitudes if elements in the situation could be controlled. The description of the instrument development process would provide general information and detail upon the procedures used in constructing an instrument which examines non-observable elements of the teaching situation. Finally, the instrument constructed in the present study could be utilized by researchers in a variety of ways. For instance, researchers might examine responses of teachers in an effort to "identify 'types' of people who have similar configurations of scores" (Cronbach & Gleser, 1953, p. 456). Once such "types" of teachers were identified, research could be conducted to examine teacher responses to specific classroom situations.

Plan of the Investigation

This investigation is reported according to the following plan:

Chapter 2 reviews the literature relating to teacher predispositions, the objective situation, the definition of the situation, and Q-sort methodology.

Chapter 3 outlines the processes utilized in item pool generation.

Chapter 4 outlines the procedures used in conducting a pilot study for the instrument and a reliability study for the instrument. Data on the reliability of the instrument are analysed and discussed.

Chapter 5 presents a summary of the present study with a view to providing suggestions for future research.

CHAPTER II

REVIEW OF THE LITERATURE

The primary focus of the present investigation was the construction of an instrument which could be utilized to study teacher decision-making. Research literature was reviewed with a view to arriving at a conceptual framework for the construction of such an instrument. The literature reviewed fell into three areas. First, literature relating to teacher predispositions is initially reviewed; elements specific to the objective situation are then examined, followed by literature dealing with the teacher's definition of the situation. Finally, a model of teacher decision-making based upon the interrelationships among these three features of the teaching process will be considered.

Conceptual Framework

The argument as to whether or not it is possible to separate an object from our perceptions of that object is a classic one in the field of psychology. As early as 1912, Wundt (in Ittelson, 1973) wrote "for every piece of knowledge two factors are necessary--the subject who knows and the object known, independent of this subject" (p. 6). However, other authors point out that "it is in fact meaningless to try to separate observer and observed, or to speak of an object independent of an observer, or, for that matter, of an observer in the absence of objects of observation"

(Bridgeman, in Ittelson, 1973, p. 6).

The teaching situation, which presents itself as a menagerie of observers and the observed, falls prey to similar arguments as a topic of study. While the attribution of specific characteristics to elements in the observed may aid in conceptual clarification, the interrelationships among elements which may be lost in such a partialling out of attributes cannot be denied. Nor is it possible to disregard the influence that an observer's perceptions may have upon the observed. The teacher's behavior in a given teaching situation, then, must be governed by the teacher's perception of that situation. This perception is called the teacher's definition of the situation. It can be seen that the definition of the situation is derived, firstly, from what is actually happening or the objective situation, and secondly, from the predispositions that the teacher must act upon in these circumstances. In the construction of an instrument designed to examine teacher decision-making, the elements in the situation (or the observed) and teacher predispositions were considered as precursors of the teacher's (or observer's) perceptions. The elements in the situation were considered under the term the "objective situation". The interrelationships between teacher predispositions and the objective situation were considered under the term "definition of the situation" (the perception). In the following pages teacher predispositions, the objective situation and the definition of the situation are discussed.

Teacher Predispositions

The interpretation placed upon the term teacher predispositions is derived from the work of Stebbins (1975), who defined predispositions as "products of past experience [which] impinge upon our awareness, equip us with specific, usually habitual, views of the world and guide behavior in the immediate present" (p. 12). In the literature on teaching, the term "predisposition" is used infrequently when compared with the somewhat synonomous terms of "attitudes", "beliefs", "values", and "ideologies". Because these terms share a common pool of characteristics, despite widely acknowledged differences in definition (Dawes, 1972, p. 16), they will be discussed together under the "umbrella-term" of predispositions. Although many researchers define predispositions, attitudes, values, and the like, and also discuss the effects of situational elements upon them, references to the decision-making process may often be tacit.

Stebbins (1975) saw the perception of specific elements as an antecedent of the decision making process leading towards operation or action of some kind. For Stebbins (1975), predispositions could be characterized in the following manner: 1) Predispositions include the product of an individual's social interactions, an individual's long range goals, and an individual's attitudes and values--all of which Stebbins considers "products of past experience" (p. 12). 2) Predispositions are "enduring states" (Stebbins, 1975, p. 12). 3) The relative permanency of predispositions leads people to act in the same way given the same situation.

However, Stebbins (1975) differentiates between long and short term goals. The former is recognized as a predisposition but not the latter, since the "immediate aim" type of goal is not an enduring state. 4) Predispositions are inactive until triggered by "situational stimuli" (Stebbins, 1975, p. 12).

Newcomb (in Jahoda & Warren, 1970) was quite vague in early writings explaining the concept of attitude, indicating that it was, in fact, a predisposition to act in a specific way towards stimulus objects in the environment. By 1964, Newcomb's definition of attitude was a more precise and all-encompassing one in which the process of decision-making has become less tacit. Like Stebbins (1975), Newcomb (1964) viewed attitudes as arising from past experiences and interacting with present situational influences determining the individual's behavior in that situation. Newcomb (1964), too, considered attitudes to be "enduring" in nature by virtue of their composition of past experiences, but addressed the issue of attitude change indicating that attitudes "change in so far as new residues [of experience] are acquired through experience in new situations" (p. 22).

This "enduring" characteristic of attitudes was also presented in the writings of Shaw and Wright (1967, p. 10), Rokeach (1968, p. 112), and Kerlinger (1967, p. 110). In discussing the lasting nature of attitudes, Shaw and Wright (1967) suggested that the stability of attitudes was due to three factors: a) the interrelationships of attitudes,

b) the reinforcements present when the attitudes are learned, and c) the desire of individuals to exert closure, that is, the stronger or more central the attitude, the more resistant it would be to change. This latter factor reinforces Stebbins' (1975) proposition that long term goals are more resistant to change than short term goals.

Rokeach (1968), however, differentiated between attitudes and predispositions based upon the characteristics of endurance. Rokeach (1968) argued that some predispositions are momentary and suggested that the "more enduring persistent organizations of predispositions" (p. 112) be called attitudes. The reliability of attitudes, Rokeach postulated, could be measured through attitude questionnaires. Although Rokeach's differentiation between attitude and predisposition could bring into question the term predisposition in the present study, it should be noted that the differential element is that of "long-lastingness" rather than predisposition. For Rokeach, all attitudes are predispositions but not all predispostions are attitudes. The present study uses predispositions in the same manner as Rokeach uses attitudes, the difference being one of terminology rather than concept. Such terminological difficulties will recur throughout the present discussion, and, as such, tend to reflect the pattern of a literature plagued by "terminological obscurity."

The concept that an attitude is enduring and predisposes an individual to act in some way has been addressed very similarly by Rokeach (1968) and Kerlinger (1967). Rokeach

defined attitude as:

> a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner. (1970, p. 112)

while Kerlinger's definition of attitude was that it:

> is an enduring structure of descriptive and evaluative beliefs that predispose the individual to behave selectively toward the referent of the attitude. (1967, p. 110)

The key words "endurance", "beliefs", "predispositions" and "selective action" are reiterated in some form in the writings of other authors. For instance, Sharp and Green (1975) use the term "teaching ideology" to describe "a connected set of systematically related beliefs and ideas about what are felt to be the essential features of teaching", (p. 68), and Campbell (in Thomas, 1971, p. 343) observed that "acquired behavioral dispositions provide coordinations of behavior with reference to environmental settings". Not only does a pool of common key words descriptive of the antecedents of teacher behavior surface, but these definitions intimate that some sort of decision-making process occurs prior to teacher behavior. That decision-making process appears to involve the interaction of belief structures with elements in the situation.

While belief structures are conceived of as being long-lasting, writers have indicated that this does not mean that belief structures never change. Rather, change in such belief structures is marked not by abrupt discontinuity in

certain beliefs or attitudes, but by slow gradual change. Newcomb (1964), for instance, noted that new experiences result in attitude change, and intimated that attitude change could be considered as occurring through the gradual accumulation of residues of experiences. Furthermore, since the stronger belief structures are the more resistant to change (Rokeach, 1968; Shaw & Wright, 1967; Stebbins, 1975), then it could be assumed that an even greater accumulation of experiences would be involved in changing those belief structures.

A further characteristic of predispositions is that predispositions are innumerable and are organized or structured in some manner. Rokeach (1968) used the phrase "organization of beliefs" (1968, p. 112), Kerlinger used "structure of descriptive and evaluative beliefs" (1967, p. 110), Sharp and Green talked of "systematically related beliefs" (1975, p. 68), Shaw and Wright referred to "a relatively enduring system of affective and evaluative reactions" (1967, p. 10) and Kelly (1955) recognized the necessity of setting up a personal hierarchical system of constructs where some constructs are more important than others.

The complexities of the systematic organization inherent in attitude structure become evident in Rokeach's discussion of values, attitudes and beliefs. Rokeach views values as a subset of beliefs, which in turn are a subset of attitudes. Taken at the lowest conceptual level, Rokeach (1968) suggests that values are "abstract ideals, positive

or negative, not tied to any specific attitude object or situation, representing a person's beliefs about ideal modes of conduct and ideal terminal goals" (p. 124). Rokeach postulates that values are rank ordered in terms of their relative importance. Thus, values, a sub-subset of attitudes, have their own hierarchical organization.

Sharp and Green (1975) hypothesized that the following factors were the most important in teachers' belief systems:

1. how the teachers viewed themselves as students
2. the professional training they had received
3. on the job experiences
4. individual world views as a result of personal socialization experiences.

In attempting to come to terms with belief systems and to engage in manageable discussion, various researchers have proposed differing clusters of beliefs or have expounded upon those factors which they consider most important. In 1971, Green suggested that a belief system comprised four main components, those components being core beliefs, belief clusters with relations between them, evidential beliefs, and a correspondence between the rank ordering of beliefs and the relations between them. Silberman (1969) focused upon teacher attitudes toward students. Through analysis of classroom observational data and interview data, Silberman (1969) identified attachment, concern, indifference and rejection as four distinct attitudes that teachers held

about their students.

The conceptual complexity of the belief system of teachers is highlighted by the work of Wehling and Charters (1969) and Shavelson and Stern (1981). Wehling and Charters (1969) attempted to isolate discrete dimensions of teachers' belief systems and identified the following eight dimensions:

Subject-Matter Emphasis
Personal Adjustment Ideology
Student Autonomy vs. Teacher Direction
Emotional Disengagement
Consideration of Student Viewpoint
Classroom Order
Student Challenge
Integrative Learning

Shavelson and Stern (1981), in a review of literature on teacher pedagogical thought, judgements, decisions and behavior, used the term "teacher characteristics" in discussing what is termed in the present study as teacher predispositions. Dimensions delineated were somewhat similar to those used by Wehling and Charters (1969). Among those presented were beliefs about education, beliefs about teaching, conceptions of subject matter, and commitments to planning strategies.

On a very general scale, predispositions may be considered as having both an affective and a cognitive component--the affective component being whether or not one

feels something to be pleasing and the cognitive component being what one knows about the object. McKennell (1974) observed that writers are often at odds over whether beliefs, the affective component in McKennell's work, and cognitions should be included under the term attitudes. McKennell (1974) purported that both elements are indeed parts of attitudes, noting that:

> what makes a belief part of an attitude is that the idea-elements themselves are responded to emotionally. In technical jargon the attitude consists of "cognitions invested with affect" or "hot cognitions". It is the evaluative aspects of beliefs which makes (sic). them part of attitude systems.
>
> (p. 15)

Katz (in Dawes, 1972, p. 16) also acknowledged the affective and cognitive components of attitudes which predispose "the individual to evaluate some symbol or object or aspect of his world in a favorable or unfavorable manner"--a step in the decision-making process. The importance of the teacher's total knowledge of a situation (the cognitive element) as integral in coordinating a personal set of ideas and beliefs (the affective element) prior to teacher action or behavior has been underscored by Sharp and Green (1975) as well.

Given the varying characterizations of the components of predispositions presented by different authors and the fact that many authors have suggested that predispositions are organized in a hierarchical fashion, the actual process of decision-making as affected by teacher predispositions becomes difficult to envisage. One possible explanation

for the operation of predispositions might be inherent in the hierarchical organization of predispositions. That is, either elements from within specific categories or the most important categories would feature prominently in the decision-making process.

Such an explanation has been proposed by Ajzen and Fishbein (1980). These authors view attitudes as a function of beliefs. They have theorized that, although an individual has many beliefs about an object, it is only possible to attend to some of these beliefs at any given time. As a result, they have suggested that from five to nine beliefs should be considered salient. These "salient beliefs", according to Ajzen and Fishbein (1980), are those which determine the attitudes held by an individual. Such a conceptualization would make the decision-making process in relation to predispositions seem more functional.

Although the conceptualization of "salient beliefs" would appear to explain the functioning of predispositions in a realistic manner, the issue of extemporaneous behaviors which do not fit into the general pattern of behaviors has not been addressed. If predispositions are long lasting over the long term, such behaviors should not surface. Once again, a possible explanation for the surfacing of extemporaneous behaviors may be found in the work of Ajzen and Fishbein (1980).

