DAY CARE SUPERVISORS' INTERACTIONS WITH THREE AND FOUR YEAR OLD CHILDREN PERCEIVED AS BEHAVIOURALLY DIFFERENT IN A NATURAL DAY CARE SETTING

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ABSTRACT

DAY CARE SUPERVISORS' INTERACTIONS WITH THREE AND FOUR YEAR OLD CHILDREN PERCEIVED AS BEHAVIOURALLY DIFFERENT IN A NATURAL DAY CARE SETTING

The major purpose of the study was to determine whether there are observable differences in the interactions of day care supervisors with three and four year old children whom they perceive as behaviourally different and with children who are not perceived in this manner. It was hypothesized that a day care supervisor's interaction with three and four year old children perceived as behaviourally different would be unlike that supervisor's interaction with children who are not perceived in this manner.

The interactions of six day care supervisors with 48 three and four year old children were recorded on video tape in a natural day care setting. A questionnaire completed by the supervisors, was used to identify children they perceived to be behaviourally different and behaviourally adapted. As a result, eight children from each center were selected; two girls and two boys identified as behaviourally different, and two girls and two boys identified as behaviourally adapted. Video-taped observations were subsequently coded

using the Brophy and Good Teacher-Child Dyadic Interaction System (1969). After minor modification of the codes, 61 codes were employed to describe the interaction of the day care supervisor with each child. Thirty-three variables were selected by combining codes; the variables were grouped into nine clusters for analysis. The nine clusters are: Total support, child created support, teacher created support, total non-support, child created non-support, teacher created non-support, child created praise, teacher created praise, and response opportunities. Multivariate analysis of variance was used to test the hypothesis.

The results revealed that some interactions had not been observed. Some clusters of interactions were not differentiated between behaviourally different and behaviourally adapted children by the day care supervisor, and some clusters of interactions were significantly differentiated between behaviourally different and behaviourally adapted children by the day care supervisor. The sex of the child did not affect the day care supervisor's interaction with the child in any way.

The findings indicate that day care supervisors do respond differently to young children whom they perceive to be behaviourally different and to those they perceive to be behaviourally adapted. Behaviourally different children receive less total support, and less nurture; they receive more total non-support and criticism than behaviourally adapted children.

In general it is concluded that if day care supervisors are given knowledge about the nature of their interactions with children they will be able to enhance the quality of care they provide each child and to provide optimal opportunities for acceptable behavioural responses by virtue of their own supportive interaction with children.

TABLE OF CONTENTS

Table of Contents - Continued

Table of Contents - continued

LIST OF TABLES

List of TABLES - Continued

LIST OF ILLUSTRATIONS

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CHAPTER 1

PROBLEM

Introduction to Problem

From 1973 to 1975 the number of children between the ages of three to five receiving day care services in British Columbia increased more than four fold. In providing almost immediate day care for approximately 10,000 more children, these day care programs were developed and implemented without a corresponding evaluation of the various important components making up the day care environment. Since the rapid expansion of day care, many questions have been raised concerning the quality of experiences provided the children. The intention in this study is to investigate the effects of the constant and intense adult-child interaction maintained in the day care environment.

At the conclusion of their study of the day care children with special needs in British Columbia (1973), Robinson and McDermick suggested investigation of the adult-child interaction. They concluded that once a day care supervisor has evaluated a child, whether rightly or wrongly, expectations about the teaching styles used with that child may be influenced by that [single] evaluation. Their study suggested that day care supervisors are likely to make decisions about individual children on the basis of how comfortable or

uncomfortable they feel with the individual child. The supervisor usually labels children who make him feel comfortable as "hyper-active", "emotionally disturbed", "socially maladjusted", "language deficient" or developmentally lagging." The investigators implied that a child so labelled is perceived by the supervisor as behaving differently from the other children. This, in turn, may affect the supervisor's interaction with that child.

Even though the Robinson and McDermick study was medically based and remedially oriented, the global conclusions suggested that examination of a day care supervisor's interaction with individual children is necessary to understand and better meet the needs of the child in the day care environment.

Bell (1972) strongly states that the child's contribution to caretaker-child interaction cannot be ignored if a full understanding of the process of interaction is desired. However, the child's reciprocal interaction with the day care supervisor was deliberately not included within the parameters of this study even though it is recognized as important. The findings resulting from this study could certainly initiate subsequent research to address this aspect of reciprocal interaction.

Statement of Problem

The purpose of this study was to determine by observation whether a day-care supervisor interacted differently

with children perceived as "behaviourally different"* than he did with the other children and whether the supervisor varied his/her interaction with girls or boys.

Significance of Problem

To date, interactional research has been directed to teacher-pupil interaction at the elementary and high school level (Travers, 1973). Lacking such research in early childhood education, the tendency has been either to extrapolate the findings about elementary schools into early childhood education, or to extend existing developmental theory into training procedures for young children in day care. But good teaching and quality programmes for young children cannot be grounded in such extrapolations and extensions. It is essential that early childhood educators build their knowledge of interactional analyses upon early childhood education research.

Existing interactional research with primary and secondary students indicates that the teacher's perception of an individual child affects his or her interaction with that child. Hargreaves (1972) describes the process:

> Teacher selectivity [sic] perceives and interprets child behaviour and through repeated perceptions develops a conception of an individual child who is evaluated, categorized and labelled. Response to the child is in the light of these evaluative labels. (p.161)

It is of the utmost importance that early childhood educators have knowledge based upon research about the effect

* See Appendix D for Definition of Terms

of the day care supervisor's perceptions of the individual child, upon their interaction with that child as described by Hargreaves.

Information provided by such developmental theorists as Piaget (1962), Bandura (1961), White (1976) and Bruner (1970) indicate that adult response through interaction with a child forms an important learning function for the child during the early pre-school years. This period between the ages of three to five is the transition between infancy and entrance to school. During this period, the child refocusses his energy and learns to direct his behaviour into socially acceptable channels. This process seems to be facilitated best by the consistent presence of a nurturing, supportive caregiver, the parent or another significant adult in the child's life. Bruner (1970) states that without such learning, the child cannot act in ways that are acceptable to society. As a result, that child is socially crippled and cannot devote his full energy to the next stages of his development during his school years.

From his own extensive research and observational investigation, Bronfenbrenner (1971) summarizes the developmental theoretical considerations significant to interactional research in the field of early childhood education:

> The young cannot pull themselves up by their own boot-straps. It is primarily through observing, playing and working with others, older and younger than himself, that a child discovers both what he can do, and who he csn become, that he develops both his ability and his identity. It is primarily through exposure [to] and interaction with adults and children of different ages that a child acquires new interests and skills, and learns the meaning of tolerance, cooperation and compassion...
> there is but one caution to be born in mind, the crucial factor, of course, is not how much time is spent with a child, but how the time is spent. A child learns, he becomes human, primarily through participation, in challenging activity with those whom he loves and admires. It is the example, challenge and reinforcement provided by people who care that enable a child to develop both his ability and his identity. (p.54)

Early childhood educators maintain that to understand the needs of young children and to develop a meaningful program for them, one ought to observe and study the behaviour of the child and teacher in the natural setting. Kounin (1967) elaborated this position in his investigation at the primary school level:

> In the current stage of behavioural sciences, there is room for researches conducted in the spirit of enquiry to see what can be learned rather than in the spirit of debate to see what hypothesis or theory can be tested. (p.123)

The present st

The present study was initiated in this spirit.

Summary

Child care, as provided by the day care centres has been conceived as meeting the needs of children's growth and development by enabling them to interact with the day care supervisor.

The study was initiated in the spirit of enqiry in order to gain information about a day care supervisor's interaction with three and four year old children who were perceived as behaviourally different. The data were collected by using a video camera in the natural day care setting and coded with the Brophy and Good Dyadic Teacher-Child Interaction System (1969). The findings resulting from the study could be useful to day care supervisors in their attempt to meet better the needs of the young child in a day care environment.

The remainder of this dissertation is organized into four chapters. In Chapter II, the literature is reviewed; in Chapter III, the methodology is described; in Chapter IV, the data results are presented and discussed; and in Chapter V, conclusions are drawn and implications are suggested.

CHAPTER II

REVIEW OF LITERATURE

The review of literature is presented in three separate sections: theoretical considerations, interaction analysis systems and studies of teacher-child interaction. In the fourth section, the interaction analyses system selected for this study is described and a review of research employing the selected system is presented.

Theoretical Considerations

The overall development of children in their pre-school years is the basic concern of early childhood educators. The concept of growth and development as based upon a series of developmental steps, nuturing, and supportive environment, has been outlined by researchers in both clinical and observational studies.

Bruner (1971) states that the strategy for learning is innate. He suggests that before the new-born child's system can be activated, he must learn a series of primitive codes. The child learns them by interacting with a supportive adult who provides a model for behaviour and feedback in terms of acceptance of the child. Bruner concludes that a child's attempts at learning may be stopped if he is denied the opportunity for interacting with a nurturing significant adult.

Bruner's theory supports the assumption that the day care supervisor must provide young children with supportive nurture through continual and accepting interaction. The day care supervisor thus becomes one of the significant adults in the child's life and activates basic social and emotional learnings important at this stage of development.

Bandura (1963) demonstrated that children who interact with warm, attentive adults display considerably more imitative behaviour than those children who interact with adults who display cold distant relationships. He suggested that children display considerable social learning of an incidental imitative sort facilitated by a nurturant adult. When interpreted functionally, Bandura's investigation into the qualitative development of behavioural social structures implies that the day care supervisor who cares for the children up to ten hours a day provides a strong model for behaviour. The implication is that the extent of the supervisor's influence depends upon the quality of the adult child interaction.

Undoubtedly, the theories of Bruner, Bandura and others have meaning for day care practice and especially for the quality of interaction between the day care supervisors and young children. Young children cannot be expected to learn social, emotional and intellectual skills unless the day care supervisor can provide the prerequisite interactions that Bruner and Bandura suggest are basic to learning.

Piaget (1961), in his theory of identification, describes the young child's thoughts as egocentric because the child constructs reality to suit himself through symbolic play. In the process of identification, the child becomes more aware of his individuality at the same time, modelling himself after others whom he observes. In effect, he identifies himself with the significant others (parents, caregivers) in his environment whom he may take as models for his behaviour. Also, he is provided with information about his behaviour through their response. During this time a young child's development is almost completely dependent upon his transactions with the environment. He acquires concepts actively, not passively, through his actions and the feedback he receives in his interaction with the care giving adult. If we accept Piaget's theories as valid, we realize that before going to school, a child needs adults who are friendly, nurturing, clear in their directions, and supportive of the rules that determine acceptable behaviour. In the interactional process between the child and the adult, the child gains an understanding of who he is, what he can do, and what is expected of him. He learns by watching adults behave and act, by participating in the activity and the experiences provided by the adult, and by relating to situations which elicit adult attention, be it positive or negative.

Other important characteristics that children develop during the pre-school period are increased language skills, the observing and acting out of adult roles, and greater knowledge about what is acceptable behaviour. Luria (1961) and

Vygotsky (1962), Soviet psychologists, feel strongly that the words used by adults during the interaction between a nurturing adult and child influence the child's behaviour. Their research notes the influence upon a young child's behaviour through words spoken to him by an adult. As a child learns the words used by an adult, he is able to interact by controlling his behaviour with the adult. Through verbal interaction a child begins to understand his own behaviour and the effect he has upon those with whom he interacts. The methodology arising out of this theory places great emphasis upon training the young child to become aware of the effect his language has upon adults. Through interaction with an adult who provides nurture, encouragement, instruction, demonstration and behavioural examples, a child very early learns the effects of his actions on others. The Soviet researchers indicate that verbal interaction between the nurturing adult and the child is most significant in shaping the child's behaviour with others.

The parallel between mother-child interaction and day care supervisor-child interaction has been established by the research of White (1971), who intended to identify the techniques by which a mother influences her child's development and behaviour. White investigated how to structure experiences of children in the first six years of life so that optimal preparation for normal education may be accomplished. Initially, White collected information about the competencies of a six year old, but he found that most of the qualities that distinguish the outstanding six year old can be achieved in a

large measure by the age of three and subsequent research concentrated on the child below the age of three.

White reports (1978) that the development of a child's capacity for learning and overall "competence" is obvious during the second year of life and becomes substantiated by the age of three. He observed that some children developed better than others because of the way the mother (care giver) responded to the emergence of locomotor activity in her child. White and his colleagues confirmed their observations by studying the home life of children. They found that the mother's direct and indirect interactions with her child are the most powerful formative factors in the development of a competent child. White describes the mother's interaction with her competent child as nurturing, permissive, indulgent, enthusiastic, talkative and suggestive.

Gordon (1975) reports in a long term study on stimulation of young children that by increasing the positive responses of the mother the development of her child is enhanced. Evaluation of the first two years of parent education indicated that at the end of the first year, children of mothers who entered the program early were developmentally superior to children whose mothers did not receive training.

A positive example of the long term effectiveness of nurture on young retarded children is the classic study of Skeels (1942). Thirteen children approximately 18 months old who had been diagnosed as retarded were transferred from an unstimulating, overcrowded orphanage that allowed for little

positive human interaction to a residential centre for mentally retarded adults. Older mentally retarded girls served as foster mothers for these children. After a year and a half the children's intelligence score had gained an average of 27.5 points and they were then placed in adoptive homes. In contrast, a control group of normal intelligent children remaining in the orphanage decreased in intelligence about 20 points in two and one-half years. Later Skeels (1960) did a follow-up study of the two groups. The control group continued to live in the orphanage and the experimental group lived in a normal environment. On all measures, social adequacy, economic self-sufficiency and schooling, the experimental children were functioning as middle class adults, while all of the children in the control group had histories of enrollment in hospitals for the mentally retarded, poor employment habits, and social adjustment difficulties.

One notes from the Skeels' study that long range effects of early and continuous intervention over many years were highly dependent upon the mother-surrogates interaction with the children. This interaction was highly supportive because the mother surrogates gave much time to talking to, playing with and stimulating the children. The results of this classic study supports Bloom's (1964) findings and the implications of these studies should be incorporated into present day-care practices.

The research of Bruner, Bandura, Piaget, Luria, Vygotsky, White, Gordon and Skeels provide the developmental theory base

for this investigation. These theories suggest that in order to activate the basic social and emotional learnings important to the young child at this stage of development, an adult must provide nurture, as defined by Bruner and Bandura; support, as described by Piaget; encouragement and instruction, as suggested by Vygotsky; and enthusiasm, as described by Gordon and White.

Literature Review of Interaction Analysis Systems

It appears to this researcher, after considerable review of various interaction recording systems, that these various systems designed to analyze interaction may be categorized into four separate classifications: (a) parent-child interaction, (b) psychotherapist-child interaction, (c) teacher-class interaction, and (d) teacher-child interaction.

Each of these classes is discussed in turn with greater emphasis placed upon the teacher-child interaction in early childhood programs.

Parent-child interaction

The parent-child interaction research has had many years of development. The classic studies of Champney (1939) and Bishop (1951) provided the initial basis for further research.

Champney (1939) selected variables in his investigation that were suitable for a quantitative analysis of parent-child interaction. Categories in the system were based on the assumption that the child (1) "being the central source of stimulation and object of reaction" (Champney, p.527) and (2)

"as receiver and integrator of social stimuli" (p.528) shaped parent behaviour. Seventy-five codes classified into ten groups describe behaviour of the parent. Seven groups represent psychological relationships between parent and child; two groups deal with general parent behaviour; and one group illustrates home behaviour. The rating scale demanded that the scorer show a complex incisive judgement which required extensive training and practice.

Bishop (1951) developed a framework to observe parental behaviour based upon stimulus-response theory. The parental interaction was treated as the stimulus and the child's behaviour was defined as the response. In effect the Bishop category system measures the mother-child relationship under experimental conditions in order to describe the critical factors in this interactive relationship essential to the personality development of the child.

Eighteen variables were developed by Schaefer (1959) to describe the social-emotional interactions of mother and child in the home as well as in a research setting. The data were collected by interviewing the parent and by an observation-recording system. The Headstart Programme in the United States also gave rise to many parent-child interaction inventories (Caldwell (1967), White (1971) and Gordon (1976)) which provided information to help parents modify their behaviour so that their children could achieve more and earlier cognitive skills.

Therapist-child interaction

These interaction analysis systems are based on the role of the therapist. It is assumed in the development of this interactional measurement that the one seeking help has problems, usually emotional problems, that do not permit him to function or interact in an acceptable manner. It is assumed also that the therapist is suited to assist the person requiring help. Because the developers of therapist-child interaction systems usually assume a problem exists, their categories are pathologically based. The therapist must listen, observe, and make statements of recognition. In the Moustakas-Sigel-Shalock System (1956) a single child is observed interacting with toys or materials in a clinical playroom. The child's behaviour is recorded every five seconds on a scoring sheet containing over 150 variables. The Strupp system (1960) analyses the interaction between the therapist and child, the therapist's response to the child, the child's interaction with the therapist, and the therapeutic climate.

Teacher-class interaction analyses
Used in early childhood settings

At present, observation instruments are abundant for observing teacher-class interactions. Simon and Boyer (1970) have listed more than 100 observation recording systems. Subsequently, Travers (1973) and Stubbs and Delamont (1976) pointed out that recent classroom observation instruments have increased in sophistication, incorporating the ideas of earlier systems such as Anderson's (1946), Withall's (1949) and

Flanders' (1960).

The teacher-class interaction analyses systems reviewed here have the following characteristics: all have been used by their authors as well as by other researchers; all produce data with educational implications; all have been developed for analyzing teacher-class interactions; and all have been designed specifically for teacher-group interaction analyses in early childhood education situations, such as nursery school, day care, kindergarten and first grade.

Richenberg-Hackett (1962) developed a descriptive observation instrument to record the practices and attitudes of nursery school teachers. The data were collected with ten minute anectodal recordings during a four hour observation period. Then the data were divided into discernable units of action and categorized. The who-to-whom, and the activity was noted with each unit. An episode (unit) was recorded each time the teacher addressed a child, moved from one place to another or picked up a different piece of equipment. The data were collected in three major categories: (1) teacher approach, (2) motivating techniques and activities, and (3) lessons and values. This system focuses upon the interaction of the teacher with the children and the routines and activities that he uses to transmit attitudes and values that he considers important. The results suggest a relationship between a teacher's motivating techniques and the child's performance.

Prescott (1967) designed an observation system that focused upon teacher behaviour in a day care setting. A unit

of teacher activity was defined as "an act on the part of the teacher which involves discernable contact with an object or person" (Prescott, p.65). He added (1) encouragement, (2) verbal and non-verbal communication, and (3) guidance to the major categories of Richenberg and Hackett. In addition to the teacher's behaviour, he recorded the lessons taught and global indication of children's behaviour, as well as some of the organizational and structural characteristics of a day care centre. This system attempts to find relationships between teacher behaviour, classroom organization, and child behaviour and achievement.

Katz (1969) developed a Teacher-Behaviour Survey Instrument and a Child Behaviour Survey Instrument to observe classroom interaction in Headstart programmes. Using the point sampling technique, she studied the behaviour of the specific child long enough to identify and check it off in the appropriate cell. The major dimensions in the Katz system are (1) contact, (2) feeding, (3) teaching, (4) feedback, (5) control, (6) nurturance, and (7) dominant tone. All of these dimensions are subdivided into categories except for dominant tone, which was entered only once for each observation. The type of activity observed was also briefly recorded.

Caldwell (1969) developed the Approach System of Interactional Analysis to investigate the young child in his home and school environments. This procedure for patterning responses

of adults and children in a pre-school environment involves breaking behaviour into short episodes: (1) who is acting, (2) what is the action, (3) to whom is the behaviour directed, and (4) the category of behaviour. Data were collected in the pre-school setting as well as in the home to determine if the behaviour in the home setting differed from that of the pre-school. Both teacher and parental interaction with the child are observed and recorded in terms of quality of response, attention given, information given, interference, nurture, granting of requests and non compliance.

Several guides published on how to assess the learning environment in early childhood education programs have been published; (Spodek 1973; Biber 1971; and Cazden 1972). One of the most comprehensive for observaton and assessment is that of Mattick and Perkins (1973). With Wechsler's advice, a model was developed to reflect adequately the basic principles of child development and the salient characteristics of day care education. However, the authors have not yet devised a focused systematic way to measure the interaction between the day care supervisor and the children.

After reviewing the various interactional systems the present writer decided that the parent-child and therapist-child interactional analysis systems were inappropriate for this study. These instruments required observation in both clinical and home environments rather than in early childhood education group settings. Extensive coder training is needed

to code interactions that were not necessarily valid to the day care setting.

The teacher-class interactional systems were unsuitable for the following reasons: The many variables within categories about teacher behaviour and child response as depicted in Caldwell (1969) are too complicated for the narrower definition of this problem. The Richenberg-Hackett (1962) interaction analyses illustrate the teacher-class focus which do not meet the needs of this study. Much of the recording depends entirely upon anecdotes which are insufficiently reliable for the present study (i.e., Prescott 1967). The interaction analysis system devised by Katz (1969) illustrates interactional coding which requires two separate instruments. This is too cumbersome for this investigation. Moreover, Travers (1973) questioned the reliability of instruments used by Katz (1969) and Prescott (1967).

Teacher-child interaction studies in early childhood education

Much of the existing interactional research in the field of early childhood education follows the elementary school model of teacher-class interaction. However, recent interaction studies are based upon teacher-child interaction.

For example, Rosenthal and Jacobson (1968) stimulated much investigation of teacher-child interaction following their own investigation, Pygmalion in the Classroom. In their study, primary grade teachers were given intelligence scores

for their students. Some scores were higher than the children's actual test results and the teachers were told these children were high achievers. Some scores were lower than the children's test results and they were described as low achievers. After a time, the children were tested. The results indicate that the children labeled as high achievers increased in achievement to match the teacher's expectation. Children labelled as low achievers also matched the teacher's expectation. Rosenthal and Jacobson labelled this phenomenon the "self fulfilling prophecy." They thought it was detrimental to the children of whom the teacher expected little.

There has been much criticism of the Pygmalion research of Rosenthal and Jacobson. Researchers such as Thorndike (1968) suggest that the procedures and methodology used in the Rosenthal and Jacobson study are "so defective technically that one can only regret that it ever got beyond the eyes of the original investigators" (Thorndike, 1968, p.708). He states the results are faulty and throw doubt upon the teacher effects Rosenthal and Jacobson claimed. However, the Pygmalion research seems to have affected and inspired many studies. Certainly the results of the latter study throw light upon the present problem investigated.