Ajzen and Fishbein (1980) have suggested that a person's intentions are a function of attitudes (a positive or

negative judgement of the behavior) and "the subjective norm" (how the individual feels others will view the behavior). If only certain beliefs are salient, then, certain attitudes or influences in the subjective norm may exert greater than normal influence upon the individual, thus resulting in extemporaneous behaviors being demonstrated. For instance, Ajzen and Fishbein (1980) indicate that "the subjective norm may exert pressure to perform or not to perform a given behavior, independent of the person's own attitude toward the behavior in question" (p. 7). Such would be the case when, for example, a teacher is less tolerant of misbehavior when the principal (norm setter) is in the room.

Summary. Although a great deal of variability is evident in the manner in which researchers and theorists have addressed the issues relating to teacher predispositions, certain key components of predispositions have surfaced. Predispositions are hierarchically organized belief structures having an affective and a cognitive component. While they are considered enduring, they are subject to change. Predispositions can be considered as "residues of experiences" which are continuously and gradually shaped and molded. The stronger the predispositions (or the more supportive experiences are for the predispositions), the more resistant they are to change. While strong predispositions suggest a fairly predictable pattern of behavior over time, extemporaneous behaviors do occur. Such behaviors may arise because the teacher predispositions that become salient in those

situations may be evoked by the subjective norms perceived by the teacher.

Objective Situation

As discussed previously, Wundt (in Ittelson, 1973) indicated that "for every piece of knowledge two factors are necessary--the subject who knows and the object known, independent of this subject" (p. 6). With reference to the teaching situation, the previous section dealing with teacher predispositions would refer to "the subject who knows". The present section will deal with "the object known, independent of the subject", that is, the objective situation.

Stebbins (1975) also contributed to the development of the term "objective situation". This term is used to denote a hypothetical situation in which all the elements and their possible interrelationships are able to be determined.

In the pedagogical setting, the objective situation is that set of circumstances which exists in the classroom, before an interpretation is placed upon it by the teacher. The objective situation is comprised of social elements, psychological elements, structural elements, and logistical elements--in short, all the ingredients and qualities that contribute to a classroom. These elements might include aspects of the school itself, the children, the space, the school board, the geographical situation of the school, and the cultural heritage of the area. The essence of the objective situation has, perhaps, best been conceived of as

"the situation as it might appear to some omniscient and disinterested eye, viewing all its complex interdependencies and all its endless contingencies" (MacIver, in Stebbins, 1976, p. 7).

Those elements that comprise the objective situation have been examined in terms of the manner in which they limit the teaching situation, the teacher's ability to change these elements, and the types of elements that contribute to the teaching situation. Shavelson and Stern (1981) suggest that factors in the objective situation (referred to by them as antecedent conditions to teaching) fall into three broad categories: 1) information about students, 2) the nature of the instructional task, and 3) the classroom/school environment. Lundgren (1977) used the term "frame factors" to talk about elements in the situation. These frame factors were defined as "factors which limit the variation of the teaching process" (p. 42). Examples of frame factors might be such things as the time of school leaving, the fact that children have to be bussed, the fact that the gym can only be used at certain times because it is next to the library, or the fact that children are of a particular religious faith.

In a somewhat similar vein, Dyer (in Ornstein, 1973) talked about factors present in every school which are viewed by teachers on a continuum ranging from "easy-to-change" to "hard-to-change". These factors, referred to as "surrounding conditions" (Dyer, in Ornstein, 1973), were

suggested as falling into one of three categories--conditions pertaining to home, conditions pertaining to school, and conditions pertaining to community.

Crocker et al. (1976) also addressed those variables which are beyond the control of the teacher, but, at the same time, are integral to the teaching process and have to be kept in mind in the classroom decision-making process. Some examples of the "boundary conditions" of the teaching situation, as seen by Crocker et al. (1976), are:

1. Nature of the curriculum
2. Time available
3. Class size
4. Grouping arrangements
5. Teacher deployment
6. Classroom characteristics
7. School characteristics
8. Societal demands (school board, province, pressure groups, etc.)

(p. 14)

Similarly, the community, the school system, the school, and the classroom were identified by Palmer (in Wick & Beggs, 1971) as "situational factors". Palmer went on to identify within each group of factors those which could be considered relevant for a school administrator or prospective teacher in the decision-making process.

Summary. The commonalities shared amongst researchers

indicate that universal characteristics exist which may be applicable across settings. The elements of home and community (Crocker et al., 1976; Dyer, in Ornstein, 1973; Palmer, 1971), the school (Crocker et al., 1976; Dyer, in Ornstein, 1973; Palmer, 1971; Shavelson & Stern, 1981), aspects of instruction (Crocker et al., 1976; Shavelson & Stern, 1981), and the students (Crocker et al., 1976; Shavelson & Stern, 1981) appear as global characteristics or qualities of the objective situation. While the degree of teacher control over variables in the objective situation is notable, the actual implementation of some type of control measure could be either a result of the decision-making process or a component of the objective situation itself.

Definition of the Situation

Teacher predispositions and the objective situation have been presented thus far as discrete units. In Bridgman's terms (in Ittelson, 1973), the observer and the observed would have been meaninglessly separated. Bridgman (in Ittelson, 1973) would likely envisage a synergic relationship--a relationship emerging from the coalescence of the inputs, teacher predisposition, and the objective situation. Such a coalescence would result in what Stebbins (1975) refers to as the definition of the situation, the determinant of teacher behavior.

The definition of the situation is, essentially, the meaning that an individual attributes to evolving occurrences

around him, in other words, the manner in which he perceives the situation. It is the result of the interaction of various aspects of the objective situation and teacher predispositions (Stebbins, 1975).

"Teacher cognitive processes," according to Shavelson and Stern (1981), result in teacher attributes and heuristics which form the basis for teacher behavior. The process is one of "bounded rationality," that is reasonable within the limits of the limited information processing capability of the teacher, and it results in a reduced model of rationality. The cognitive processes referred to here could be considered roughly analogous to the process of perception based on teacher predispositions, while the information to be processed could be considered as being the objective situation. The selective processing of elements in the objective situation then would, in essence, be the teacher's perception or definition of the situation.

Many other researchers have grappled with the idea of looking at actions based on the way one thinks before one acts. Harnack (1968) simply described the process of defining the situation as choosing "the best road to take". Such a choice would be mediated by what Harnack (1968) terms the "screens of selection". In using the screens of selection, the teacher is forced to weigh the separate factors in a situation before making a decision and acting upon that decision.

Bross (in Phillips, 1971) also highlighted the

importance of an integrative system of decision-making. Like Harnack (1968), Bross (in Phillips, 1971) maintained that information passed through a filter system. However, Bross (in Phillips, 1971) extended this notion in that he specified the composition of that system. Bross (in Phillips, 1971) speculated that information in the situation was filtered through "screens" of values and predictions before decision criteria integrated the information and behaviors emerged.

McIntyre and Morrison (1977) suggested that classroom processes could be viewed by means of usefully "conceptualized perspectives". Such perspectives are somewhat analogous to the screens of selection and the filtering system proposed by Harnack (1968) and Bross (in Phillips, 1971) in that these perspectives provided a mechanism for analysing elements in the classroom situation. McIntyre and Morrison (1977) presented six clusters of conceptualized perspectives which could be useful for examining various factors of classroom life:

a) psychological processes
b) classroom as a processing system
c) temporal structure of classroom activity
d) substance of classroom activity
e) interpersonal relations
f) persons

Although McIntyre and Morrison (1977) suggested that these

perspectives could be combined to create a multidimensional model of the classroom, the various facets of which could become the focus of research study, it is conceivable that such perspectives would also be operational in terms of the teacher arriving at a definition of the situation.

The process of defining the situation is basically one of the selective perception of pertinent elements "which are seen by the actor to affect any one of his action orientations" (Stebbins, 1967, p. 150). Such perceptions result in meaning being given to these elements before action occurs. Thus, according to Stebbins (1967), behavior or action is a direct result of our perceptions of the situation.

Martin (1976) presented a differing perspective of the definition of the situation in that he viewed an individual as attempting to define a situation by trying to see it from other people's viewpoints. Despite this hypothesis, Martin (1976) conceded that, "in the final analysis, an individual acts according to his own definition of the situation, through his interpretations of what he thinks others expect of him" (p. xi).

Summary. Evidently, no decision made by an individual takes place in a vacuum, since each person has a different set of predispositions which have evolved from earlier experiences in other situations. Such predispositions are involved in a process of selection from and interpretation of the objective situation through various filtering

mechanisms. The subjective picture that emerges is essentially how we have defined the situation. It is the definition of the situation upon which the teacher acts, be it in long term planning, or in the minute-by-minute responses in the classroom.

A Model of Teacher Decision-Making

In the initial sections of this chapter, three components of the decision-making process have been the major foci. These components will now be considered in relation to the teacher's overall framework for operating within the classroom context. Teacher decision-making, as conceptualized in the present study, is depicted by the following elements in Figure I: predispositions, objective situation, and definition of the situation. These elements comprise the antecedents of teacher behavior, teacher behavior being the overt observable behavior of the teacher in the classroom. Such behavior may be active or reactive, direct or indirect, but it always occurs in relation to classroom activities. The remaining concepts presented in Figure 1 relate to the decision-making process only insofar as they provide feedback into the objective situation.

Thomas (1951) has pointed out that "social situations never spontaneously repeat themselves, every situation is more or less new for every one includes new human activities differently combined" (p. 158). In accordance with Figure 1,

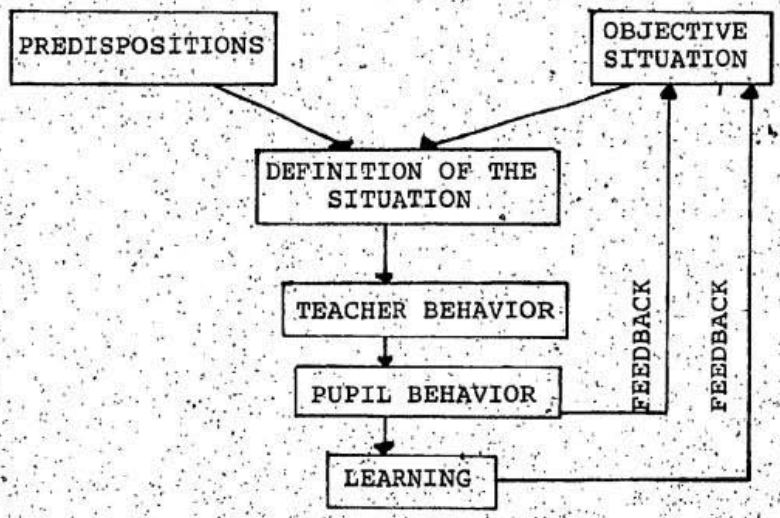

Figure 1. A model of teacher decision-making.

the social situation of the classroom, from a teacher decision-making point of view, involves the interaction of the objective situation and teacher predispositions resulting in what can be regarded as a perceptual process on the part of the teacher. This perceptual process leads to an outcome--the definition of the situation. Such elements are antecedents of teacher behavior.

Several researchers have construed the social situation of the classroom in a manner similar to that encompassed by Figure 1. For example, Crooker (Note 1) has stated that "teacher behaviors at the strategic and tactical levels are determined by the teacher's perceptions of the classroom setting". Schuman and Johnson (1976) emphasized the relationship of the objective situation and teacher

predispositions to teacher behavior inasmuch as they suggested that the situation was critical in determining behavior while attitude measures alone rendered unpredictable results of behavior. Greiger (1972), too, saw behavior as an interaction of previously learned habits and the specific situation to be acted upon. A qualification on the importance of the situation in influencing behavior was presented by Wicker (in Thomas, 1971)--"the more similar the situations in which verbal and overt behavioral responses are obtained, the stronger will be the attitude-behavior relationship" (pp. 166-167). The interaction of predispositions and the objective situation (the definition of the situation) provides the basis for teacher behavior. Such teaching behavior may be that of the formulation of plans for teaching or the moment-to-moment reactions of the teacher in the classroom situation.

The teacher behavior will elicit responses from the students, that is pupil behavior. Such pupil behavior may lead to learning. The feedback resulting from either pupil behavior or evidence of learning may contribute to changing the objective situation. The new objective situation, combined with teacher predispositions, will lead to a new definition of the situation. As indicated earlier, predispositions, over the long-term, may gradually change, thus resulting in a change in teacher perceptions of the situation. The assumption may be made that, in the short term, predispositions are relatively stable. However, when a teacher detects a discontinuity between what is expected to happen

and what happens either in terms of pupil behavior or feedback, this discontinuity becomes a feature in the cognitive processes occurring in the next repetition of the process of defining the situation. Such discontinuity would likely have the greatest effect upon the least strongly held predispositions. Indeed, if elements in the objective situation were still the same, this discontinuity would lead to a new definition of the situation. The cyclical nature of the teacher decision-making process presented in Figure 1 is consistent with the view held by Mahoney (1977). Mahoney (1977) noted that our feelings and actions are influenced causally by our "cognitive representations" and that the consequences of our actions shape our cognitive representations. Fiedler (1975) also commented on the outdated notion of a unidirectional model of teacher-pupil interaction patterns, observing that the activities of the classroom are influenced by both student and teacher input in varying degrees. The essence of the feedback mechanism, as well as the cyclical nature of the decision-making process, presented in Figure 1 has, perhaps, best been described by Mahoney (1977) who stated that "cognitions influence behaviors, which influence environments, which influence cognitions" (p. 8).