Yarrow, Waxler, and Scott (1971) involved pre-school children in a study of teacher nurture. The adult caregivers were trained to create high or low nurture. The response to high nurture was warmth and reinforcement and to low nurture the

response was minimal. The teachers were not equally nurturing to all children receiving high nurture nor equally unnurturing to all children receiving little nurture. Their interaction with children was conditioned greatly by the behaviour of the children.

Willis (1972) asked five primary teachers to rank their primary grade students from most efficient (ME) to least efficient (LE). The top and bottom students were then observed for 30 minutes over eight days. The data showed that teachers ignored LE students more frequently and provided them with fewer verbal comments than the ME students. Willis concluded that teachers who make LE students feel the consequences of their behaviour extinguish the behaviour these students most need to develop for social competence.

Garner and Bing (1971) examined the assumptions that teachers do not give equal attention to their pupils, and that such inequality results from the teacher's perception of the child's ability. They studied teacher-student interaction in five first year classes after the teacher had filled out a ranking scale of student traits. Most of the teacher interaction was found to be with bright, high achieving students. Garner and Bing also found that the teacher-student interaction was determined almost entirely by the students and that there was little evidence of teacher attempts to recognize individual difference in students.

Ryan and Appleford (1977) did an observational

investigation of teacher-child interactions in the play school of Carleton University. Instructional, social and disciplinary contacts were related to sex, income and physical attractiveness of the child. They found that female children received more instructional and social contacts but fewer disciplinary contacts than males, and that low income children received more disciplinary and fewer instructional contacts than middle income children. The results for physical attractiveness were not clear.

Good and Brophy (1973) asked first grade teachers to rank each child in terms of expected achievement. Using the instrument they developed in 1969 (Brophy and Good 1969) they found that the interaction patterns between teacher and student were highly related to the teacher's expectations of the student's ability to achieve. Teachers favoured students in the high achievement category and reinforced their behaviour by frequent praise, little criticism and much feedback.

The present study, also based upon teacher-child interaction, analysed the day care supervisor's interaction with individual children. The instrument selected to analyze the interaction data of this study met the researcher's criteria (a) an instrument that codes the teacher-child interaction (dyadic) rather than teacher-class (group) interaction; (b) an interaction system that is reliable and valid and has been used in previous research; (c) a system that provides a comprehensive analysis of teacher-child interaction and contains an uncomplicated coding system; (c) a system that is based

upon sound theoretical considerations; (e) a system that does not require extensive coder training; and (f) a system that may be modified to meet the needs of a particular study. The Brophy and Good Dyadic Teacher-Child Interaction System (1969) met these criteria well.

Brophy and Good Teacher-Child Dyadic Interaction System

The Brophy and Good Teacher-Child Dyadic Interaction System (1969) was designed to study the interaction of a teacher with an individual child. It provides a record of all such dyadic interactions between teacher and child and allows for the raw scores of individual children to be converted into percentage scores. This provides information about quality of contact (how the teacher interacts) and the quantity of contact (frequency of teacher interaction with the child). Brophy and Good based their Dyadic Interaction System upon accumulative theoretical evidence and stated that "large intra class variations in teacher-child interaction patterns are the norm rather than the exception and teachers do treat children differently" (1969 p.43).

The Brophy and Good Dyadic Teacher-Child Interaction System (1969) includes three major categories: (1) Response Opportunities; (2) Child Created Contacts; and (3) Teacher Created Contacts. All except the Reading Turns Category as found in the manual (1969) were employed in the present study. The Reading Turns Category was not applicable to the age level of children observed nor to the day care program.

The 61 codings, divided among the three categories, were used to describe teacher response such as praise, nurture, criticism, and feedback. An example of the coding sheet used in this study is presented in Illustration 1. The codes are described in three categories:

(A) Response opportunity refers to the teacher's questions, the child's response and the resulting teacher feedback. The teacher's questions are further subdivided into what Good and Brophy refer to as "type" and "level."

(a) The four types of teacher's questions include:

(1) discipline questions which compel the child's attention (column 6)
(2) direct questions which ask a specific child a question (column 7)
(3) open questions which ask who would like to respond (column 8)
(4) call out questions which invite spontaneous response (column 9)

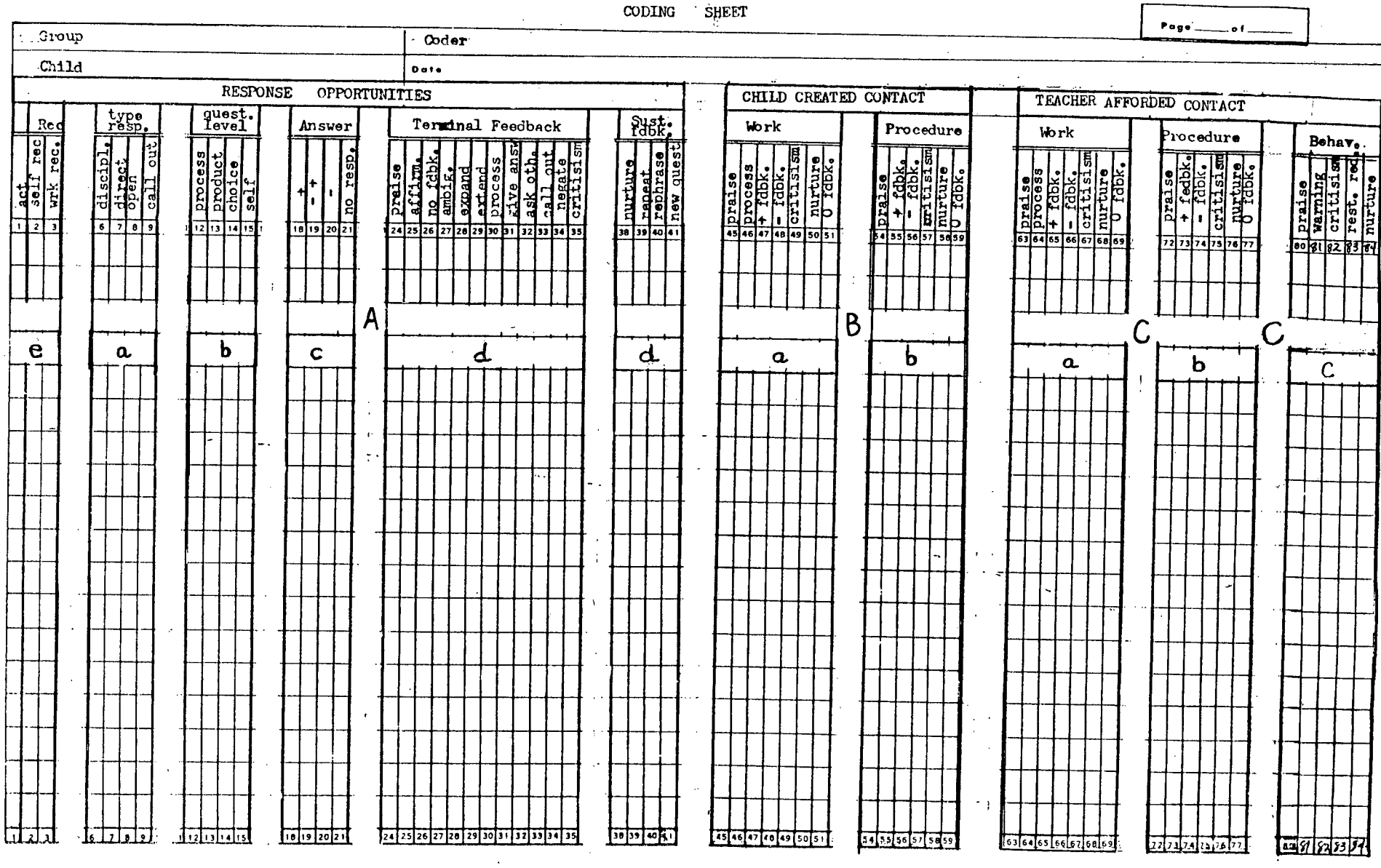

Illustration 1

Modified Brophy-Good Teacher-Child Dyadic Interaction Coding Form

(b) The four levels of teacher's questions include:

(1) process questions which require a cognitive answer and understanding (why or how questions) (column 12)

(2) product questions which require one word answer (who, what, where, when) (column 13)

(3) choice questions which require one out of a possible two answers (yes, no) (column 14)

(4) self reference questions which refer to feelings and experiences (column 15)

(c) The four levels of child's answers include:

(1) correct answer (column 18)

(2) partially correct answer (column 18)

(3) incorrect answer (column 20)

(4) no response (column 21)

(d) The two levels of teacher feedback include:

(1) terminal feedback which is praise (column 24), affirmation (column 25), no feedback (column 26), ambiguous (column 27), expand (column 28), extend (column 29), process (column 30), gives answer (column 31), ask other (column 32), call out (column 33), negate (column 34) and criticism (column 35).

(2) sustaining feedback which is nurture (column 36), repetition (column 39), rephrasing (column 40), and new question (column 41).

(e) Recitation refers to the child's responses in terms of self reference or work recitation as demanded by the

teacher. The self referenced recitation occurs when the teacher calls upon a child to present an explanation or description relating the child's interest, experience, imagination, made-up story or song. The work recitation occurs when the teacher calls upon the child to recall a story or sequence of an experience in order to demonstrate some knowledge or skill.

(B) Child created contact refers to the child initiating the contact with the teacher in the work or procedure category.

(a) The work category (column 45-51) includes all activities with materials and equipment set out by the teacher (painting, blocks, woodwork).

(b) The procedure category (columns 54-59) includes all personal needs and interests of the child. The teacher's feedback to child created contacts is recorded as praise, process, positive feedback, negative feedback, criticism, nurture and zero feedback.

(C) Teacher Afforted Contact refers to all contacts initiated by the teacher.

(a) The work category (columns 63-69) relates to the teacher clarifying, helping, or talking to the child about his work.

(b) The procedure category (column 72-77) relates to all the personal needs and interests of the

child. The Teacher's feedback to the work and procedure category is recorded exactly like the child created codings.

(c) The behaviour category refers to contacts made by the teacher in order to give the child information about his behaviour. The teacher's response to the child's behaviour is recorded as praise, warning, criticism, restriction and nurture (column 80-84). Praise is given for appropriate behaviour, warning is given for inappropriate behaviour, critisism expresses anger, frustration and exasperation, restriction is a teacher's response to restrict inappropriate behaviour, and nurture is provided to encourage repeated behaviour.

It should be noted that certain modifications of the Brophy-Good system proved to be necessary in terms of additional coding, deletion of coding and an expansion of coding. Brophy and Good themselves had stated, "the system should not be considered as a closed system as different research questions may require the coding of different variables; therefore, the system should be modified" (1969, p.4), and "the system should not be conceived as a finished closed system to be used without modifications"(1969, p.41). With this in mind the coding sheet was modified in the following ways: Positive feedback, Negative feedback and

Nurture were added to the categories of Sustaining feedback, Child Created Work, Child Created Procedure, Teacher Created Work, Teacher Created Procedure and Behaviour. Restriction was added to the behaviour category. Postive feedback is described by Good and Brophy (1969, p.23) as "the teacher [providing] immediate feedback to the child and [indicating] that his response is correct" (p.23). Negative feedback occurs when the teacher provides impersonal feedback regarding the child's incorrect response.

The coding "nurture" is taken from Prescott (1976) who used it in the evaluation of a day care environment. Prescott defines nurture as "a teacher activity which gives the child confidence, pleasure, affection, comfort and nurturant help" (p.12). The coding "restriction" was also borrowed from Prescott (1976) and defined: "Conflict exists where child does not accept teacher's goals and teacher moves to obstruct child's activities" (p.13). [sic] A further description of the Brophy and Good Teacher-Child Interaction Measure is found in Appendix E.

Brophy and Good Teacher-Child Dyadic Interaction System Employed in Research

The Brophy-Good Teacher-Child Dyadic Interaction System has been widely used by the authors as well as by many other researchers. Several such studies will be described in order to support the selection of the system for this present study. Interpretation of the studies as related to methodology decisions will also be discussed.

A replication of the Silberman study (1969), which examined differential teacher behaviour towards children, was performed by Brophy and Good (1972). They investigated teacher-student interaction in relation to the attitudes of teachers to students on attachment, concern, indifference and rejection variables. Data were collected using the Brophy-Good Dyadic Interaction System. The Brophy-Good replication used grade one students rather than grade nine students as Silberman had done. They also used their own instrumentation. Their data confirmed Silberman's findings that teachers do indeed behave differently with students they conceive as different.

Brophy and Good (1970) investigated four grade one classrooms to find out how teachers communicate differential performance expectations. The teachers were asked to rank the children in their classes in order of achievement. Criteria were deliberately kept vague to encourage teachers to use subjective judgements. The rank scale was used to measure teacher expectations for each child's performance. Three children designated as high achievers and three designated as low achievers were selected from each of four classrooms for interactional study. Those students ranked as high in achievement received more teacher support; the difference between the high and the low achievers' interaction with the teacher was in quality rather than in quantity; the teachers interacted with more criticism and showed more disapproval

of boys than of girls; and low achievers received more criticism less praise, less feedback and less individual attention from the teacher than those rated as high achievers. The data confirmed the Silberman hypothesis that a teacher's expectations of child performance acts as a self-fulfilling prophecy. The flexibility of the Brophy-Good System was demonstrated when used for coding the data.

Jones (1971) studied 16 female student teachers in a high school. The student teachers were grouped into four groups: high achievement introverts, high achievement extroverts, low achievement introverts, and low achievement extroverts. High school students were matched with each student teacher group. Each student teacher was assigned eight students who rated themselves on a self description scale.

Assuming that similarity breeds attraction, Jones hypothesized that the student teachers would interact more frequently and more positively with students whom they perceived as being similar to themselves. Jones focused upon affective aspects of the teacher-child interaction, as well as upon cognitive information exchange. He found that high achievement oriented teachers used direct questioning, initiated more contacts and provided a better learning environment than the low achievement oriented teachers. High achievement oriented teachers also were less likely to ask a low achievement introverted student an additional question after the first contact. It would appear that the

high achievement oriented teachers' method of dealing with low achievement introverted students was to further question that student until he made a response. The teacher then praised him, but nothing else. The Good and Brophy Dyadic Interaction System was able to test Jones' hypothesis.

Good, Sykes and Brophy (1972) studied teacher student interaction in 16 classes in four junior high schools. The sample included 16 teachers composed of four male and four female mathematics teachers, and four male and four female social studies teachers. Using the Good-Brophy Dyadic Interaction System, the investigators found, through the flexible codings in the cognitive and affective domain, that students who were expected to do extremely well in subject areas initiated more comments and questions, received more response opportunities, and generally initiated more contacts of all kinds with the teacher. The same students received more praise than criticism as compared with those expected to be low achievers. Most of the qualitative group difference found in the original first grade study (Good and Brophy, 1969) were replicated at this level.

Gabbert (1973) classified student teachers as high or low on an achievement orientation scale. Observing student teachers in assigned elementary school classrooms, Gabbert found, using the Good and Brophy Teacher-Child Dyadic Interaction, that those student teachers high on achievement orientation asked questions that were more direct and more product oriented. Incorrect answers resulted in rejection

of children by the student teacher. Those student teachers low on achievement orientation elicited more correct answers from the students and accepted the children.

Jeter and Davis (1974) did a quasi replication of the Brophy and Good study of 1970. Teachers were asked to rank their students on achievement, whereupon the three highest and the three lowest students were selected for the study. Substitutes were identified in case the selected students were absent. Qualitative findings showed that the expected high achievers got more feedback to their answers and that teachers stayed longer with the high achievers after they failed to answer initial questions. This study replicated the findings in the cognitive area of Brophy and Good (1970) even though the students were from heterogeneous fourth grade, middle class, white schools.

Good and Brophy (1975) studied teacher behaviour toward two different groups of grade one children: low interactors with the teacher and high interactors with the teacher. Data were collected before treatment and after treatment using the Brophy-Good Dyadic Interaction System. The teachers were given information about their interactions with the children after the first interactional analyses were completed. The second data revealed that teacher behaviour toward and interaction with the selected children changed drastically in both quantity and quality after the teacher received the interactional information. The most notable changes were that teachers stayed with children who

experienced initial failure in a task, called on them more often, initiated more contacts with them, and warned them about their unacceptable behaviour, rather than criticising them. The study demonstrated that feedback for teachers about their interaction with children effected qualitative and quantitative change in teacher-child interaction.

The Texas Teacher Effectiveness Project (1973) used the Brophy-Good System with categories expanded to include classroom management variables to record teacher interaction with children. This project was a two year investigation of teacher effectivenss in grade two and three classrooms. It was found that the most effective teacher in high SES schools taught with high expectations, pushed students to achieve more and taught in traditional ways. Effective teachers in low SES schools taught with more patience, good encouragement, developed personal relationships with the children and were less satisfied with traditional materials.

The above studies provided the following methodological considerations which were incorporated into the present study.

The Good and Brophy (1970) research on differentiated teacher interaction incorporated the method of selecting children from either end of the rating continuum. They found that the teacher made a subjective judgement and rated the child on a scale. Children on either end of the scale were selected as subjects. For the present study, the day

care supervisor completed a questionnaire on each child. The questionnaire required the day care supervisor's perception of each child's behaviour. After scoring the questionnaire four children at each end of the rating scale were selected as subjects.

In another Good and Brophy study (1974) delineated a method in which the teacher was not overly concerned about being observed. This present study followed their method by explaining to the teacher that the interaction process being observed included both teacher and child, even though only the day care supervisor's interaction with each child was analysed.

Jones (1971) deleted a coding in the Recitation category from the Good-Brophy Dyadic Interaction System. He found Reading Turns inapplicable to the high school subjects in his study. He also added several behaviour codings to the Teacher-Afforded contact category. This present study also did not use Reading Turns codings, and also added several Behaviour codings.

In all of the studies reviewed, the problems investigated were related to academic achievement. Even though this investigation was concerned with interpersonal behaviour, the review of studies using the Brophy and Good Teacher-Child Dyadic Interaction system provided supporting information about the useability of the instrument.

CHAPTER III

METHODOLOGY

In this present study of a day care supervisor's interaction with three and four year old children in the day care setting, the data were collected by video tape recording and coded using a modification of the Good and Brophy Teacher-Child Dyadic Interaction (1969). Analyses were performed in order to find if the interaction of the day care supervisor with male and female children perceived as behaviourally different were significantly different from his interaction with those children not so perceived.

Before the research problem was investigated, a pilot study was conducted to determine the feasibility of the data collection and coding procedures. The methodology of this pilot study will be described first, followed by a description of the procedure followed to collect, score and analyse the data and information for the primary study.

Pilot Study

In order to obtain valid data, it was necessary to test the data collection procedures and instrumentation in a pilot study, which was performed in a day care centre close to a large metropolitan area. The centre met all the provincial government regulations as did the centres in the primary study. The data collection procedure was modified for purposes of this study to allow for clear recording of the dyadic interaction between the day care superviser and each child. The instrumentation was also modified so that it would better correspond to the day care environment. A more complete description of the modified instrument is found in Chapter II.

Data Collection

Methods of observational research have in the past mainly consisted of direct observation. In this study the realization of total observation and accurate recording posed a major difficulty. Development and variations of observational methods and recordings are reported at length by Medley and Mitzel (1963).

To determine the existing state of affairs, the investigator must affect the setting as little as possible in a natural field study. A suitable observational method should allow observation of behaviours and the obtaining of an accurate record of them without disturbing or influencing the natural setting.

The use of video recording as an observational medium permits maximum recording of behaviour with minimum intrusion into the setting. Subsequent repeated viewings of the tapes provide unlimited opportunity for accurate coding and for maximum inter-coder agreement. This method was adopted for the present study.

A single video camera was mounted on a movable tripod in a selected spot in the room. The spot was chosen so that, using a wide angle lens, over three-quarters of the room could be covered. Since the audio equipment in the camera was not suitable for feeding the day care supervisor's voice into the tape recorder, a highly sensitive miniature F.M. battery microphone was clipped to the supervisor's lapel. Thus, the camera was focused upon the day care supervisor so that both picture and sound

of the day care supervisor's interaction with the children was recorded with reasonable fidelity on a half-inch tape. Videotaping the observed interaction in this manner fulfilled criteria pointed out by Kounin (1967).

> .... an observational medium should be passive and receptive rather than critical, should allow all events to come through without distortion or selection, should be free of a will of its own and should neither resist nor invite occurrences onto its record. (p.87)

An audio and T.V. monitor placed in an area away from the children's activity periodically monitored the tape recordings.

The video tapes produced in the pilot study provided the investigator with data to train the coders to use the Good and Brophy Teacher-Child Dyadic Interaction System (1969). As a result, the coding sheet as developed by Good and Brophy was modified for use in the study.

Coding procedures

Six coders were trained by the researcher to use the Brophy-Good Teacher-Child Dyadic Interaction System. Because the coders were students nearing completion of the certificate programme in Early Childhood Education, Continuing Education, U.B.C., they were given three units of course credit for participating in the training procedure and coding of data. All the coders had at least three years of experience in a day-care centre or nursery school.

The training procedure followed the steps outlined in the Brophy-Good Teacher-Child Dyadic Interaction Manual (1969). Additional time of a varied amount was spent by

each coder between work sessions to complete assignments and to become knowledgeable about the interaction system. After becoming familiar with the coding labels and usage, the coders were required to write examples of codings such as forms of criticism, praise, nurture, positive feedback, negative feedback, behavioural, warning, and contact. The group discussed these examples to consolidate conception of the codings.

The coders were then shown five minute portions of the pilot study video tape and required to code the interaction directly on the coding form. After each period, the codings were discussed. If there were discrepancies in the coding, the video tape was replayed until there was a unanimous agreement and understanding. The coding periods gradually became longer until the group could code a half hour tape at one observational session. The training was accomplished in five weeks.

Coder/Researcher agreement

Once the coders had become efficient with the coding procedure, inter-coder agreement was investigated.

The researcher and coders, working independently, coded a half hour tape never previously observed from the pilot study for a measure. Brophy and Good (1969) recommended that the percent agreements between different coders attain a minimal level of .80. In this study, the agreement was taken for each coder and the researcher.

The percent agreement between each coder and the researcher was then calculated as:

$$\frac{\text{number of agreements}}{\text{number of agreements + number of disagreements + number of omissions}}$$

(Good and Brophy, 1969, p.103). The denominator represents the total number of codings while observing the half-hour tape.