The relationship between teacher predispositions and the objective situation, along with the feedback mechanism in the teacher decision-making process, may be affirmed by the following examples. A teacher with progressive

predispositions, faced with the prospect of a rather large class in the new school year, may decide to group children according to their abilities in as many as five groups, the groupings changing depending on the strengths and weaknesses of the students in the various subject areas. A teacher with traditional predispositions faced with the same situation, may feel that the class is simply too large to attempt teaching to the individual child and may decide to group according to high and low achievement on a reading measure. These two teachers have defined the situation in accordance with their predispositions, resulting in very different teaching behaviors.

In the case of teacher 1, the diversity of the situation and the need to organize time will be most salient and might result in the use of supplementary materials and self-directed activity. The teacher would respond to evidence of idling. In the case of teacher 2, the large size of groups, the need to maintain order, and the rate of progress of all students would become salient and could result in the adoption of relatively strict rules of behavior and more teacher activity. This teacher would likely respond to evidence of disorder or failure to keep up with the group.

Behavior over time will reveal the nature of the teacher predispositions. However, behavior at a point in time (i.e., a reaction to one specific situation) may not necessarily be consistent with the predispositions of the

teacher. Such an inconsistency may arise because a teacher reacts cognitively and affectively to salient aspects of the situation. Hypothetically, the less cognitively aware the teacher is of the important elements of the situation (the important elements are not always salient), the more influence teacher affect may play in defining the situation and, thus, in guiding behavior. In long term planning situations, where the teacher deliberately considers those aspects which are important, greater consistency could be expected. Such may not be the case in situations requiring an immediate response.

For example, a teacher who has just given a well prepared lesson on a topic may well severely reprimand a child for asking a needless question regarding seatwork even though the teacher knows the child to have an extremely short attention span. In such an instance, the affective behavior of the teacher would be overruling the cognitive aspect resulting in the emergence of seemingly extemporaneous responses.

Summary

Up to this point, literature relating to the process of teacher decision-making was examined in order to provide a conceptual framework for the construction of an instrument investigating teacher predispositions in the process of teacher decision-making. Characteristics of teacher predispositions and the objective situation surfaced through the

literature review process and the interrelationship of these elements was examined in terms of the teacher's definition of the situation. Finally, a model of the decision-making process as conceptualized in the present study was depicted. The antecedents to teacher behavior and their relationships to teacher behavior were focused upon in this framework and the cyclical nature of the decision-making process was demonstrated.

Q-Sort Methodology

Theoretically, then, if it were possible to control the elements in the objective situation, the varying predispositions of different teachers should surface when those teachers are required to define that situation. While the possibility of exerting such control in a "real life" situation is remote, an alternate method of investigation allowing for such control would involve the construction of a "pencil-and-paper" task specifying the elements in the objective situation.

The instrument design selected necessitated consideration of both the hierarchical structure of the nature of predispositions and the number of possible elements which could comprise an objective situation. An instrument design which appeared to lend itself to these considerations was Q-sort methodology. Q-sort methodology will be examined in terms of its advantages and disadvantages as an

instrumentation technique. Issues such as item selection, number of items in the item pool, sample size, reliability, and validity will be discussed.

Definition of Q-Sort

Originated in 1953 by Stephenson, the Q-Sort technique is a method of presenting test items and analysing results which has several advantages over the more usual methods in investigating attitudes, beliefs, and values. Q-Sort is not a specific test, but, rather, a technique which is situation specific. A Q-Sort consists of a set of cards on each of which is found one statement, trait, or picture. These cards are sorted into piles according to their relative importance on a continuum. In a forced Q-Sort the number of cards placed in each pile is usually predetermined to approximate a particular frequency distribution.

Since the variables in any Q-Sort are ordered or scaled relative to each other with respect to a specific criterion with a specific subject as a frame of reference it is basically an ipsative measure. As an ipsative measure, the Q-Sort provides person-centered data in numerical form which is available for a variety of analyses.

Advantages and Disadvantages of the Q-Sort Procedure

While the Q-Sort has been acknowledged as a technique that lends itself to the measurement of attitudes, beliefs, and values, many researchers have commented upon Q-methodology

as being particularly noted for its theoretical orientation, "that is to say the selection of items comprising a Q-Sort can be made with the specific purpose of theory building and theory testing" (Cohen, 1976, p. 136). Similarly, Neff and Cohen (1967) commented upon the theory building properties of the Q-Sort procedure.

While one of the major strengths of the Q-Sort has been acknowledged as its "relative independence from a priori categorization" (Redburn, 1975, p. 769), this independence from a priori categorization is not absolute. Redburn noted that limitations can be placed upon the Q-Sort items if these items are constructed in accordance with a particular theory. Such a limitation may be overcome if, according to Redburn, the researcher does not allow the theoretical viewpoint to limit item selection. The interpretation of a Q-Sort could also be seen as posing some doubts about whether the independence of the Q-Sort from a priori categorization is useful. Redburn suggested that "just as the same statement may generate different meanings for different individuals, so may the same arrangements or patterns of statements suggest different logics to different researchers" (1975, p. 770). However, Redburn noted that while the heuristic properties of a Q-Sort may be of value to some, those concerned with consistency in interpretation can select one of several options: 1) they may make efforts to ensure that the Q-Sort is consistent with other measures of the problem under study; 2) they may employ several independent judges;

or 3) they may evaluate the Q-Sort upon its completion by an individual with a well-known theoretical position on the problem under study.

Caggiano (1970) has indicated that the Q-Sort, by its very nature as an ipsative measure, requires that each individual be portrayed in his own right and not compared to a reference group. Its quality as an ipsative measure also implies that there are no right or wrong answers for a Q-Sort, a factor which has been reported as being advantageous by some such as Cummins (1963). Finally, although the Q-Sort is an ipsative measure, Block (1961) has suggested that Q-Sort data from various individuals may be merged, and through the use of factor analysis and cluster analysis techniques, certain clusters of individuals with similar traits may be identified.

One of the problems associated with this type of ipsative measure is that the ranking of items creates an item interdependency. That is, once a particular item is ranked, it automatically displaces other items. Such displacement masks differences that could be present. However, Block (1961) maintained that this problem decreases as the number of items increases and the forced negative correlation is reduced. Furthermore, the forced interdependence of items may lend itself to specific theoretical situations such as that of the present study in which certain elements may be perceived as encroaching more on a decision than others. Once an element is considered to be of greater

weight, it automatically displaces other elements of lesser weight. Thus, the forced interdependence of items which may be considered a problem for some researchers, becomes an asset in the present study.

The issue of utilization of a forced or unforced Q-Sort has created much controversy in the research literature (Cohen, 1976; Livson & Nichols, 1956). In the unforced sort, the sorter has the option of distributing the items as he sees fit, while the forced sort requires the sorter to sort the items along a preconceived frequency distribution. Cronbach and Gleser (1953) have supported the use of the unforced sort suggesting that valuable information is lost by forcing a particular distribution pattern, while Block (1956) has postulated that "the forced Q sort method appeared equal or superior to the natural unforced Q sort method" (p. 492). Although Block (1956) appeared to favor the forced Q-Sort, he also commented that each type of sort lends itself to particular situations. Block (1956) noted that:

> the unforced approach is desirable in those circumstances where the scale separation of items is important and the ordering of the items is held to be irrelevant or is in fact undifferentiating...The forced approach is more useful when item order is judged of paramount importance. (p. 492).

In the present study, the teacher's perceptions or definition of the situation were seen as resulting from the interaction of teacher predispositions and the objective

situation. The fact that different teachers would consider different elements of more importance than others suggests that such rankings reflect the operation of predispositions which were salient for each teacher. Therefore, a measure utilized to force teachers to rank items into relative item order would allow for specific delineation of clusters of variables of importance. Hence, the forced sort was selected for use in the present study.

Although the issue of forced choice has been controversial in research literature, the type of forced choice has proved to be a less contentious issue. Arguments as to whether a rectangular or quasi-normal distribution should be used have been presented by researchers, however, Livson and Nichols (1956) observed that "there has been an almost exclusive use of a quasi-normal distribution for the forced Q sort" (p. 160). Later research by Kerlinger (1970), Cummins (1963), Sontag (1968) and Caggiano (1970) has indicated that the use of the quasi-normal distribution for the Q-Sort has remained prevalent despite the finding by Livson and Nichols (1956) that the use of a rectangular distribution did not significantly affect the reliability of Q-Sort information. The determining factor against the use of the rectangular distribution is that it has been found to require "the maximum possible number of inter-item discriminations" (Livson & Nichols, 1956), thus making it a more difficult sort.

Item Selection

The whole procedure of Q-Sort is founded on a basic vocabulary, thus making it essential to carefully choose items for each card. Wittenborn (1961) maintained that, prior to 1960, items lacked structure and, in fact, seemed to have been assembled informally resulting in uncertain analyses. Possibly for this reason, most researchers used descriptive rather than inferential statistical analyses.

Kerlinger (1966) used adjectives in a "Teacher Characteristics Q-Sort" constructed by pooling items from several related lists. The Allport-Odbert (cited in Kerlinger, 1966) list of 18,000 traits was used to select all traits related to teaching. Barr's (cited in Kerlinger, 1966) list was also added to the pool. In addition, some nouns from a list by Charters and Waples (cited in Kerlinger, 1966) were changed to adjectives and added to the list. From this list of almost 400 adjectives, the following criteria were used to construct a Q-Sort of 90 items:

a) apparent validity; using the factor analysis of the Q-Sort,

b) applicability to the teaching situation,

c) lack of ambiguity,

d) representative sampling of the domain of teacher traits,

e) relevance, both behaviorally and operationally, and

f) non-repetition.

Kerlinger used 36 judges, all with educator status at

different levels of teaching. These judges included professors of education, elementary and secondary school teachers, parochial school teachers and military officer teachers.

In a study by Housego and Boldt (1978), an original item pool of over 100 items was reduced to 60 in a final Q-Sort. The original items were generated by principals, teachers, and student teachers using theory and practical experience. A literature study was also conducted. The original items were examined by four faculty members to ensure validity, resulting in a reduction to a 60 item Q-Sort.

Two Q-Sorts were used by Kerlinger (1972) in a validation study of the structure of social attitudes. One Q-Sort, a 60-item structured sort of liberal and conservative attitudes, had been used previously in a study by Smith (cited by Kerlinger, 1972). The other was called the "Referents Q-Sort" and had 80 items. A number of sources were used to obtain items including treatises on conservatism and liberalism, texts on educational philosophy, newspaper editorials, magazine and journal articles, and existing attitude scales. About 400 referents were chosen from these sources. The resulting Q-Sort of 80 items was used as it appeared to be representative of the attitude domain. No mention was made of the criteria used or of the methods or individuals employed in its construction.

Sontag (1968) constructed an 80-item Q-Sort to measure

perceptions of desirable teacher behaviors. Based on an earlier study by Kerlinger (1956) which logically classified behaviors pertinent to educational attitudes, 175 items were drawn from the literature in four areas: 1) teaching subject matter, 2) interpersonal relations, 3) authority-discipline, and 4) normative-social. Five judges knowledgeable in test construction and educational theory examined the items for validity and clarity. The judges assigned the behaviors to one of four areas. Items rejected were those that could not be classified, were not considered teacher behavior, or were not clear. Twenty items were assigned to each category, giving 80 items in all.

In reviewing some 70 studies using Q-Sort methodology, Wylie (1974) expressed concern over the lack of information regarding item content, and the reliability and validity of Q-Sort studies conducted between 1950 and 1970. Her concern was not that such information and procedures had not been a part of the studies. Rather, Wylie (1974) suggested that direct communication with the authors involved would likely yield such information. The lack, then, appeared to be in reporting the procedures involved in the use of Q-Sort methodology.

In review, then, researchers using Q-Sort methodology have relied upon the following procedures for item selection: 1) examination of instruments of a similar nature, 2) evaluative judgements of persons viewed as "experts" on the subject under investigation, and 3) examination of

related literature. Item pools in the studies ranged from 60 to 90, thus fitting the typical item pool range of 60 to 100 items put forth by Cohen (1976).

In the present study, an examination of instruments of a similar nature was not incorporated into item pool selection because of the non-availability of measures investigating teacher perceptions in relation to teacher decision-making. However, evaluative judgements were solicited from persons considered as having primary knowledge of teacher decision-making. These experts, as described in Chapter III, were either teachers, graduate students in education, researchers in education, or faculty members of education. Finally, an informal check of literature was conducted to determine whether items generated by the aforementioned judges were prevalent in the literature. The item pool produced for the present study consisted of 73 items, thus falling well within the range suggested by Cohen (1976) as being typical of Q-Sort measures.

Reliability and Validity of the Q-Sort

The degree of utility of any instrument is often embodied in the degree to which it can be considered a valid and reliable indication of the quality being measured.

Cronbach (1970) has underscored the importance of the validity of a test by stating that:

> the quality that most affects the value of the test... is its validity. Validity is high if a test gives the

> information the decision maker needs. No matter how satisfactory it is in other respects, a test that measures the wrong thing or that is wrongly interpreted is worthless (p. 121).

The reliability of Q-Sort instruments is often demonstrated through the test-retest method. Test-retest reliability, as the name suggests, is obtained when "the same measuring instrument is applied on two occasions to the same sample of individuals...and the scores [are] correlated" (Ferguson, 1976, p. 427).