As seen from Table I, the percent agreement between the researcher and each coder varied from 82.6 to 92.6. In all instances, the percent was above the minimal acceptable level of .80.

Table 1. Coder/Researcher Percent Agreement

Pilot Study

Coder	1	2	3	4	5	6
Agreements	44	46	44	48	43	45
Total codings	52	52	52	52	52	52
Percent	86.6	88.4	84.6	92.6	82.6	86.5

Primary Study

Population

Setting. This study concerned day care centres in two suburbs (population in each approximately 500,000) of a large metropolitan area in the province of British Columbia (B.C.). Both municipalities contain a variety of socio-economic levels and have a multi-cultural representation throughout the community.

Group day care for children in British Columbia is classifed as either (1) non-profit or (2) private. Because non-profit group day care facilities are funded by the Ministry of Human Resources in the Province of British Columbia, and are required to operate under the standards set out by the Community Care Facilities Licensing Board, Ministry of Health, they have common characteristics. Because of these similarities, this study was restricted to non-profit group day care facilities under the jurisdiction of the selected Municipal Day Care Information Office. The non-profit day care centres observed were operated by parent or community boards registered under the Societies Act of B.C. All had received government funding, such as capital grant funds ($20,000); equipment grant ($2,500); and seed money ($2,500). These centres received this funding between January 1973 and December 1974.

The following characteristics are common to the day care centres included in this study: (1) care is provided to children from six to ten hours per day, Monday through Friday; (2) the centres adhere to the Regulations Act of the Community Care Facilities Licensing Board, Ministry of Health. This establishes: child-adult ratio, space, age of children in group, number of children in group, number of qualified adults in group (Act enclosed in Appendix A); (3) children of families subsidized by the Ministry of Human Resources attend each day care; (4) all centres are regarded as providing programs for normal growth and development; (5) 25 children were enrolled

in each centre and (6) there are more four year old children than three year olds in each centre.

Day care supervisor. The day care supervisor in each centre was a qualified female staff person responsible for the administration of the centre and the children enrolled; the supervisor is qualified according to the Regulations Act, Community Care Facilities Licensing Board, Ministry of Health; although training is not standardized (see Appendix A). All of the day care supervisors had two or more years of experience as staff members in a day care centre.

In each centre, there were two additional female staff, the actual number being determined by the ratio of eight children to each day care worker. The two additional staff were paid assistant supervisors and were qualified or in the process of obtaining licence qualifications.

Children. Three and four year old male and female children were selected as subjects for this study because they are in the day care program full time.* The ages of the children ranged between three years four months to four years eight months. The average length of attendance was approximately seven months. There were more four year old children in each day care centre but the number of boys and girls were constant. Each centre contained children from various cultural backgrounds.

Sample selection procedure

Two municipalities which are geographically close to

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* Five year old children attend kindergarten in the elementary school for half a day and attend the day care centre for half a day

a large metropolitan centre and which share similar day care standards were selected as the sample base. After discussing the study proposal with the educational consultants in the two Day Care Information offices, verbal and written support and cooperation were received.

In Area I, the researcher met with the day care supervisors at their regular monthly meeting to introduce the proposed study. The purpose was explained in terms of observing the interaction of day care supervisors and children in natural day care settings employing a video tape recorder. It was also agreed that the findings of the study would be shared with the centres and Day Care Information Office. Following this meeting, a letter was sent to each centre in that area to invite participation in the study and to get permission from each individual day care Board of Directors. A copy of the letter is provided in Appendix B.

In Area II, the educational consultant in the Day Care Information Office provided the researcher with the names of seven centres. These centres were visited by the researcher, who explained the proposed study to each supervisor. Then, a letter of invitation to participate in this study was sent to each of the centres visited, requesting permission from each day care centre's Board of Directors.

In response to the letter of invitation to participate in the study, seven centres out of 25 in each geographic area indicated their willingness to participate. Visits to each

of these centres were arranged to discuss with the supervisor some of the procedural details. It also was explained that the verbal interaction of three and four year old children with the supervisor would be examined, but that because of limited funds not all the children would be observed.

During this visit, the supervisor was asked to complete a questionnaire on every three and four year old enrolled. This questionnaire was developed to identify children considered by the day care supervisor as behaviourally different or behaviourally adapted. Before the final questionnaire was adopted, the investigator discussed a draft with six day care supervisors in the field not involved in the study. These discussions enabled the development of a questionnaire which satisfied the needs of the study. Relevant suggestions of the day care supervisors were incorporated in the final form, a copy of which appears in illustration 2. The questionnaire was completed independently by each day care supervisor for each three and four year old child in the centre and returned to the investigator.

The scoring of the questionnaire proceeded in the following way:

Question 1: Please circle as many adjectives as can be applied to describe the child most of the time.

The adjectives in this question fell into two categories: behaviourally different or behaviourally adapted.

(-) Behaviourally Different (BD)	(+) Behaviourally Adapted (BA)
Apathetic	curious
anxious	happy
frustrated	accepting
aggressive	affectionate
needs guidance	friendly
needs support	cooperative
Total (-)	(+)

STUDY QUESTIONNAIRE

Name of Child_____ Centre_____

Birth date_____ How long have you worked with this child_____

1. Please circle as many adjectives as apply to describe this child most of the time.

apathetic	accepting	aggressive
curious	frustrated	needs guidance
happy	affectionate	needs support
anxious	friendly	cooperative

2. Please describe this child with any other additional adjectives that are suitable.

3. Did anyone ever comment to you about this child's behaviour?

Yes No

Please indicate who. (nurse, parent, etc.)

What did they say?

4. Do you perceive this child as behaviourally different in the social- emotional- intellectual areas from the other children in the group?

Yes No

Please describe how.

5. Do you spend more time with this child than with other children?

Yes No

Please indicate when.

Illustration 2 - Study Questionnaire

The score is obtained by adding the negative total to the positive total. The result is then a (-) or (+) score. For example: a day care supervisor circled four adjectives in the behaviourally different category (-) and two adjectives in the behaviourally adapted category (+). The totals are added -4 +2 = -2. Question I is then scored as -2.

Question II. Please describe the child with any other additional adjectives that are suitable.

Some of the adjectives added by the day care supervisor were bossy, bright, spaced out, backward.

The investigator placed the additional objectives in either of the two categories: behaviourally different (-) or behaviourally adapted (+). The score is obtained by adding the negative weighted total to the positive weighted total. The result is then a (-) or a (+) number. For example: if a day care supervisor has added three positive adjectives and one negative adjective, the score would be +3 + -1 = +2.

Question III. Did anyone ever comment to you about this child's behaviour? What did they say?

If the answer is Yes, and negative remarks are

made, then one point for BD (-). If answer is Yes and positive remarks are made, then one point for BA (+). If answer is No, then one point for BA (+).

Question IV. Do you perceive this child as behaviourally different in social-emotional-intellectual areas from the other children in the group?

If answer is Yes then -5 point.

If answer is No then +5 point.

The + points and the - points for the five questions were totalled. The negative and positive subtotals were added to provide a positive (+) or negative (-) score. If the total were positive, the child was classified as behaviourally adapted. If the total were negative, the child was classified as behaviourally different.

Sample

A two stage selection procedure was used in the selection of day care centres and children for the sample.

Day Care Centres and Supervisors. The first stage of the selection procedure consisted of scoring the data on each questionnaire in order to classify the children into two categories: those who were perceived as behaviourally different and those who were perceived as behaviourally adapted by the day care supervisor. Those day care supervisors

having at least four and not more than six behaviourally different children in their centres were considered for the study. For the statistical analyses it was necessary that each day care centre satisfy this criteria. The selection of day care supervisors corresponded with the selection of centres.

Fourteen centres expressed their willingness to participate; out of this number eight centres were eliminated. Five centres did not have the required number of behaviourally different children, and two centres had more than the required number of behaviourally different children. The remaining six supervisors in six centres were selected for the study.

Children. In the second stage of the selection procedures, two boys and two girls receiving the highest minus scores on the questionnaire of each centre were selected as behaviourally different children; and the two boys and two girls receiving the highest plus scores were selected as the behaviourally adapted children. The final sample of children with their questionnaire scores is provided in Table 2.

The final sample consisted of six centres and

Table 2. Frequency Distribution of Age and Questionnaire Scores for Sample Children

	BD Male		BD Female		BA Male		BA Female	
	Age	Behaviour	Age	Behaviour	Age	Behaviour	Age	Behaviour
Center 1	4	-11	4	-10	4	15	4	17
	3	- 7	4	- 7	3	12	4	10
Center 2	4	- 9	4	-11	4	9	3	13
	3	-13	4	-10	4	12	4	11
Center 3	3	- 9	3	- 8	3	12	4	11
	4	- 8	4	-12	3	13	3	11
Center 4	4	-15	4	-16	3	13	4	14
	4	-13	4	-14	4	16	4	13
Center 5	4	-12	4	-15	4	13	3	12
	3	-13	3	-10	3	11	4	15
Center 6	3	- 8	3	- 9	4	13	3	11
	4	-11	4	-10	3	11	4	13

48 children; 12 girls and 12 boys selected as behaviourally different; and 12 girls and 12 boys selected as behaviourally adapted.

Data collection

After the children and centres were selected, observations were taped, using the same procedures described for the pilot study. Observations were taped on three consecutive mornings in each centre, from 8:30 to 12:30 p.m., thus providing a total of 72 hours of interaction data.

During video taping the normal dysfunction of equipment was experienced. In one instance the microphone battery needed to be replaced and in the other, the tape recorder was exchanged. In each case the video tape session was postponed until the following morning. No changes were made in the day care programme and the only new equipment in the room was the video recorder and camera. Some children noticed the camera almost at once, and the more curious came to investigate and examine the equipment more closely. The calm acceptance and the minimal comment of the photographer seemed to satisfy the children's curiosity. Within a moment or two the children seemed to have forgotten the camera completely. In any case, if they continued to be aware of the camera or of being observed, they gave no distinguishable evidence of concern or of uneasiness. Each day care supervisor commented about the initial discomfort with the lapel

microphone but as they became more involved with the children they forgot their uneasiness with the video tape equipment.

Coding procedure

The video tape data of each centre was coded by one coder randomly assigned to each centre. Two randomly selected tapes from each centre were also coded by the investigator and used as a reliability measure. The percent agreement (see p.40) was obtained between the investigator's coding and each coder. Table 3 presents the results of the reliability measure.

Table 3. Inter-coder Percent Agreement in Primary Study

Coder	1	2	3	4	5	6
Tape I	86.5	87.3	87.2	86.6	88.5	87.2
Tape II	83.3	85.9	83.9	84.5	84.7	84.6

In Each case the percent agreement exceeded the minimum value of .80 recommended by Good and Brophy (1969).

Design

The study used a 6 x 2 x 2 (centre-by-behaviour-by-gender) fully crossed factoral design with the same number of subjects in each cell. Illustration 3 illustrates the design.

		1	2	3	4	5	6
BD	M	2	2	2	2	2	2
	F	2	2	2	2	2	2
BA	M	2	2	2	2	2	2
	F	2	2	2	2	2	2

Illustration 3. Fully Crossed Factoral Design

Data analyses

For each child the frequency for each code (see Illustration 1) was tabulated. These data served as the basic input for subsequent data analyses. As suggested by Good and Brophy (1969), codes were combined to construct variables. Thirty-three variables were constructed to meet the interests of this study. For example, variable I was constructed by dividing the total of the code frequencies in the child created category by the sum of the code frequencies in the child created category plus the teacher created category. The name and definition for each of the 33 constructed variables are summarised in Table 4.