Wittenborn (1961) commented that the reliability and validity of Q-Sorts was often not addressed in reports of research using the Q-Sort technique. Wittenborn (1961) highlighted this seemingly indiscriminate use of Q-Sort by stating that:

> if practice alone were considered, one could infer that reliable and valid ipsative distinctions based on a Q-sort procedure are much easier to establish than reliable and valid normative procedures (p. 135).

Wittenborn's comments regarding reliability and validity of Q-Sorts may be quite reflective of the state of the art. For validity, such short-comings may result from the practice of reporting minimal detail on the item pool development. However, it is often the case that information regarding the validity of Q-Sorts often remains unstated in any explicit fashion. Caggiano (1970) was one of the few researchers who attempted to deal directly with both validity and reliability. In her study, Caggiano indicated

that "the validity of the sort was established in the process of its construction" (1970, p. 91), the items used being developed to coalesce with a particular theory. However, Caggiano (1970) was forced to admit that "whether or not the theory itself is valid is the question basic to the whole study" (p. 91).

Retest reliability, used by Caggiano (1970), also was the method selected by other researchers to establish the reliability of the Q-Sort. In a 1966 study, Kerlinger established reliability using the test-retest format. Intervals between tests ranged from one to six months and used 22 of the initial group of 36 sorters. The test-retest correlation for 15 or the 22 sorters was greater than .70 with a range of .45 to .89. The average correlation, using Fisher's Z, was .73. A comparable test-retest correlation of .78 was obtained by Wylie (1961) in a study employing Q-Sort techniques to investigate self-concept.

In Kerlinger's (1972) study of attitudes, two Q-Sorts were used. The Social Attitudes Q-Sort (SAQ) had been used by Smith (in Kerlinger, 1972) and its reliability established at that time. Test-retest reliability of the second Q-Sort was established using eight of the original 33 sorters over periods of one month to over a year. The average retest reliability coefficient for the second sort was .80 with a range from .66 to .91.

In the Housego and Boldt (1978) study, test-retest reliability was established using 10 out of 39 original

sorters after a period of one month. No description is included in the report as to their representativeness in relation to the original sample. The average test-retest coefficient of association was 0.67. The highest and lowest priority items were stable in the retest.

In review, then, reports on the validity of Q-Sorts used by researchers have tended to be sparce. Often, researchers seem to assume validity or require readers of their research to infer validity from their descriptions of item selection. As for reliability, researchers have tended to use the test-retest format. Reliability coefficients reported have ranged from .45 to .91. Mean correlation coefficients for several studies tend to hover at or above .73.

A review of literature related to the Q-Sort revealed that the Q-Sort technique provided an effective means of dealing with the large number of items under consideration. The Q-Sort for the present study, by supplying a constant objective situation, enabled the researcher to examine reactions to the same variables across individual teachers. Therefore, the ipsative nature of the Q-Sort lends itself to the examination of the reactions of individual teachers. The Q-Sort has been acknowledged for its theory building propensities and as an exploratory research tool, both aspects of which appear appropriate in the present study. Finally, although the ipsative data gleaned from a Q-Sort is of value, a statistical distribution results from the sorting of items,

making "it possible to reduce qualitative data like attitudes and beliefs to numbers, thus simplifying their handling and interpretation" (Cummins, 1963, p. 96).

Summary

In this chapter, literature was reviewed pertaining to a framework for teacher decision-making. Components of that framework, in particular teacher predispositions, the objective situation and the teacher definition or perception of these components were highlighted through examples and through the schematic diagram presented in Figure 1.

Essentially, when a teacher is required to define a situation, then that definitional process involves the interaction of teacher predispositions and elements in the objective situation. Presumably by presenting a discrete pool of elements of the objective situation to different teachers, the manner in which teachers perceived these elements would reflect their predispositions. Therefore, an instrument designed to meet such an end would have to lend itself to features such as the hierarchical organization of predispositions and the ipsative quality of predispositions. The Q-Sort seems to be such an instrument.

Therefore, the Q-Sort, as an instrument design, was considered. Literature pertinent to the following issues was examined: a description of the Q-Sort procedure, item selection, problems inherent in its use, advantages in the

use of Q-Sort methodology, and validity and reliability established by researchers using Q-Sort techniques. The appropriateness of the Q-Sort as an instrument design for the present study was also discussed.

CHAPTER III

DEVELOPMENT OF THE ITEM SET

As the instrument being developed was to be comprised of elements of the objective situation in order to ascertain teacher perception of those elements, a pool of items comprised of the elements of the objective situation had to be developed. While broad clusters of elements had been identified in the review of the literature, the item pool developed for the instrument was to be more specific in nature. Apart from the general concepts that emerged from the review of literature, a variety of procedures were utilized to generate items for the instrument. Those procedures, which involved questioning of informants familiar with the teaching situation, were as follows:

1) Three brainstorming sessions were held--one with members of the TSP research group and the other two with two different groups of graduate students--to develop an initial item pool.

2) Items were examined by various members of the TSP research group and interview questions were constructed based upon the items. In depth interviews were conducted with several teachers to ascertain their views on particular elements in the objective situation to confirm item content and/or to determine whether other items would emerge.

3) Items resulting from the aforementioned procedures were evaluated by the author and one TSP researcher who agreed upon a final item set and classificatory system for that set.

4) Items were defined and rated for clarity by seven independent raters. Changes were made in items where needed.

Rationale for Description of Item Generation

Ostrom (1971-1972), in discussing item construction in attitude measurement from a historical perspective, commented that, prior to 1940, researchers in the field of attitude measurement recognized the problems inherent in item construction. However, it was observed that these researchers did little to clarify these problems except to comment on grammatical and stylistic elements, classification techniques, and informal procedures to be considered in interviewing and reading related literature. Ostrom (1971-1972) noted that after 1940, research remained beleaguered by lack of clarification in item construction and development of attitude measures. McKennell (1974) also commented that:

> almost all textbooks, chapters and journal articles dealing with the methodology of attitude measurement stress the statistical basis of test construction, which is becoming increasingly sophisticated, but pay little attention to the principles which ought to guide the preparation of the initial item pool (p. 6).

An examination of texts dealing with social research, such as

those of Blalock and Blalock (1968), Blalock (1970), Davis (1971) and Williamson, Karp, and Dalphin (1977), would lead one to concur that appropriate item pool development is generally not directly addressed. However, some recent works, such as Maclean and Genn (1979) and Clark (1976), attempt to provide insight and detail into the process of item pool generation. The present study, in acknowledgement of the above shortcomings in the description of item pool development techniques, has included a description of the procedures used in the present study.

A Global View of Preliminary Instrument Content

The instrument designed in the present study was to be comprised of elements in the objective situation. The underlying rationale for selection of the objective situation as a focus was that if the objective situation could be kept constant, then teacher perceptions or definitions of the situation would reflect varying teacher predispositions. Literature dealing with the objective situation was reviewed in Chapter Two. That review revealed a common pool of wide-ranging elements as comprising the objective situation. In their simplest portrayal, that pool could be considered as breaking down into three general categories--home, school, and community/society. However, within these three broad categories, researchers tended to have a specific focus which sometimes varied from one researcher to the other.

One category that Dyer (in Ornstein, 1973) considered an important aspect of "surrounding conditions" was that of "conditions pertaining to home." Conceivably, Shavelson and Stern (1981), when talking of information regarding students, incorporated aspects of the home into that concept.

Dyer's (in Ornstein, 1973) "conditions pertaining to the community" would be roughly analagous to the "societal demands" factor discussed by Crocker et al. (1976) and would be in concert with Palmer's (in Wick, 1971) "community factors."

When school factors are considered, researchers tend to view school in a multifaceted manner. Dyer (in Ornstein, 1973) uses the broad concept of school factors whereas elements of the objective situation relating to schools that are considered by Crocker et al. (1976) are much more specific in nature. Some, such as "nature of the curriculum", "time available", and "grouping arrangements" could be considered as being components of what Shavelson and Stern (1981) term the "nature of the instructional task." Others presented by Crocker et al. (1976) such as "class size", "teacher deployment", "classroom characteristics" and "school characteristics" could be considered more related to what Palmer (in Wick, 1971) terms the "school system" elements or what Shavelson and Stern call the "classroom or school environment."

In essence, then, these global elements of the objective situation provide a general idea of instrument content. Through brainstorming and interview procedures such elements

can receive clarification, can be elaborated and can be supplemented by additional concepts which informants familiar with the teaching situation can provide.

Brainstorming Sessions

Brainstorming is a quick effective method of eliciting responses enabling the researcher to see alternate and/or competing points of view. Webster's New Collegiate Dictionary (1980) defines brainstorming as "a group problem-solving technique that involves the spontaneous contribution of ideas from all members of the group" (p. 132). Such a procedure was used with two different groups of graduate researchers and with some members of the TSP.

Session One

The first brainstorming session was with a class of graduate students studying Curriculum and Instruction. The class was given a brief outline of the TSP and a somewhat more detailed explanation of the present study as one facet of the TSP. As most students in the class were experienced teachers, they were able to give first-hand information on the types of considerations involved in lesson planning. No attempt was made during the session to classify the items generated according to commonalities--this was done at the completion of all of the brainstorming sessions.

Session Two

The second session was held with selected members of the research group involved in a different aspect of the TSP. In this instance, since the researchers were already familiar with the overall purposes of the project, a slightly different approach was taken. This group was first asked to bring to mind categories that they felt should be included. Thereafter, each category was examined in turn and ideas freely contributed by group members. Many of the items suggested by the research team proved to be the same as or similar to those of the graduate students. Thus, congruence appeared to exist between the items produced in both sessions.

Session Three

The third session was of a somewhat different nature than the previous two sessions. It was held with a group of graduate students attending an evening class in Educational Administration. This group were told the items that had arisen out of the previous sessions. They were asked to consider them in turn and decide if they should, indeed, be included for consideration in the item pool.

The Emergent Perceptual Framework

Based upon the items that emerged out of the brainstorming sessions, a list of categories was logically derived through content analysis. Each item was written on a separate card and considered independently by two

research teams, one team consisted of the author and one of the principal researchers in the TSP. The other team was comprised of another of the principal researchers of the TSP and a research assistant.

Each item was grouped with cards sharing some similarity. Each grouping of cards was then examined to ensure that the groupings were homogeneous. Two independent classification systems resulted, one of which both research teams selected as having more clarity and being more logical in construction. As can be seen from Table 3.1, the resulting system contained 31 broad categories. This category system was to be further clarified by information arising out of interviews with a sample of teachers. Interview procedures utilized are described in the next section. A re-examination of the resulting components of the category system by the author and one of the principal researchers of the TSP produced the final item set.

Interview Procedures

In constructing any instrument, it has been acknowledged that researchers "are not interested in sampling from anything and everything that might be said....but only from those aspects that are salient....in the common conceptual arena of the population under study" (McKennell, 1974, pp. 21-22). In order to ascertain whether a reasonable sampling of the universe of items of the objective situation had been obtained, it was decided that interviews would be conducted

Table 3.1

Initial Classification of Decision Making Factors Arising Out Of Brainstorming Sessions

1. Audio-Visual Equipment
2. Instructional Methods
3. Approaches to Learning
4. Professional Pursuits
5. Resource Personnel and Back-Up Services
6. Learning and Physical Disabilities
7. Moral Status of Children
8. Scheduling and Other Considerations
9. Total Workload
10. Physical Health of Child
11. Organization--Both Class and School Level
12. Facilities Available
13. Attitudes Toward Motivation
14. Teacher's Personal Ideology
15. Support Organizations
16. Degree of External Influence Especially Home
17. System Related Factors
18. Professional Integrity
19. Student Characteristics
20. External Pressures or Influences
21. Perceived Teacher/Pupil Roles
22. View of Self
23. School Location
24. Evaluation
25. Richness and Availability of the Perceptual Field
26. Philosophy of Learning
27. Zeitgeist
28. Classroom Control Techniques
29. Teacher Characteristics
30. Teacher's Personal Characteristics as Related to Control
31. Student Outcomes

with a sample of teacher-informants. Such a procedure would glean information as to whether or not items from the initial perceptual framework obtained through the procedures outlined in Section One of this chapter were considered to be salient in the teacher's perception or definition of the situation.

Method

The particular interview method selected as providing optimal information was similar to interview procedures outlined in McKennell (1974) and Williamson, Karp, and Dalphin (1977). Interviews were of an open-ended nature so as to bring to light new knowledge of purposes, as well as new information on the relevant facts. Therefore, the interviewer was not to have a preconceived, fixed plan for the interview, but, rather, was to be alert to the necessity for flexibility. That is, although specific questions were constructed, the interviewers were requested to alter the question if necessary (without changing the sense of the question). Williamson, Karp, and Dalphin (1977) describe the flexibility which should be used in conducting interviews as:

> flexibility which enables the interviewer to ask for or give immediate clarification in cases of misunderstandings, probe for additional detail on interesting comments volunteered by the interviewee, defer or rephrase questions producing sensitive reactions from respondents, and achieve many other benefits (p. 191).

Accordingly, the questions for the interviews were formulated in such a way that, should the teacher's response be short and not very explicit, probes were suggested so that the optimum amount of information could be gleaned. How the probes were to be used was left to the discretion of the individual interviewer.

Questions were constructed using the broad classification of 31 categories presented in Table 3.1. Several of the TSP researchers, including one researcher from each team involved in developing the categories, combined their efforts in the construction of interview questions. A series of questions with accompanying probes was developed for each of the 31 categories. Samples of the questions used for interview purposes are included in Appendix A.