For purposes of this study the 33 variables were grouped into nine clusters. Four day care supervisors in a geographic area separate from the research location and the investigator independently grouped the 33 variables. Five sets of variable cards were prepared and distributed to the day care supervisors for clustering. They were individually

Table 4. Formation of Variables

Variable	Name	Definition
1	Proportion child created contacts	codes 45-59 / codes 2-84
2	Proportion child created work contacts in child created contacts	45-51; 63-69 / 45-59
3	Proportion praise in total contacts	24, 45, 54, 63, 72, 80 / 2-84
4	Proportion nurture in total contacts	50, 58, 68, 76, 84 / 2-84
5	Proportion criticism in total contacts	35, 49, 51, 67, 75, 82 / 2-84
6	Proportion positive feedback in child created work contacts	45, 47, 50 / 45-51
7	Proportion positive feedback in child crated procedure contacts	54, 55, 58 / 54-59
8	Proportion negative feedback in child created work	48, 49, 51 / 45-51
9	Proportion negative feedback in child created procedure contacts	56, 57, 59 / 54-59
10	Proportion praise in child created work contacts	45 / 45-51
11	Proportion praise in child created procedure contacts	54 / 54-59
12	Proportion positive feedback in teacher created work contact	53, 65, 68 / 63-69
13	Proportion positive feedback in teacher created procedure contact	72, 73, 76 / 72-77
14	Proportion negative feedback in teacher created work contact	66, 67, 69 / 63-69
15	Proportion negative feedback in teacher created procedure contact	74, 75, 77 / 72-77
16	Proportion praise in teacher created work contact	63 / 63-69

(continued on next page)

Table 4. (continued)

Variable	Name	Definition
17	Proportion praise in teacher created procedure contact	$\frac{72}{72\text{-}77}$
18	Proportion teacher created work contacts in teacher created contact	$\frac{63\text{-}69}{72\text{-}77;\ 63\text{-}69;\ 80\text{-}84}$
19	Proportion praise and nurture in behaviour contact	$\frac{80\text{-}84}{80\text{-}84}$
20	Proportion warning, criticism, redirection in behaviour	$\frac{81,\ 82,\ 83}{80\text{-}84}$
21	Proportion direct response opportunity in type	$\frac{7}{6\text{-}9}$
22	Proportion call out opportunity in type	$\frac{9}{6\text{-}9}$
23	Proportion process questions in level	$\frac{12}{12\text{-}15}$
24	Proportion product questions in level	$\frac{13}{12\text{-}15}$
25	Proportion terminal feedback in feedback	$\frac{24\text{-}35}{38\text{-}41}$
26	Proportion praise as second response in child created contact	$\frac{45,\ 54}{45\text{-}59}$
27	Proportion praise as second response in teacher created contact	$\frac{63,\ 72}{63\text{-}77}$
28	Proportion criticism as second response in child created contact	$\frac{49,\ 57}{45\ -\ 59}$
29	Proportion criticism as second response in teacher created contact	$\frac{67,\ 75}{63\text{-}67}$
30	Proportion praise and nurture as second response in behaviour contact	$\frac{80,\ 84}{80\text{-}84}$
31	Proportion warning, criticism, redirection as second response in behaviour contact	$\frac{81,\ 82,\ 83}{80\text{-}84}$

(concluded on next page)

Table 4 (concluded)

Variable	Name	Definition
32	Proportion positive feedback in child and teacher created contacts	$\frac{63, 65, 68, 72, 73, 76}{45\text{-}59;\ 63\text{-}77}$
33	Proportion negative feedback in child and teacher created contacts	$\frac{48, 49, 51, 57, 59, 65, 66, 67, 69, 74, 75, 77}{45\text{-}59;\ 63\text{-}71}$

requested to group the variable cards into clusters which would reflect their own practice in early childhood education. The judges unanimously but independently agreed to group the 33 variables into nine clusters. Table 5 presents the nine clusters together with the member variables.

Statistical analyses

Analyses of variances were used to test the nine hypothesis corresponding to the research question of this study (see Chapter 1). Prior to these analyses of variance, the proportions described in Table 4 were transformed using the arcsine transformation. The arcsine transformation is used with dependent variables expressed as a proportion, thereby better satisfying the demands underlying the analysis of variance (Kirk, 1968, p.66).

The statistical analyses were conducted in two stages. Because systematic differences among the day care centres might mask the major differences of interests in this study, differences among centres with respect to each of the variables defined were investigated, employing a 6 x 2 x 2 (centre-by-behaviour-by sex) analyses of variance (MANOVA). The results of this preliminary analyses confirmed differences among centres.

Following Brophy and Good (1969), the scores were then standardized to mean zero, and standard deviation one, within each centre. This enabled the simultaneous investigation of two factors: behaviour and sex, with the third factor, centres, controlled.

Table 5. Cluster Formation

Cluster		Variables	
No	Name	No	Name
I	Total Support	3	praise in total contact
		4	nurture in total contact
		32	positive feedback in total contact
II	Support in Child Created Contact	6	positive feedback child created work
		7	positive feedback child created procedural
		10	priase child created work
		26	praise as 2nd response child created
III	Support in Teacher Created Contact	12	positive feedback teacher created work
		13	positive feedback teacher created procedure
		16	praise teacher created work
		17	praise teacher created procedure
		27	praise as 2nd response teacher created
IV	Total Non Support	5	criticism total contact
		8	negative feedback child created work
		14	negative feedback teacher created work
		15	negative feedback teacher created procedure
		28	criticism on 2nd response child created
		29	criticism as 2nd response teacher created
		33	negative feedback in total contact
V	Non Support Child Created	8	negative feedback created work

(continued next page)

Table 5 (concluded)

Cluster		Variables	
No	Name	No	Name
V	(continued)	9	negative feedback created procedure
		28	criticism 2nd response child created
VI	Non Support: Teacher Created	14	negative feedback teacher created work
		15	negative feedback teacher created procedure
		20	redirection in behaviour
		29	criticism as 2nd response teacher created
		31	redirection and 2nd response in behaviour
VII	Praise: Child Created	10	praise in child created work
		11	praise in child created procedure
		26	praise 2nd response child created
		30	praise 2nd response behaviour contact
VIII	Praise: Teacher Created	16	praise teacher created work
		17	praise teacher created procedure
		19	praise behaviour contact
		27	praise 2nd response in teacher created
IX	Response Opportunities	21	direct response
		22	call out response
		23	process question response
		24	product question response
		25	terminal feedback

The univariate analyses revealed that there was no evidence of interaction for variables 7, 9, 11, 19, 20, 21, 22, 23, 24, 25, 30 31; that is, each child received a zero frequency. These variables were deleted from further analyses. The remaining variables in each cluster were then analyzed using a 2 x 2 (sex-by-behaviour) multivariate analysis of variance.

The statistical analyses were performed using the computer programme Univariate and Multivariate Analysis of Variance, Covariance and Regression (International Education Services) maintained by the Education Research Services Centre, University of British Columbia.

CHAPTER IV

RESULTS AND SUMMARY

Introduction

As stated in the opening chapter, this study was basically exploratory in nature. The purpose was to identify day care supervisor's significant interactions with children perceived as behaviourally different and to compare these interactions with children not so perceived. Differences were investigated for behaviour, gender and the interaction of each of 33 variables.

Six day care centres were selected for observation by the use of a questionnaire designed to select the centres and children. As a result, the six day care supervisors and 48 children, comprising of, 24 behaviourally different children and 24 behaviourally adapted children, were selected for observation. The two groups contained an equal number of boys and girls. The day care supervisors interaction with the selected children was videotaped in the natural day care setting. The video tape observations were subsequently coded with the Brophy and Good Teacher-Child Dyadic Interaction System (1969). After minor modification of the codes, 61 codes were employed to describe the interaction of the day care supervisor with each child. Thirty-three variables were constructed by combining codes in order to meet the informational needs of the problem. For purposes of analysis the 33 variables were grouped into nine clusters. As a means to test the hypotheses expressed in the null form, a 2 x 2 (sex-by-behaviour) multivariate analysis of variance was performed on the data in each cluster.

For purposes of the present discussion, the data results will be summarized in an order similar to that followed when analyzing the data. Results will be followed by a discussion of the multivariate analysis of data.

Results

Preliminary Analyses

After the nine clusters were formed the first step in analyzing each cluster involved computing the mean and standard deviation for each member variable. The results of this preliminary analysis are contained in Appendix C. Inspection of these data revealed that the coding frequencies for variables 7, 9, 11, 19, 20, 21, 22, 23, 24, 25, 30 and 31 were zero. These 12 variables are contained in Cluster I Total Support, Cluster II Child Created Support, Cluster III Teacher Created Support, Cluster IV Teacher Created Non Support, and Cluster IX Response Opportunity.

Cluster I Total Support subsumes Cluster II Child Created Support and Cluster III Teacher Created Support. These clusters contain variable 7 child created procedure positive feedback; variable 11 praise child created; variable 19 praise in behaviour and variable 30, praise as second response in behaviour. The frequency of occurrence for variables 7 and 11 was zero, thus indicating that the day care supervisor did not interact with positive feedback to any child if the child created a contact about his own needs or interests. Similarly, the frequencies for variables 19 and 30 were zero, thus

indicating that the day care supervisor did not respond with praise as an initial response or second response to any child requiring the day care supervisor's interaction.

In Cluster IV Teacher Created Non Support, variable 9 (child created procedure negative feedback); variable 20 (behaviour restriction); and variable 31 (behaviour restriction as second response) were not observed. This indicates that the day care supervisor did not respond with negative feedback to any child creating a behavioural problem. Variables 20 and 31 reveal that the day care supervisor did not respond with restriction as an initial response or a second response to any child requiring the day care supervisor's reaction to their behaviour.

Variable 21 (direct response); variable 22 (call out response); variable 23 (process question); variable 24 (product question) and variable 25 (terminal feedback) form Cluster IX, Response Opportunity. The entire cluster was not observed which indicates that the day care supervisor did not ask any child a question during a group activity. As a result Cluster IX was eliminated from further statistical analyses.

Multivariant Analysis of Clusters

The remaining variables in each cluster were then analyzed using a 2 x 2 (Sex-by-Behaviour) multivariate analyses of variance. The clusters including variables revealing difference between the compared groups were:

Cluster I	variables 3, 4, 32
Cluster II	variables 5, 10, 26
Cluster III	variables 12, 13, 16, 17, 27
Cluster IV	variables 8, 14, 15, 28, 29
Cluster V	variables 8, 28
Cluster VI	variables 14, 15, 29
Cluster VII	variables 10, 26
Cluster VIII	variables 16, 17, 27
Cluster IX	none

The results of these analyses are reported for each cluster using two tables. The first table reports the mean, standard deviation and sample size for each of the four groups of children. The multivariate F statistic and the corresponding univariate F ratios for each member variable in each cluster are presented in the second table. A brief discussion precedes the two tables reporting the data results for each cluster.

Cluster I: Total Support. The cell mean, standard deviations and sample size for Cluster I are reported in Table 6. The results of the corresponding multivariate analysis of variance are reported in Table 7.