Each interviewer was given the sets of questions for six (or in one case, seven) of the categories, as well as the accompanying probes for each. The questions for an additional six categories were given to interviewers to be used if time permitted. The interviews were to be an hour and a half long and were to be held at the teacher's convenience at the end of the school day.

A total of eighteen teachers were interviewed by seven different interviewers. All interviewers were aware of the major theoretical hypotheses motivating the interviews. While no specific training in interview techniques was provided, interviewers were instructed to use probes as needed, keeping in mind at all times that they were seeking

the teacher's perceptions of factors that were important in making decisions in the classroom. Each interview was audiotaped and later was transcribed for analysis purposes.

Results of Interview Procedure

Analysis of interview data revealed that teachers tended to consider many of the factors that the category system presented in Table 3.1 included. However, one particular feature came to light. That feature was that teachers did not consciously take into account as many factors as initially anticipated. Such a finding would be consistent with Azjen and Fishbein's notion (1980) of "salient features" as commented upon in Chapter II. Deutscher (1966) has also noted that verbal reports do not yield valid reports of behavior in that many individuals lack the sophistication to elucidate clearly and exactly what their attitudes are. This apparent failure of most of us to expound on our attitudes should, in no way, be construed as the lack of certain attitudes in the individual. Interview data revealed that system related factors (such as teaching resources, teacher evaluation or administration) were often not taken into account by teachers. Such system related factors may be so routine that teachers no longer perceive them in terms of being influential in the decision-making process. While features which are prominent for a teacher in decision-making have been referred to as salient features, these subliminal features which do not feature as prominently

could be referred to as "latent considerations" on the part of the teacher.

Towards a Perceptual Framework

The category system in Table 3.1 which emerged from the brainstorming sessions received some support from the individual teacher interviews. However, at this point it was decided that the category system should be re-examined to see if a better classification system could be derived. In consultation with one of the principal researchers of the TSP, the author arrived at a listing of items which appeared to contain a representative sampling of the factors that teachers consider in decision making. The resulting list, depicted in Table 3.2, was derived through expanding upon or subdividing into smaller components the categories listed in Table 3.1.

Upon completion of the framework, one final examination was undertaken by the author and the TSP researchers in order to determine whether the item pool which had been developed was inclusive enough or was too broad. Both agreed that the framework was generally satisfactory in that it did not violate either of these concerns. However, some minor adjustments were made to the framework as some constructs could fit in other categories. For instance, the item "nature of the facilities" was omitted from the "organization and administration" items as this item was

Table 3.2

Factors Considered in Teacher Decision Making

System Related			Teacher Knowledge of Theory and Practice	Students	Parents	Self as Teacher	Goals of Education
Teaching Resources	Teacher Evaluation and Accountability	Organization and Administration					
1. Community as a Teaching Resource	1. Evaluation Standards	1. Rules and Regulations	1. Teacher's Knowledge of the Substance of Teaching	1. Values and Attitudes of the Student	1. Interest of Parents	1. General Physical Characteristics	1. Knowledge
2. Students as Teaching Resources	2. Formal Evaluation of Teacher Performance	2. Allocation of time (scheduling)	2. Knowledge of Characteristics	2. Family Background of Student	2. Level of Sophistication of Parents	2. Teacher Abilities	2. Problem Solving
3. Parents as Teaching Resources	3. Methods of Evaluating Teachers	3. Student Evaluation Procedures	3. Teacher Knowledge of Evaluation Procedures	3. Sex of the Student	3. Parents as Tutors	3. Teacher's Personal Characteristics	3. Socialization
4. Student Teacher as a Teaching Resource	4. Evaluation Criteria	4. Allocation of Physical Facilities	4. Teacher Knowledge of Classroom Grouping Procedures	4. Peer Relationships of the Student		4. Teacher's Values and Attitudes	4. Enculturation
5. Specialist Personnel Hired by School Board as a Teaching Resource	5. Informal Evaluation of the Teacher	5. Bussing*	5. Teacher Knowledge of Motivation	5. Student Ability		5. Teacher's Own Home Family and Community Commitments	5. Self-expression
6. Physical Resources Available in the School		6. Location of the School*	6. Teacher Knowledge of Classroom Management Techniques	6. Achievement of the Student - Content Specific - Mastery			6. Recreation or Avocation
7. Special Programmes which the School Offers—Another Form of Teaching Resources		7. Grouping	7. Teacher Knowledge of the Process of Teaching	7. Personality of the Student			7. Personal Growth of a Child
		8. Nature of the Facilities	8. Teacher Knowledge of the Structure of Curriculum	8. Self-concept of the Student			8. Motor Skill Development
		9. Legal Liability*		9. Religion of the Student			9. Moral Development
		10. Curriculum*		10. Attendance of the Student			10. Creativity
		11. The Physical Makeup of School*		11. Student Interests			11. Self-learning
		12. Streaming*		12. Preferred Learning Style of the Student			12. Attitude toward School
		13. Religious Affiliation of the School*		13. Preferred Schedule of Subjects			13. Religion

* Fixed ——— Non-fixed

sufficiently described in such items as "physical resources available in the school" and "physical make-up of the school". An additional item of "physical resources available in the classroom" added to the specificity of items dealing with facilities in the school. The item on "teacher interests" was omitted as it was subsumed by various other items. Two clarifications were made: 1) streaming was divided into two items--streaming during the school year and streaming prior to the school year, and 2) curriculum was divided into the "curriculum of the school" and the "Department of Education Curriculum". The final listing comprised of seventy-three items.

As a final step in the creation of the item pool, the seventy-three items were each written on separate cards with accompanying descriptors to clearly show their meanings. Seven members of the TSP research group independently rated each item with its adjunct descriptor. The researchers were asked to rate the cards as to their clarity or ambiguity. Specific directions given to the raters are included in Appendix B.

The majority of cards were rated as having adequate clarity. Appropriate changes were made on the remaining cards until they were judged sufficiently clear. The item descriptors resulting from this procedure are presented in Table 3.3. The items and descriptors presented in Table 3.3 comprised the final set of items used in the construction of

Table 3.3

Decision-Making Factors: Final Items and Definitions

1. Creative thinking as a goal of education

   --The student strives to discover new solutions to problems, to see new relationships, or to find new modes of artistic expression. He tries to discover new and better ways of achieving goals. His thinking brings into existance something which is new for society or at least for himself.

2. Student's preferred schedule of subjects

   --The time of day that students prefer to be taught the various subjects. The sequence in which they prefer the subjects to be taught.

3. Special Programmes which the school offers--a form of teaching resources

   --These programmes would include such things as clubs, e.g., chess, drama, or special afternoons where the school is involved in craft or hobby activities.

4. Physical resources available in the school

   --The use of any resources outside the classroom, but in the school, e.g., a gymnasium, library, stage in auditorium.

5. Teacher's knowledge of the process of teaching

   --The different methods and techniques that the teacher can use while teaching, and the situations for which they are most effective.

6. Special talents of the teacher

   --The teacher's own particular talents, e.g., music, drama, physical education, chess.

7. Teacher's own home, family and community commitments

   --Those factors which the teacher must deal with which are external to the school but which are related to decisions which must be made during the school day, e.g., having to drive a considerable distance to work, dropping off own children at school and picking them up again.

Table 3.3 (cont'd)

8. Allocation of time--scheduling

   --The way in which the timetable is devised and consequently the level of prescribed use of teacher time including the extra duties to which the teacher must attend.

9. Streaming--prior to beginning classes

   --The placement of students in classes according to academic ability based on previous year's work.

10. Rules and regulations

    --This refers to all rules, board, school, classroom, including the set for teachers and the set for students.

11. Religion of the student

    --The religion of the student

12. Parents as a teaching resource

    --The use of parents, e.g., as teacher aides, to provide transportation for field trips, to help with extra-curricular activities.

13. Department of Education curriculum

    --The programme of studies recommended by the Department of Education.

14. Informal evaluators of the teacher

    --Those persons whose opinion is valued by the teacher even though they are not evaluators, e.g., fellow teachers, friends, students, and parents.

15. The community as a teaching resource

    --The use of local residents to tell about their work and experience or help students in activities. Visiting local facilities, e.g., the fire station, a farm, an ice cream factory.

16. Motor skills, development as a goal of education

    --The student's continuing development of fine and gross motor coordination.

Table 3.3 (cont'd)

17. Ability of the student

--Those powers possessed by an individual. Certain aspects of one's total being which characterize his capacity to do. Can be physical, mental or social; inherited or acquired; general or special. It implies that the task can be done now without further training.

18. Knowledge of the characteristics of the community

--The teacher's knowledge of the local community obtained through formal or informal study of the community through home visits, etc. Knowledge of the type of employment of the area, the nature of communications, general attitudes and values which are evident and the predominant religion.

19. Teacher abilities

--Activities or endeavours in which the teacher possesses a high level of proficiency, e.g., the ability to teach well, the ability to establish healthy interpersonal relationships.

20. Location of the school

--The actual site of the school relative to the homes of the students, teachers, and non-school resources which could be used in teaching.

21. Instructional criteria used to evaluate teachers

--Instructional variables considered in the evaluation of the teacher, e.g., teaching methods, student academic performance.

22. Religious affiliation of the school

--The religion associated with the school in which the teacher is employed.

23. Parents as Tutors

--Parents may provide help for children at home on school assignments.

24. Self-expression as a goal of education

Table 3.3 (cont'd)

--The student is spontaneous in his dealings with the teacher and other students. He is able to form and express his own opinions.

25. The students as teaching resources

--The use of students, e.g., helping each other as tutors, telling the class about special interests.

26. General physical characteristics of the teacher

--Physical characteristics which may influence classroom methods, e.g., stature of the teacher, teacher's ability to project the voice, teacher's energy level, physical handicaps such as poor eyesight or hearing.

27. Teacher's knowledge of classroom grouping procedures.

--The teacher's knowledge of grouping pupils to optimize learning different subjects.

28. Teacher's knowledge of motivation

-- The techniques the teacher can use to foster and maintain interest in subject matter and keep the students working on assigned tasks.

29. Formal evaluators of teacher performance

--Those persons perceived to have a direct and formalized input into the evaluation of teachers, e.g., the principal, supervisors and superintendent.

30. Student evaluation procedures

--Methods and procedures that the teacher is required by the principal, school board, or Department of Education to use to evaluate students.

31. Independent learning as a goal of education

--The student has the ability to make independent decisions and initiate and organize his own learning activities. The student is self-directed or trying to be so.

32. Personal orientation of the teacher

--Characteristics of the teacher as a person, e.g.,

Table 3.3 (cont'd)

liking for structured or nonstructured situations, tolerance level of noise, or distractions, need for the approval of colleagues and students, ability to keep one's temper, ease of establishing personal relationships.

33. Teacher's knowledge of classroom control techniques

--The means which the teacher can use to control the behavior of the class. The situations in which different methods of control are most effective.

34. Legal liability of the school system

--Laws or prescriptions which imply or fix responsibility for the safety of the child, or protect the civil rights of parents and children.

35. Student's attendance in school

--The amount of time the students are absent from school; the patterns of absence.

36. Achievement of the student

--The acquired knowledge of the student. Their past record of academic attainment.

37. Personality of the students

--Personality being the combination of the physical and mental qualities, ideals, aspirations, ambitions, aptitudes and interests that characterize a person, e.g., leadership, shyness, aggression, activity level.

38. Teacher's knowledge of evaluation procedures

--The procedures for student evaluation which can be used, the ways in which they are used and the situations for which they are most effective.

39. The physical make-up of the school

--Eg., fixed or moveable walls, type of floor covering, size of rooms, fixed or moveable desks, location of washrooms, location of cloakrooms.

40. Scheduled transportation to and from school

Table 3.3 (cont'd)

--Some or all of the children are transported to and from school on a prescribed schedule, e.g., bussing, parent transportation.

41. Interest of parents

--The interest that parents show in the education of their children. This may manifest itself in P.T.A. meetings or Education Week attendance, also in notes or telephone enquiries to the teacher.

42. Recreation or avocation as a goal of education

--Developing the awareness in the student of the multiplicity of leisure and recreation activities which are available. Teaching skills that will be useful in leisure time activities.

43. The teacher's preferred schedule

--The time of day or sequence that the teacher most prefers to teach various subjects.

44. Allocation of physical facilities

--The procedures followed to assign the use of a particular resource to a teacher, e.g., scheduling the use of the library or gymnasium.

45. Methods of evaluating teachers

--The procedures used to evaluate teachers, e.g., classroom visitations, examination of student work, conference with administrators, peer review.

46. Preferred learning style of the student

--The teaching methods which seem to be most suitable to the students; those which the students seem to prefer compared to other possible methods.

47. Level of understanding of parents

--The level of understanding of the parents about the educational process.

48. Grouping

--Procedures actually followed to divide the class of

Table 3.3 (cont'd)

children into smaller groups, e.g., the children are grouped in ability, achievement, interests or the friends they have in common.

49. Non-instructional criteria used to evaluate the teacher

--Those non-instructional variables considered in the evaluation of the teacher, e.g., the level of discipline in the classroom, the teacher's preparation in extra-curricular activities, rapport with parents.

50. Knowledge as a goal of education

--Knowledge in this sense referring to teacher taught facts and learning of content.

51. Family background of the student

--The student's family; the experience and stimulation provided by the family in their conversations, reading habits, aspirations for the children and models they provide.