The multivariate F ratios in Table 7 reveals that total support was significant at $p<.05$ for the behaviour factor. The univariate F statistics disclose that the day care supervisor's response was significantly different between behaviourally different and behaviourally adapted children for nurture (variable 4). Inspection of Table 6 reveals that behaviourally

different children received proportionally less nurture (variable 4) than behaviourally adapted children. For praise (variable 3) and positive feedback (variable 32) the univariate F statistics show no significant differences between groups. Similarly no significant differences were found for gender or for the interaction between the two factors of gender and behaviour.

Table 6. Cluster I. Cell Means and Standard Deviations for Total Support

Group	n	Variables		
		3	4	32
male BD	12	3.13% (5.0)	13.8% (10.4)	23.1% (9.5)
male BA	12	11.2 (11.5)	19.5 (14.7)	26.5 (10.6)
female BD	12	3.9 (3.4)	22.4 (15.3)	29.0 (8.0)
female BA	12	7.7 (13.0)	31.2 (22.6)	21.0 (9.2)

(Note ( ) = standard deviation

Table 7. Cluster I. Multivariate Analysis of Variance for Total Support

Source	Multivariate		Univariate	Univariate F Statistic		
	F	df	df	3	4	32
Sex	2.37	(3,42)	1	[a]0.20	1.30	6.66
Behaviour	3.69*	(3,42)	1	2.98	7.33*	0.20
Sex x behaviour	0.82	(3,42)	1	[a]0.52	[a]0.10	2.22
Within			44			

* $p<.05$

a. The value for F ratios less than one are not provided in this table and the corresponding tables for each of the remaining clusters. Inspection of the mean and variability of the variables for which these values occurred revealed that in most cases the means to be compared were very nearly equal, in others the large variability coupled with the small sample size helped to account for the values.

Cluster II Support Child Created. Table 8 reports cell mean, standard deviations and cell sample size for Cluster II. The MANOVA summarized in Table 9, Cluster II was significant at $p<.05$ for behaviour. The univariate F ratios reveal that the day care supervisor's interaction with behaviourally different children was significantly different to their interactions with behaviourally adapted children for variable 6, positive feedback child created work. As shown in Table 8, behaviourally different children received proportionally less positive feedback child created than behaviourally adapted children. Praise in child created work (variable 10) and praise as second response child created (variable 26) were not significant. Similarily the day care supervisor's response was not differentiated for gender or in the interaction between gender and behaviour.

Table 8. Cluster II. Cell Means and Standard Deviations For Support Child Created

Group	n	Variables		
		6	10	26
male BD	12	74.8 (21.7)	.58 (1.4)	.16 (.58)
male BA	12	74.3 (28.7)	2.2 (4.6)	1.1 (3.5)
female BD	12	83.5 (19.1)	3.3 (5.1)	1.2 (2.6)
female BA	12	89.9 (14.7)	9.5 (17.1)	1.5 (4.8)

Note ( ) = standard deviation

Table 9. Cluster II. Multivariate Analysis of Variance for Support Child Created

Source	Multivariate		Univariate	Univariate F. Statistic		
	F	df	df	6	10	26
Sex	2.8	(4,41)	1	1.86	2.61	1.67
Behaviour	6.42*	(4,41)	1	21.38*	0.51	0.57
Sex x behaviour	0.13	(4,41)	1	0.37	0.01	0.16
Within			44			

* $p<.05$

Cluster III Support Teacher Created Table 10 reports the cell means, standard deviations and cell sample size. Table 11 summarizes the MANOVA for Cluster III. The multivariate F ratios in Table 11 reveal that Cluster III was not significant at $p < .05$. However, the univariate F statistic reveals that positive feedback in teacher created contact (variable 12) was significantly different between behaviourally different and behaviourally adapted children. This would indicate by the nature of the test that a probable Type I error has occurred for variable 12. Thus, variable 12 will not be regarded as significantly different on the behaviour variable in the discussion of these data.

Table 10. Cluster III. Cell Means and Standard Deviations for Support Teacher Created

Group	n	Variables				
		12	13	16	17	27
male BD	12	78.6 (19.6)	20.0 (23.0)	2.8 (3.9)	0 (0)	.5 (1.0)
male BA	12	84.6 (12.1)	15.7 (15.9)	6.3 (13.7)	3.5 (9.4)	1.0 (2.1)
female BD	12	76.0 (27.1)	24.0 (23.22)	1.7 (1.8)	.5 (1.5)	.2 (.87)
female BA	12	92.0 (9.1)	23.0 (21.51)	1.9 (5.4)	.3 (1.2)	0 (0)

Note ( ) = standard deviation

Table 11. Cluster III. Multivariate Analysis of Variance for Support Teacher Created

Source	Multivariate		Univariate	Univariate F. Statistic				
	F	df	df	12	13	16	17	27
Sex	0.63	(5,40)	1	0.02	.03	.35	2.14	1.25
Behaviour	1.42	(5,40)	1	4.44*	1.92	1.62	.36	.20
Sex x behaviour	0.47	(5,40)	1	0	.01	2.28	.51	.20
Within			44					

Cluster IV Total Non Support. The mean, standard deviations and cell sample size for Cluster IV are reported in Table 12. The corresponding MANOVA summary is summarized in Table 13. The multivariate F ratios in Table 13 reveal that Cluster IV was significant ($p < .05$) for behaviour. The corresponding univariate F statistics show that negative feedback in child created work (variable 8), negative feedback in teacher created work (variable 14), and criticism as a second response in child created (variable 28) were differentiated between behaviourally different and behaviourally adapted children by the day care supervisor. The cell means in Table 12 reveal that behaviourally different children received proportionally more negative feedback in child created work, negative feedback in teacher created work, and criticism as a second response in child created than did behaviourally adapted children. The univariate F statistics for negative feedback teacher created procedure and criticism as second response teacher created were not significant. Again, the day care supervisor's response was not differentiated between girls and boys, or in the interaction between behaviour and gender.

Table 12. Cluster IV. Cell Means and Standard Deviations for Total Non Support

Group	n	Variables				
		8	14	15	28	29
male BD	12	24.8 (22.0)	21.1 (25.5)	12.1 (25.5)	2.8 (5.3)	3.1 (6.4)
male BA	12	21.5 (28.7)	8.7 (11.5)	1.4 (2.3)	.9 (3.2)	.5 (1.1)
female BD	12	15.8 (19.5)	20.4 (23.6)	3.5 (6.4)	1.2 (2.1)	2.3 (3.3)
female BA	12	9.4 (14.3)	5.1 (9.4)	2.3 (5.0)	0.0 0.0	0.0 (.30)

Note ( ) = standard deviation

Table 13. Cluster IV. Multivariate Analysis of Variance for Total Non Support

Source	Multivariate		Univariate	Univariate F. Statistic				
	F	df	df	8	14	15	28	29
Sex	1.76	(5,40)	1	1.94	.09	1.67	4.27	1.64
Behaviour	3.86*	(5,40)	1	13.59*	12.80*	1.60	4.66*	.38
Sex x behaviour	.88	(5,40)	1	.51	.39	.53	1.98	.06
Within			44					

* $p<.05$

Cluster V Non Support Child Created. The analysis of variance summary is presented in Table 15, and Table 14 contains the cell means, standard deviations and cell sample size for Cluster V. Table 15 reveals that non support child created is significant at $p<.05$ for behaviour. The univariate F statistics reveal that negative feedback child created work (variable 8), and criticism as a second response (variable 28) were significantly different on the behaviour factor. As shown in Table 14, behaviourally different children received proportionally more negative feedback in child created work (variable 8) and criticism as second response than did behaviourally adapted children. The day care supervisor's response was not differentiated for gender or in the interaction between behaviour and gender.

Table 14. Cluster V. Cell Means and Standard Deviations for Non Support Child Created

Group	n	Variables	
		8	28
male BD	12	24.8 (22.0)	2.8 (5.3)
male BA	12	21.5) (28.7)	.9 (3.2)
female BD	12	15.8 (19.5)	1.2 (2.1)
female BA	12	9.4 (14.3)	0 (0)

Note ( ) = standard deviation

Table 15. Cluster V. Multivariate Analysis of Variance for Non Support Child Created

Source	Multivariate		Univariate	Univariate F. Statistic	
	F	df	df	8	28
Sex	2.09	(2,43)	1	8	4.27
Behaviour	6.72*	(2,43)	1	13.6*	4.66*
Sex x behaviour	1.01	(2,43)	1	1.52	1.98
Within			44		

* $p<.05$

Cluster VI Non Support Teacher Created. The cell means, standard deviations and cell sample size are reported in Table 16. The MANOVA summary is reported in Table 17. Variable 14 contributed to the significant multivariate F, observed for behaviour. The cell means in Table 16 reveal that behaviourally different children receive proportionally more teacher created negative feedback work than behaviourally adapted children. The day care supervisor's responses did not differ between behaviourally different and behaviourally adapted children on negative feedback teacher created procedure (variable 15) and criticism as second response in teacher created (variable 29). The response of the day care supervisor was also not differentiated between boys and girls or the interaction between behaviour and gender.

Table 16. Cluster VI. Cell Means and Standard Deviations for Non Support Teacher Created

Group	n	Variables		
		14	15	29
male BD	12	21.1 (17.3)	12.1 (25.5)	3.0 (6.4)
male BA	12	8.7 (11.5)	1.4 (2.3)	.5 (1.1)
female BD	12	20.4 (23.6)	3.5 (6.4)	2.5 (3.3)
female BA	12	5.1 (9.4)	2.3 (5.0)	0.0 (.30)

Note ( ) = standard deviation

Table 17. Cluster VI. Multivariate Analysis of Variance for Non Support Teacher Created

Source	Multivariate		Univariate	Univariate F. Statistic		
	F	df	df	14	15	29
Sex	1.18	(3,42)	1	.09	1.67	1.64
Behaviour	4.25*	(3,42)	1	12.2*	1.61	.38
Sex x behaviour	.25	(3,42)	1	.39	.53	.06
Within			44			

* $p<.05$

Cluster VII Praise Child Created. Table 18 reports the cell means, standard deviation and cell sample size for Cluster VII. The corresponding multivariate analysis are presented in Table 19. The multivariate F ratios in Table 19 reveal that Cluster VII Praise Child Created is not significant at $p<.05$. The day care supervisor's response between the groups was not differentiated for praise child created work (variable 10) or praise as a second response in child created (variable 26).

Table 18. Cluster VII. Cell Means and Standard Deviations for Praise Child Created

Group	n	Variables	
		10	26
male BD	12	.5 (1.8)	.1 (.58)
male BA	12	2.2 (4.6)	1.1 (3.5)
female BD	12	3.3 (5.1)	1.2 (2.6)
female BA	12	9.5 (17.2)	1.5 (4.9)

Note ( ) = standard deviation

Table 19. Cluster VII. Multivariate Analysis of Variance for Praise Child Created

Source	Multivariate		Univariate	Univariate F. Statistic	
	F	df	df	10	26
Sex	1.64	(2,43)	1	2.60	1.67
Behaviour	0.41	(2,43)	1	0.51	0.57
Sex x behaviour	0.79	(2,43)	1	0.01	0.16
Within			44		

Cluster VIII Praise Teacher Created. Table 20 reports the cell means, standard deviations and cell sample size for Cluster VIII. The corresponding multivariate analysis summary is presented in Table 21. The multivariate F values reveal that Cluster VIII Praise Teacher Created is not significant at $p<.05$. The day care supervisor does not differentiate her response between compared groups on praise teacher created work (variable 16), praise teacher created procedure (variable 17), and praise as a second response teacher created (variable 27).