52. Teacher's knowledge of the substance of teaching

--Knowledge of the academic areas which are being taught, e.g., reading, mathematics, social studies.

53. Values and attitudes of the students

--The beliefs held by the students, e.g., their morals, their attitudes toward work.

54. Students' interests

--Special activities or subject matter preferred by students.

55. Specialist personnel hired by the school board

--The people who provide ideas, give direction, help individualize instruction or provide in-service training sessions to enhance the professionalism of the teacher.

56. Religion as a goal of education

--Teaching the beliefs, values and attitudes of the religion of the student.

Table 3.3 (cont'd)

57. Moral development as a goal of education

-- The development of socially acceptable attitudes, e.g., helping others, taking responsibility, justice, including honesty and fairness.

58. Teacher's values and attitudes

--The beliefs and ideals held by the teachers, e.g., their moral standards, their views about minority groups.

59. Enculturation as a goal of education

--Teaching the skills, arts and mores of the country and region in which the students live.

60. Teacher's knowledge of the structure of the curriculum

--The various ways that subject matter can be sequenced in its presentation to the students, e.g., the order in which social studies units or math units can be presented to facilitate learning.

61. Personal growth of the child as a goal of education

--Developing the 'whole' child, maximizing all his potentials so that he will be physically, emotionally, and mentally healthy.

62. Socialization as a goal of education

--The students learn to interact well with others with obvious signs of thoughtful, courteous, and considerate behavior toward them.

63. Preferred teaching styles (approaches)

-- Those teaching approaches with which the teacher feels most proficient and confident when teaching in the classroom.

64. Self-concept of the student

--The picture an individual has of himself along with his evaluation of this picture.

65. Student teachers as teaching resources

- Teachers in training who work under the direction of

Table 3.3 (cont'd)

the teacher, e.g., bringing new ideas from the university.

66. Problem-solving as a goal of education

--Learning to apply previously acquired knowledge to new situations.

67. Preferred teacher/pupil relationship

--The type of interpersonal relationship with which the teacher feels most comfortable, e.g., some teachers prefer working with small groups of students, some teachers prefer to teach the class as a whole.

68. Sex of the student

--The student's gender; male and female.

69. Peer relationships of the student

--The social structure of the classroom; levels of acceptance of students by other students; the social roles played by students in the classroom.

70. Attitude toward school as a goal of eduation

--The student enjoys coming to school and views school as an important and useful activity.

71. Physical resources available in the classroom

--Those resources which are available for the use of either the teacher or students, e.g., class library, tape recorder, record player.

72. School curriculum

--The programme of studies which is planned at the school level and supervised by the principal.

73. Streaming--during the school year

--The modification of the original placement of students as the perogative of the teacher and the principal.

an instrument investigating teacher predispositions in the process of teacher decision-making.

Content Validity of the Item Set

Content validity may be determined by examining the instrument designed in relation to the following question: "Do the observations truly sample the universe of tasks or the situations they are claimed to represent?" (Cronbach, 1970, p. 123). In the present study, several efforts were made to ensure that the item pool developed had content validity. Item pool generation involved the solicitation of items from persons involved in many differing facets of the educational process. These persons included teachers not involved in academic up-grading, teachers undertaking graduate work in education, educational researchers, and members of the Faculty of Education. The items thus developed were examined to determine whether they contained a representative sampling of factors related to teacher decision-making and, were judged as being a representative sampling.

Construct Validity of the Item Set

Construct validity can be defined as "the accuracy with which a measure reflects a hypothesized variable when there is no better measure of the variable to use as an ultimate criterion" (Achenbach, 1978, p. 78). Henerson, Morris, and

Fitz-Gibbon (1978) indicated that a preliminary step to demonstrating construct validity is that of producing an exacting definition of the constructs being studied. In other words, the first step in construct validity requires a logical description of the construct in terms of its components and the logical relationships expected between components. That description was provided by the review of literature dealing with teacher predispositions, the objective situation, and the definition of the situation which was presented in Chapter Two. A further delineation of the components of the objective situation was presented through brainstorming and interview procedures described in the present chapter.

The next step in construct validation requires an examination of "the extent to which some useful concept is being measured. What we have to validate is the correctness of our interpretation of the measure in terms of the concept" (McKennell, 1974, p. 35). In other words, there must be an empirical demonstration that the logic of the measure holds up. Logically, the components of the definition of the situation are the elements of the objective situation, structured according to a hierarchy which is unique to the individual, depending upon the individual's predispositions. Empirically, then, construct validity may be demonstrated firstly because the content validity has been demonstrated and secondly because the scaling procedure used in the Q-Sort forces the individual to establish a hierarchy.

Summary

This chapter examined the development of specific items for inclusion in an instrument investigating teacher predispositions in relation to the teacher decision-making process. A rationale for the inclusion of a description of this process was presented because of the traditional omission of the nonstatistical parameters of item pool development in research reports on the development of attitude measures. A description of the chief methods of eliciting and generating items was reported. These methods consisted of brainstorming sessions, examination of items by researchers affiliated with TSP, and interviews with teachers. Items were defined and definitions were rated as to their clarity. These procedures ultimately culminated in the derivation of a perceptual framework consisting of some 73 items with accompanying definitions. The item set thus derived was considered in terms of content and construct validity. Procedures outlined in the preceding and present chapter indicate that both content and construct validity were adequately demonstrated.

CHAPTER IV

RELIABILITY STUDY

The reliability study for the instrument was preceded by a small pilot study. The pilot study is described in the first section of this chapter. The actual reliability study is then described in terms of sample characteristics, procedure and analysis of results.

Pilot Study for Q-Sort Instrument

As the item set for the Q-Sort had already been derived, the final form of the instrument was prepared. The items with their accompanying descriptors were written on separate cards. The final distribution form was agreed upon by the author and one of the TSP researchers as being a quasi-normal distribution with the 73 cards being sorted as outlined in Figure 2.

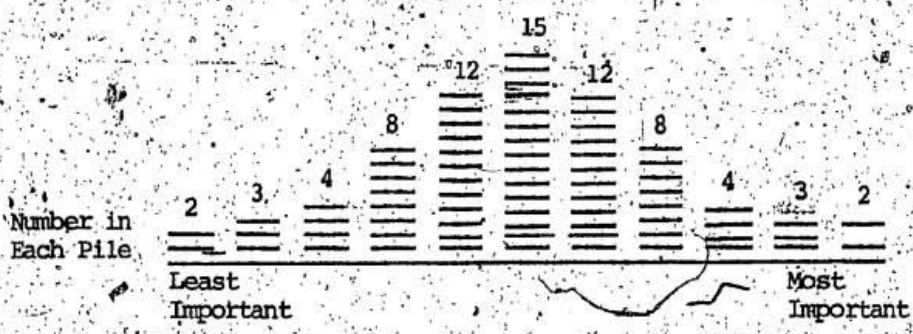

Figure 2. Distribution of Q-Sort Items.

A Q-Sort record form was prepared (see Appendix C) and four different sets of instructions were agreed upon by the author and the TSP researcher (see Appendix D). A pilot study was then conducted to determine the approximate amount of time needed to complete the sort and whether the directions were clear and that there were no ambiguities.

A group of five graduate students volunteered for the pilot sort. The session proved to be quite successful. Since no changes had to be made in the directions, they were judged to be sufficiently clear by all sorters. The average completion time for the sort was forty-five minutes.

Reliability Study

Sample

Forty-six teachers enrolled in two summer school classes and taking a course required for a Bachelor of Education degree were selected by the examiner as being representative of a cross-section of teachers throughout the province of Newfoundland and Labrador. They were judged to be suitable as the group met the following criteria:

a) both men and women were represented;

b) various age groups were represented;

c) all participants had teaching experience;

d) participants came from all parts of the province; both rural and urban;

e) various religious denominations were represented.

Procedure

The general instructions for the Q-Sort were the same for all forty-six participants,

1) The general instructions dealt with the mechanics of the sort, and indicated to the participants that sorting was to be on a basis of most important to least important elements of the objective situation at a particular moment in time. Participants were given one of four different situations to respond to in the sort.

2) The specific situation then is a specification of the objective situation in that it fixes, for the teacher, the particular time frame, or increment to which he or she must respond. The four situations were designed to capture the objective situation at four different times, therefore four different feedback conditions.

Although it had been originally intended that each situation would have the same number of participants, this proved to be impossible because of sample attrition and logistic concerns. The number of participants in the Situation One Q-Sort was 13, in the Situation Two Q-Sort was 11, in the Situation Three Q-Sort was 12, and in the Situation Four Q-Sort was 10. The total number of students was originally 49. Since all students in both classes were to be included, the numbers for each situation were to be 13, 12, 12, 12.

The following materials were given to all participants:

a general set of instructions, a record sheet, a foldout sheet to accommodate all the cards, a set of cards, and one situation of the four upon which to base their response. Sorters were required to complete the sort on two occasions, with a one week interval between tests.

The resulting sort was analysed in terms of the stability of individual teacher rankings, the stability of a specific item for a particular group of teachers and the stability of the items themselves. To this end the following procedures were completed: 1), correlation coefficients for each teacher's test - retest were compiled; 2), the resulting correlations for each teacher were averaged, using Fisher's z, to determine the mean test - retest correlation; 3), the mean test - retest correlations for item rankings in each of the four different sorting situations was calculated using Fisher's z, and comparisons made through the analysis of variance procedure; and 4), rankings of individual items were averaged and the correlation coefficient for mean item rankings was calculated.

Analysis

In examining the consistency of individual teachers in the ranking of items from Time 1 to Time 2, a frequency distribution of the correlations for each teacher was constructed (see Table 4.1). The correlation of item rankings for the teachers ranged from .31 to .82 with an average correlation of .64.

Table 4.1

Frequency Distribution of Correlations of Teacher Rankings on Two Occasions (Grouped Data)

Score Interval	Frequency
.30 - .35	1
.36 - .40	4
.41 - .45	2
.46 - .50	5
.51 - .55	1
.56 - .60	6
.61 - .65	4
.66 - .70	9
.71 - .75	8
.76 - .80	3
.81 - .85	3

Although the studies reviewed regarding the reliability of the Q-Sort did not provide specific information as to the exact distributions of teacher ranking of items, other information was provided. For instance, both Kerlinger studies (1966, 1972) report the ranges of the correlations obtained. In one instance (1966), the coefficients ranged from .45 to .89, while in the other (1972) the range was from .66 to .91. The range of .31 to .82 in the present study, therefore, indicated that there was considerable variability from teacher to teacher in terms of item rankings. That is, some teachers ranked both tests fairly consistently while others were less consistent. Possible explanations of the variability among teachers could lie 1) in the instrument itself, 2) in the individual teacher, 3) in the fact that the teachers knew that they would be asked to do a re-test, therefore, lacked enthusiasm in the second try, and 4) in the time limits set upon both sorts.

The average correlation of .64 was acceptable when considered in relation to the correlation coefficients obtained by other researchers. Kerlinger achieved a mean test-retest correlation coefficient of .73 in 1966 and .80 in 1972. Such correlations were the result of test-retest procedures being implemented at a one month or greater interval. Other test-retest correlation coefficients in the research literature using Q-Sort would be that of Housego and Boldt (1978) who obtained an average reliability coefficient of .67 and Caggiano (1970) who obtained an

average correlation coefficient of .91.

Although the present test-retest reliability coefficient falls at the lower end of the range of reliabilities reported by researchers, it appears to fall within fairly acceptable limits, especially when considered in terms of the use of the instrument. The coefficient of .64 is the average test-retest reliability to be expected for a teacher. Kelley (1927) offers the following guidelines for minimum reliability requirements:

(a) To evaluate level of group accomplishment--.50

(b) Evaluate differences in level of group performance in two or more performances--.90

(c) Evaluate level of individual accomplishment--.94

(d) Evaluate differences in individual accomplishment in two or more performances--.98

Using Kelley's criteria, it is clear that the measure would be useful in evaluating "level of group accomplishment" in research, but otherwise would not be considered satisfactory.

To assess the stability of a specific item for a particular sorting situation, the correlations of item rankings were obtained for each of the four sorting situations. As can be seen from Table 4.2, the average correlations for different sorting instructions proved quite similar to each other and to the average test-posttest correlation of .64. As seen in Table 4.3, the differences when examined using analysis of variance did not prove to be significant ($p = .05$). This lack of significant

Table 4.2

Averages of Teacher Correlations for Different Sorting Instructions

Situation	N	Mean Z_r	Variance Z_r	$\bar{R}$
1	13	0.78198	0.04076	0.65384
2	11	0.74286	0.04366	0.63087
3	12	0.80413	0.05689	0.66634
4	10	0.66218	0.06542	0.57981
Total	46	0.75235	0.05036	0.63655

Table 4.3

Analysis of Variance for Differences in Mean Fisher's $\bar{R}$ for Different Sorting Instructions

Source	DF	SS	MS	F
Between	3	0.12591	0.04197	0.825
Within	42	2.14029	0.05096	

differences under different sorting situations suggests that similar levels of test-retest reliability can be expected even when the sorting situations differ.

To examine how teachers ranked individual items as a whole, the means for each item for Time 1 and Time 2 were calculated (Appendix E). Figure 3, illustrates in graphic form the variability that existed among items between the test and retest. In Figure 3, a linear relation is clearly perceptible. Under conditions of perfect stability of test and retest mean item rankings, the data points would be on a straight line. The data points actually deviate from this straight line very little. The correlation between test and retest of the mean item rankings on the test and retest was 0.98, suggesting a high stability for mean item rankings from Time 1 to Time 2.

This finding contradicts, in some respects, the conclusion previously formed by applying Kelley's (1927) criteria to the average test-retest reliabilities. The conclusion can apply only to mean item rankings for groups of teachers; therefore, it would be most appropriate to apply Kelley's criteria for individuals. However, the test-retest correlation of mean item rankings of .98 meets Kelley's requirement for making comparisons, in this case, of group performance over two or more performances.

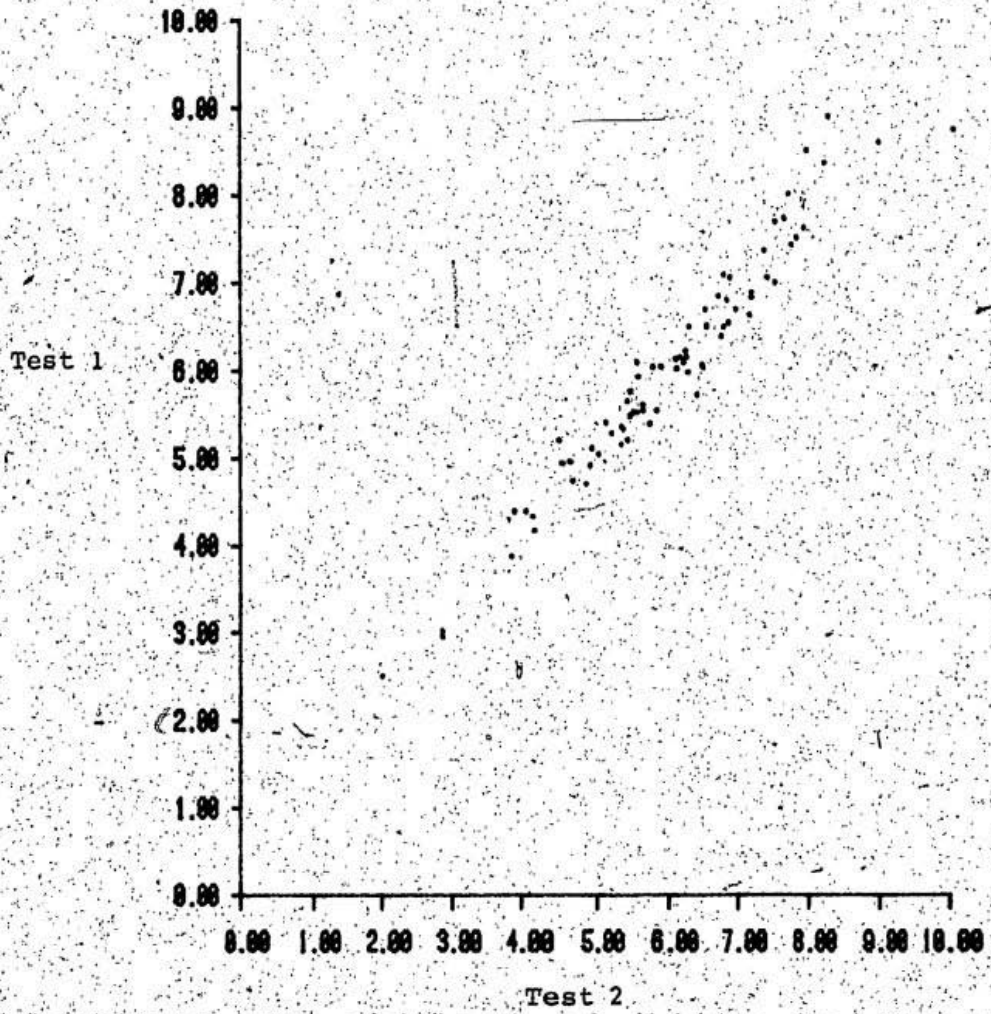

Figure 3. Correlations of the mean item rankings of the test and retest

Summary

In this chapter, the pilot study for the reliability study of the instrument was described. As well, sample characteristics and procedures for the reliability study of the instrument were described. The test-retest correlation coefficient was .64, a correlation which compares somewhat favourably with correlation coefficients established by other researchers using Q-Sort and for some uses as described by Kelley (1927). It was also concluded that the mean reliability did not vary significantly for different sorting instructions. A consideration of the test-retest correlation of mean item rankings indicated that the instrument would be useful in comparing group performance on different occasions.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study was designed to examine the factors that teachers consider when making classroom related decisions. An instrument was developed to determine those factors which teachers perceive to be most and least important in the planning situation. To this end, the research literature was reviewed so as to arrive at a theoretical basis for the construction of such an instrument. Out of the literature review arose a conceptual framework for viewing the teacher decision-making process. That framework was considered as consisting of the components of teacher predispositions, the objective situation, and the definition of the situation.

Through the process of item development, an item set was developed which was considered as being composed of the factors which teachers, researchers, and graduate students of education considered as being pertinent to the decision-making process. That item set essentially was considered as comprising a hypothetical objective situation which included all elements of the teaching situation that might be considered by teachers to be important to their decision-making.

Literature was then reviewed to ascertain the appropriate-

ness of a Q-Sort in the present study. The cards in the sort represented a fixed objective situation. By the presentation of differing sorting instructions (teaching situations) the predispositions of the teacher could be considered as interacting with the objective situation. This interaction would be how the teacher defined the teaching situation as described by the cards and sorting instructions. The actual sorted order of the cards would represent the teacher's definition in terms of a hierarchical presentation of the elements of the teaching situation.

Since all teachers had to deal with the same objective situations (deck of cards), teacher differences in the definition of the situation would be revealed in the different ways that the teachers sorted the cards.

As one step in instrument construction, validation and reliability procedures were undertaken. The instrument was considered as having construct and content validity. Such validity was established primarily as a result of the stringent procedures used in the construction of the initial item pool for use in the instrument.

A test-retest reliability procedure was used to establish the reliability of the instrument. A sample of 46 summer school students, all of whom had a minimum of two years of teaching experience, were required to complete the sort on two occasions separated by a one week interval. The sample was considered as representing both sexes, all ages, and rural and urban teachers. An average test-retest

correlation of .64 was found for the measure. This compared favourably to average test-retest correlations of .67 to .78 reported by Kerlinger, etc. It was concluded that the instrument would have adequate reliability when examining the performance of groups of teachers drawn from the same population as the sample used in this study.

Reliability was also examined by investigating the test-retest correlations that existed for the four sets of sorting instructions. No significant differences were found to exist between the test-retest correlations of the four situations or the total test-retest correlation.

Limitations

The following are limitations which must be considered when reviewing the present study:

The findings of the study are limited to the data received from teachers in Newfoundland, teaching Kindergarten to Grade Eight.

The responses of the teachers were reactions to a hypothetical pencil-and-paper situation. Teacher reactions may differ in the real life setting. This limitation is one of format. However, it should be noted that use of a real life setting would not be able to be replicated and is therefore just as limited.

Despite attempts to exhaust the universe of items by

employing a variety of procedures for generating items for inclusion in the instrument, it is recognized that the result of these efforts comprises one possible set of items. Variations may have occurred had different people been used in the item generation procedures.

Rankings of the elements in the hypothetical objective situation do not provide direct access to teacher cognitions and feelings. Therefore, care must be taken in the interpretation of such rankings.

Teachers participating in the sort were not given the option of not participating, as the activity involving the Q-Sort procedure was part of an undergraduate class session. Although no concerns were voiced during the procedures, the lack of choice may have been an influence on the reliable completion of the Q-Sort.

The sort occurred during class time and therefore time restrictions must be considered as another possible influencing variable upon reliability. Items may have been sorted differently had there been no time limit restrictions.

The sample, though representative of the province in terms of sex, age, teaching experience, rural/urban teaching areas, and various religious denominations, included only teachers who had not yet completed their Bachelor of Education degree. This may have had some influence. Therefore the sample is not representative of students completing degrees elsewhere or of students who have completed higher degrees.

In the author's judgement, the differences in reliabilities of this instrument which might be found in other populations of teachers in the province is likely to be small.

Recommendations for the Use of the Instrument

Given the hypothesized, theoretical relationship that teacher behavior has its basis in the teacher definition of the situation, the basic use of this instrument in research would be to link teacher definitions of the situation and teacher behavior. This has heretofore been regarded to be a difficult research task by many researchers (Henerson, Morris and Fitz-Gibbon, 1978).

Second, Q-methodology applied to data generated with the instrument could be useful in identifying generalized typologies of teachers characterized by similarities in the hierarchical assignment of elements in the definition of the situation. It would be predicted that teachers so identified would behave similarly. The ability to identify teacher types with predictable behaviour would permit experimental research to test the efficacy of teacher training in different skill areas with different types of teachers. It would also permit the testing of procedures to alter teacher predispositions, and to determine which predispositions were most desirable to achieve specified teacher behaviour outcomes.

The basic use of this instrument in research would be to link the teacher definition of the situation and teacher behaviours, given the theoretical relationships which has been hypothesized to exist between the two; that is, the assumption that teacher behaviour has its basis in the teacher definition of the situation. An interesting study could be generated to study the nature of saliency changes with changes in the teaching situation.

Of particular concern to the study of teaching would be an investigation into the differences found in the saliency of items in short term or immediate teaching situations as compared to long-term planning situations.

Conclusions

The instrument constructed in the present study could be a useful tool as it attempts to examine factors important to teacher decision-making. The sorting procedure allows the sorter the freedom to rank items as one might when actually attempting to make a decision. While the instrument, in some senses, parallels the process, further research will be necessary to determine the relationships that the instrument has to real life. Nevertheless, the construction of the present instrument should be a step towards augmenting further research of some of the subliminal processes that have an impact in the classroom setting.

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APPENDICES

APPENDIX A

Samples of Interview Questions

Approaches to Learning

1. Do you think it important to give the children a considerable amount of direction in the classroom?
   e.g. Is the teacher - (i) traditional
   (ii) progressive
   (iii) leaning towards an open classroom

2. Do you disclose yourself to students?
   e.g. What kinds of things might you talk about informally with students who might volunteer to help you at lunchtime?

3. In planning a lesson, how do you consider motivation?

4. What's the relative emphasis on giving information vs. discovery learning?
   Probe:
   - subject matter/challenging the student to find out
     emphasis /things for themselves, e.g. think
   - seeking student ends/seeking own ends
   - conformity/spontaneity

5. Do you teach by integrating subject matter? How much?

Resource Personnel and Back-up Services

Now I'd like to get some idea of the ways in which you work with other adults.

Probe for:

remedial teacher - available?

counsellor - is there one?

if yes - how useful? why?

if no - do you feel there should be one? why?

the principal how?

Question - Given a free choice, do you prefer to work and plan independently or do you like to plan with another or other teachers?

Do you know what other teachers are doing at the present time?

Probe for:

- nature of cooperation (planning jointly, teaming, etc.)
- extent of cooperation (pairs? larger groups? how much of the time)
- is attempt being made to extend interactions? or are they diminishing?

Moral Status of Children

To what extent do you feel that teachers are responsible for the moral development of the child?

To what degree do you feel that children should take responsibility for their own actions?

Probe for:

- decision making
- self discipline - to what degree are children responsible for their own self-discipline?
- what responsibility does the child have for formulating his own values (does teacher impose own values or is child capable of developing his own value system)

System Related Factors

To your mind, what are the major concerns of the teaching staff at the present time (i.e., what is being discussed at staff meetings or informally in the staffroom)?

Probe for:

- school policies, requirements or regulations that interfere or conflict in major ways with the teaching process
- the ways they interfere
- does an individual teacher have any influence in the changing of policies
- school policies which are helpful and supportive of teacher's efforts
- attitudes towards consultants
- peers - helpful?
- supervisory style of consultants, principal, etc.
- type of evaluation procedures. Summative or formative (and so on)
- attitudes of the administration to you personally, to your subject, to your methods
- restrictions in stipulated curriculum
- scheduling procedures (such as streaming and teacher allocation)
(such as time restraints)

Attitude to Work

What aspects of your work do you find challenging?

Do you find any aspects of your work monotonous. If so, what are those aspects?

How do you keep your interest level high day by day?

External Pressures or Influences

Do you take into account influences or pressures on your teaching approach when you are planning your lessons?

Probe for:

- perception of teachers mis-allocation--do you feel you are in the best position relative to your qualifications and abilities?
  If so, why? If not, Why not?
- do you take into account when vacations or statuatory holidays are scheduled.
- do you bear in mind your job security and such factors as denominational restrictions, accountability, redundancies and hiring practices of school boards when planning
- do you consider the question of legal liability when you are planning
- financial restraints
- physical characteristics of the classroom/school/community
- socioeconomic characteristics of the community and the student clientele.

(In each case the interviewer should seek exemplification where necessary)

View of Self

1. Of teachers you know, are there any you consider to be outstanding teachers? Would you describe one for me?

   Probe for outcomes in light of what is said

2a. Can you tell me some of the things that have made you feel good at the end of the day?

2b. Think of some of the activities that you did today. Which ones did you feel particularly good about?
   (If not today - yesterday, etc.)

3. What do you feel are some of your personal strengths and weaknesses in teaching?

4. Would you try to explain to me what you try most to achieve as a teacher? What are you really trying most of all to do?

5. What are the major ways in which you tell whether you are doing the kind of job you want to do? What do you watch as an indication of your effectiveness?

Philosophy of Learning

1. What is your personal philosophy of Education? How would you define education?

   Probe:

   - imparting knowledge
   - helping the child to be a well adjusted member of society

   How would you define a successful teacher?

   Probe:

   - one who covers the subject matter
   - one who considers the whole child in planning

   Do you consider personality development of the child an outcome of education?

   Probe:

   - do you live and let live
   - do you consciously influence the child
   - do you allow child to make his own decisions etc. etc.

2. What methods of control do you use in the classroom? Why?

   To what degree do you feel that children should have the freedom to move around the classroom?

   Probe:

   - open classroom
   - corporal punishment
   - ridicule
   - movement, etc.

3. Are text books important in planning your lessons?

   Probe:

   - to what extent do you use other literature, film strips, etc.
   - to what extent do you use other pupils

Teacher Characteristics

How do you feel your own characteristics affect your teaching and your relationship with your students?

Probe for:

- how she feels her personality traits affect her teaching
- how energy level and amount of sleep affects teaching process
- degree of self confidence and importance placed on this factor
- impact of lifestyle, marital status and family
- how she feels her level of education affects her teaching performance

What are some other characteristics or traits that you have to contend with?

APPENDIX B

Instructions to Raters

Instructions to Raters

Rate these descriptors according to the following criteria using the appropriate letter (A, B, C):

A. -- I believe I know exactly what this means

B. -- I think I know what it means, but I'm not sure

C. -- I'm confused by the meaning of this; it is completely ambiguous.

1. _____	16. _____	31. _____	46. _____	61. _____
2. _____	17. _____	32. _____	47. _____	62. _____
3. _____	18. _____	33. _____	48. _____	63. _____
4. _____	19. _____	34. _____	49. _____	64. _____
5. _____	20. _____	35. _____	50. _____	65. _____
6. _____	21. _____	36. _____	51. _____	66. _____
7. _____	22. _____	37. _____	52. _____	67. _____
8. _____	23. _____	38. _____	53. _____	68. _____
9. _____	24. _____	39. _____	54. _____	69. _____
10. _____	25. _____	40. _____	55. _____	70. _____
11. _____	26. _____	41. _____	56. _____	71. _____
12. _____	27. _____	42. _____	57. _____	72. _____
13. _____	28. _____	43. _____	58. _____	73. _____
14. _____	29. _____	44. _____	59. _____	
15. _____	30. _____	45. _____	60. _____	

APPENDIX C

(Q-Sort Record Sheet)

Record Sheet

Name: Sex:

Age: under 25 ___ 26-35 ___ 36-45 ___ 46-55 ___ over 55 ___

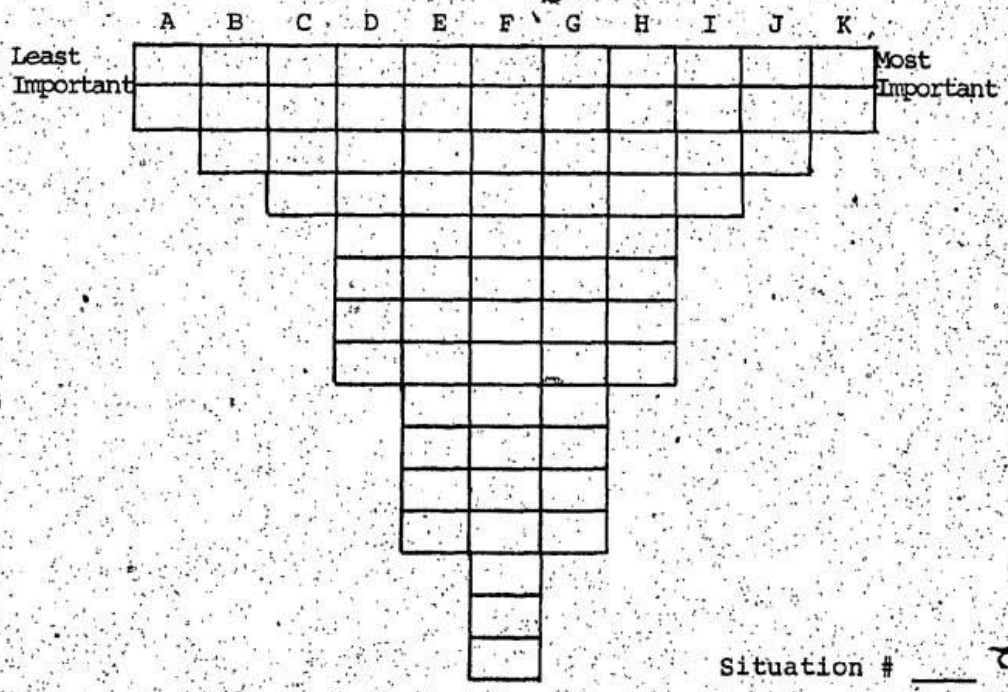
Number of Years of Teaching Experience:

Size of School: under 100 ___ 101-200 ___ 201-400 ___ 401 or over ___

Location of School: Urban (St. John's, Corner Brook, Gander, Grand Falls-Windsor) ___ Other ___

Grade Level Taught During Session '77-'78:

Present Certificate Level:



Situation # ___

APPENDIX D

Q-Sort Instructions

General Instructions

This is a special type of questionnaire in which you as a sorter will be expected to select and place cards according to a set of criteria. The following items are enclosed and an explanation of each is provided.

(i) A set of 73 cards - Each card has a title and a descriptor so that the meaning of that title is standardized for all participants of this particular Sort. On the upper right hand corner is a number which will be used later on the record sheet.

(ii) A large sheet with categories labelled A-K - This sheet represents a continuum from A through K. Above each letter is a number. This number indicates the exact number of cards which are to be placed on each of the A-K slots.

(iii) A record sheet - This sheet is to be used by the sorter to record the demographic information required for the study. Also on the sheet is a grid (A-K) where the sorter will record the final choice of answers. The record grid is not vertically hierarchical.

The Sort

Each card is to be read carefully. The cards are to be placed in the slots which the sorter feels are most appropriate--it is usually easier to begin at opposite ends and work towards the middle. Some people find it easier to take 10 minutes or so to read through all the cards before beginning the sort. Only 2 cards each may be placed in slots A and K respectively, similarly only 3 cards each may be placed in B and J, etc., etc.... Any cards, up to a total of 15, about which the sorter is uncertain or which are simply difficult to place (left-overs), should be placed in slot F. The sorter is at liberty to move cards from slot to slot at any time during the sort as long as the appropriate number of cards appears in each slot on completion of the sort.

Specific Situation Instructions

1. Consider the following situation and sort the cards accordingly: -

You are three weeks into a new academic year and are fairly well acquainted with the children you are to teach for the year.

Which factors do you perceive to be of most and least importance in your planning when you contemplate the year ahead?

2. Consider the following situation and sort the cards accordingly: -

You are planning your Language Arts programme for the year.

Which factors do you perceive to be of most and least importance when you consider your long range plans for the programme you are about to use?

3. Consider the following situation and sort the cards accordingly: -

You are already several weeks into the Fall term and you are about to plan Mathematics for the upcoming month.

Which factors do you perceive to be of most and least importance when you decide on your lesson plans?

4. Consider the following situation and sort the cards accordingly: -

You have been teaching your present class for two months now. On the whole, the class is cooperative and industrious, however, one child requires disciplining more frequently than any of the others.

What factors do you perceive to be of most and least importance when you are deciding on your lesson plans?

APPENDIX E

Mean Item Rankings - Time 1 and Time 2

Mean Item Rankings - Time 1 and Time 2

Item	Descriptor	Test #1 $\bar{X}$	Test #1 SD	Test #2 $\bar{X}$	Test #2 SD
1	Creative Thinking-Goal	8.37	2.14	8.24	2.34
2	Student's Preferred Schedule	5.15	1.98	5.37	2.16
3	Special Programmes-Resource	5.52	1.70	5.59	1.43
4	Physical Resources in the School	5.54	1.62	5.67	1.43
5	Teacher's Knowledge - Process of Teaching	8.91	1.91	8.30	1.88
6	Special Talents of the Teacher	6.13	1.64	6.09	1.58
7	Teacher's Commitments Outside School	4.17	2.09	4.17	2.02
8	Allocation of Time-Scheduling	5.61	2.16	5.67	1.92
9	Streaming - Prior to Beginning Classes	5.93	2.80	5.61	2.38
10	Rules and Regulations	5.04	1.87	5.02	1.81
11	Religion of the Student	2.50	1.98	2.00	1.63
12	Parents as a Teaching Resource	6.04	1.72	5.91	1.55
13	Dept. of Education Curriculum	5.54	2.61	5.85	2.38
14	Informal Evaluators of the Teacher	4.91	1.62	4.89	1.70
15	Community as a Teaching Resource	6.50	1.44	6.28	1.42
16	Motor Skills - Goal	6.15	1.97	6.15	1.75
17	Ability of the Student	7.63	2.27	7.94	1.77
18	Knowledge of Community	5.52	2.05	5.54	1.59
19	Teacher Interests	7.74	1.86	7.65	1.70
20	Location of the School	4.39	1.72	3.89	1.84
21	Instructional Criteria/ or Teacher Evaluations	5.28	1.98	5.22	1.99
22	Religious Affiliation of the School	3.02	1.83	2.85	1.84
23	Parents as Tutors	5.65	1.68	5.46	1.67
24	Self-Expression - Goal	7.70	1.68	7.52	1.93
25	Students as Teaching Resources	7.06	1.51	6.89	1.64
26	General Physical Characteristics - Teacher	5.35	1.98	5.37	1.95

Item	Descriptor	$\bar{X}$	SD	$\bar{X}$	SD
27	Teacher's Knowledge - Classroom Grouping	6.63	1.96	7.17	1.73
28	Teacher's Knowledge - Motivation	8.52	1.47	7.98	1.37
29	Formal Evaluators of Teacher Performance	4.70	1.60	4.83	1.58
30	Student Evaluation Procedures	6.04	2.01	5.80	1.70
31	Independent Learning - Goal	7.52	1.74	7.83	1.92
32	Personal Orientation of the teacher	5.98	1.69	6.26	1.47
33	Teacher's Knowledge - Classroom Control	6.83	1.68	7.20	1.47
34	Legal Liability of the School	5.20	1.52	4.48	1.92
35	Attendance of Students	6.50	1.96	6.54	2.01
36	Achievement of the Student	6.70	1.98	6.98	2.02
37	Personality of the Students	6.06	1.44	6.46	1.62
38	Teacher's Knowledge - Evaluation	6.52	1.64	6.54	1.59
39	Physical Make-up of the School	4.33	1.56	4.15	1.33
40	Scheduled Transportation - Bussed	3.87	1.96	3.85	1.55
41	Interest of Parents	6.70	1.56	6.52	1.93
42	Recreation or Avocation - Goal	5.33	1.33	5.39	1.63
43	Teacher's Preferred Schedule	4.94	1.86	4.52	1.95
44	Allocation of Physical Resources	4.96	1.28	4.61	1.48
45	Teacher Evaluation Procedures	4.74	1.64	4.65	1.29
46	Preferred Learning Styles of Students	7.37	1.92	7.37	1.34
47	Level of Understanding of Parents	6.09	1.77	6.20	1.56
48	Grouping Procedures Used	6.15	1.56	6.24	1.46
49	Non-Instructional Criteria for Teacher Evaluation	5.11	1.40	4.91	1.35
50	Knowledge - Goal	6.50	1.94	6.80	1.97
51	Family Background of Student	6.22	2.17	6.22	1.64
52	Teacher's Knowledge - Subject Matter	8.02	1.78	7.72	1.98
53	Values and Attitudes of Students	6.54	1.72	6.87	2.21
54	Student Interests	6.89	1.55	7.20	1.81

Item	Descriptor	$\bar{X}$	SD	$\bar{X}$	SD
55	Specialist Personnel	5.20	1.38	5.46	1.59
56	Religion - Goal	4.39	2.31	4.06	2.18
57	Moral Development - Goal	6.85	2.12	6.72	2.34
58	Teacher's Values and Attitudes	5.48	1.74	4.40	1.53
59	Enculturation - Goal	5.39	1.68	5.67	1.69
60	Teacher's Knowledge - Curriculum	6.80	1.87	6.85	1.86
61	Personal Growth - Goal	8.61	2.16	9.00	2.15
62	Socialization - Goal	7.00	1.75	7.52	1.84
63	Preferred Teaching Approaches - Teacher	6.39	1.60	6.76	1.62
64	Self-concept of the Student	7.06	2.02	7.41	2.04
65	Student Teachers as Teaching Resources	5.40	1.42	5.13	1.53
66	Problem Solving - Goal	7.44	1.97	7.76	1.92
67	Preferred Teacher/Pupil Relationship	6.04	1.53	6.48	1.57
68	Sex of Student	2.96	2.04	2.85	1.96
69	Peer Relations of the Student	6.02	1.71	6.11	1.57
70	Attitude Toward School - Goal	7.09	1.84	6.80	1.68
71	Physical Resources in the Classroom	6.09	1.70	5.59	1.38
72	School Curriculum	5.72	2.01	6.39	1.56
73	Streaming - During School Year	5.76	1.68	5.50	1.44