Table 20. Cluster VIII. Cell Means and Standard Deviations for Praise Child Created

Group	n	Variables		
		16	17	27
male BD	12	2.8 (4.0)	0.0 (0)	.5 (1.0)
male BA	12	6.3 (3.7)	3.5 (9.5)	1.0 (2.1)
female BD	12	1.7 (1.9)	.5 (1.5)	.2 (.87)
female BA	12	1.9 (5.4)	0.0 (1.1)	0.0 (0)

Note ( ) = standard deviations

Table 21. Cluster VIII. Multivariate Analysis of Variance for Praise Child Created

Source	Multivariate		Univariate	Univariate F. Statistic		
	F	df		16	17	27
Sex	1.09	(3,42)	1	.35	2.13	1.25
Behaviour	.86	(3,42)	1	1.62	.361	.20
Sex x behaviour	.80	(3,42)	1	1.28	.51	.20
Within			44			

Inspection of Tables 7, 9, 11, 13, 15, 17, 19, 21 reveals that across the eight clusters there were no significant differences between boys and girls and in the interaction between the two factors of behaviour and gender. Thus, it can be concluded that those differences observed between behaviourally different and behaviourally adapted children are pervasive across gender and that gender is not a determiner of the day care supervisor's perception toward children.

From the foregoing results the hypothesis that the day care supervisor's interaction is different with behaviourally different children when compared to interaction with behaviourally adapted children is supported for several variables and clusters. The day care supervisor's interaction is different between behaviourally different and behaviourally adapted children for total support, support child created, total non support, non support teacher created and non support child created. In all work situations the day care supervisor provided less positive feedback and more negative feedback to behaviourally different children than to behaviourally adapted children. Nurture responses provided by the day care supervisor to behaviourally different children were less than those provided behaviourally adapted children, and criticism as a second response was provided more to behaviourally different children when they initiated the contact than to behaviourally adapted children.

The conclusions and implications derived from the above results are discussed in Chapter V.

CHAPTER V

CONCLUSIONS, ASSUMPTIONS AND IMPLICATIONS

The major purpose of this study was to determine any observable differences between the interaction of a day care supervisor with three and four year old children perceived as behaviourally different when compared to the supervisor's interaction with children not perceived in this manner. The interactions of six day care supervisors with 48 selected children in six non-profit day care centres in two municipalities of a large metropolitan area in British Columbia were examined. A two-stage selection procedure was implemented to select the centres and children. The day care supervisor completed a questionnaire designed to identify behaviourally different and behaviourally adapted children, for each three and four year old child. The questionnaire scores were used first to identify the six centres for the study, then to select from each centre eight children, two most behaviourally different boys, two most behaviourally different girls, two most behaviourally adapted boys and two most behaviourally adapted girls.

Each day care supervisor's interactions with the eight selected children were video taped on three consecutive mornings from 8:30 a.m. to 12:30 p.m. in the natural day care setting. The Brophy and Good Teacher-Child Dyadic Interaction System (1969) was used to code the recorded observations.

After minor modification of the Brophy and Good instrument, 61 codes were used to describe the interaction of the day care supervisor with the selected children. Six coders were trained to code the video taped observations. The mean inter-coder reliability was established at over 80% as required by Brophy and Good (1969) for the pilot study and for the full study.

By grouping codes, 33 variables were constructed and then grouped into nine clusters representative of the major classes of supervisor-child interactions found in day care centres. Preliminary data analysis revealed differences among centres, thus the data were standardized (mean zero, standard deviation one) within centres. Each cluster was then analyzed using a 2-x-2 (behaviour-by-gender) multivariate analyses of variance.

The findings revealed that

(1) though it was assumed that the day care supervisor would interact with both groups of children in all situations, some interactions did not occur;

(2) for some clusters the day care supervisors' interactions were not differentiated between behaviourally different and behaviourally adapted children;

(3) for the remaining clusters the day care supervisors interactions were differentiated significantly between behaviourally different and behaviourally adapted children;

(4) the sex of the child was not a factor in the day care supervisor's interactions, nor was the interaction between the behaviour and the gender of the child significant in any interaction.

CONCLUSIONS

Two major headings selected for discussion were non-differentiated interactions and differentiated interactions of day care supervisors with behaviourally different and behaviourally adapted children.

Non-differentiated Interaction

Within the limits of the data five findings are pertinent.

(1) No frequency was recorded for positive feedback, negative feedback or praise when a child initiated a contact to meet his personal needs or interests. One can only wonder if the children were not initiators in this area of contact because of inexperience or former experience, or if the day care supervisor did not interact with children in this area of contact because it was deemed to be unimportant.

(2) No day care supervisors were observed to interact with any child in the response opportunity category (which noted interactions in large or small group activities such as circle time or story time) during which the

day care supervisor questions and the children are provided an opportunity for answers and discussion. If the response opportunity category is assumed to reflect direct or indirect teaching techniques, these results tend to suggest inappropriate planning for and teaching of group activities. This would eliminate any possible interaction with children in this area.

(3) No restrictions of the children's unacceptable behaviour were observed. Here again there seem to be links with inappropriate teaching practice, which did not employ positive techniques in order to maximize a child's acceptable behaviour, or with insufficient knowledge of interactional process.

(4) Similar or non-differentiated responses were noted for behaviourally different and behaviourally adapted children in interactions created by the supervisor requiring her supportive response, such as positive feedback and praise in work and procedure activities. While the responses to the two groups was undifferentiated, the day care supervisor provided very low frequencies of praise interaction to all children.

(5) the sex of the child was not found to affect interaction with the day care supervisor. This undifferentiated

response might be due to the influence on attitudes of day care supervisors of a great many workshops and in-service sessions given by institutions and organizations conscious of the sex role stereotyping of children; or,the fact that three and four year old children still have not recognized sex differentiated activities, and therefore the girls and boys interact with the day care supervisor similarly; or,that the day care supervisor perceives children of this age as essentially sexless. However it is interesting to note that the supervisors could differentiate some of their interactions with children on the behaviour variable but probably did not differentiate on the sex variable.

Although the investigator had assumed that a behaviourally different child could require more of the day care supervisors attention and assistance, therefore forcing the day care supervisor to interact with observable difference between the two groups, the data did not support this assumption. Further, because the investigator accepted the assertions of White (1971) that success is vital to the growth and positive feedback could be interpreted as success, the data indicating that day care supervisors in this study provided neither the quality nor quantity of praise or positive feedback to satisfy individual differences suggest that further investigation is required.

Differentiated Interaction

Within the limits of the data, two findings were pertinent.

(1) Less supportive interaction was provided to young children perceived as behaviourally different by the day care supervisor than to children not perceived in this manner. The significant attributes differentiating behaviourally different and behaviourally adapted children in Total Support (Cluster I) was the nurture and positive feedback response of the day care supervisor. Behaviourally different children were found to receive less nurture than behaviourally adapted children. However it was also evident that both behaviourally different and behaviourally adapted children received little nurturing interaction (Table 6) from the day care supervisor. When either the child or the supervisor created an interactional work contact, children perceived to be behaviourally different received less positive feedback from the day care supervisor than behaviourally adapted children. The findings suggest that even though behaviourally different children receive less positive feedback in work contacts than behaviourally adapted children, the amount of positive feedback given to any child is very low (Tables 10 and 11) in comparison to the total interactions.

(2) Besides receiving less total support (praise, positive feedback, nurture) from the day care supervisor, the

behaviourally different children received more negative feedback and criticism as second response from the day care supervisor than behaviourally adapted children. In work contacts the day care supervisor responded with significantly more negative feedback to behaviourally different than to behaviourally adapted children. Work contacts appeared to be the category yielding the greatest number of responses from the supervisor. (The work category focuses upon the supervisor's directed activities, material and equipment for the child.)

Certain assumptions arising from the above findings concerning day care supervisors differentiated interaction are:

(a) The behaviourally different child's development of future competencies is less likely to occur than that of a behaviourally adapted child because the behaviourally different child receives less nurture from the day care supervisor. Bandura (1963), White (1978) and Skeels (1966) have emphasized that the the nurture provided by the long term caring adult is most influential upon the pre-school child's development of future competency and intellect.

(b) Because children in their early years need positive feedback from the adults in their environment in order to internalize their own developing self image, (Bronfrenbrener, 1971) it may be reasonably assumed

from the data of this exploratory study that behaviourally different children who receive less positive feedback and more negative feedback and criticism in work contacts from the day care supervisor are not receiving the quality of interaction required to develop a positive self concept.

(c) In order to account for the low frequency of interaction in all clusters it may be assumed that the interaction of the day care supervisor with the selected children, (who were selected extremes of behaviourally different and behaviourally adapted) reflect unconscious avoidance of these children. It may well be that more supervisors interactions occur with the bulk of the children in the middle of the behaviour continuum who are less difficult in their relationship with the supervisor.

Within the limits of the data, the conclusions of this exploratory study are summarized as follows.

..The day care supervisors did perceive three and four year old children as behaviourally different or behaviourally adapted.

..The day care supervisors did not differentiate their interactions between male and female children.

..The day care supervisors did not interact with any child, behaviourally different or behaviourally adapted, in group situations.

..The day care supervisors did not restrict unacceptable behaviour for either group.

..The day care supervisors did not interact with any child, behaviourally different or behaviourally adapted, when the child initiated a contact to meet his personal needs or interests.

..The day care supervisors did differentiate their interactions between behaviourally different and behaviourally adapted children on support and non-support clusters.

..The day care supervisors provided less nurture and positive feedback to behaviourally different children than to behaviourally adapted children.

..The day care supervisor's provided more criticism to behaviourally different children.

..The day care supervisors did provide undifferentiated but low frequency praise to all children.

Limitations

Although the results of the study provided useful information that implies further research, certain limitations need to be recognized.

An important limitation was the small and restricted sample. Only six day care supervisors were observed in their interaction with 48 children. The small sample may have restricted the information the Brophy and Good Teacher-Child

Dyadic Interation (1969) was capable of providing. A larger sample involving more day care centres and children might have provided data with more variety and possibly more responses in those categories where no interaction was recorded.

Another limitation was the time span allotted for the collection of data. Observations were made on three consecutive mornings from 8:30 a.m. to 12:30 p.m. to provide 72 hours of video tape. Data collected over a longer period might have provided information to questions not formulated for this study.

Implications for Day Care Practice

Implications for supervisors

Developmental researchers such as Sears, McCoby and Levin (1957), and Bandura (1969) suggest that every child requires much support, nurture, positive feedback and praise from the constant caregiver. The findings of this study indicate that day care supervisor's interactions with children perceived as behaviourally different are less supportive (positive feedback, praise, nurture) than with children not perceived in this manner. Furthermore this study supports research discussed earlier (Jacobs, 1968; Brophy, 1968) that points out that teachers act upon their perceptions through their interaction with children. The findings imply that there is a great need for day care supervisors to become more

aware of how they do or do not interact with children in their care. However difficult it may be for supervisors to assess their own interactions with children, they need to learn how to monitor their own behaviour or feedback if they are to improve the patterns of interaction in the day care environment.

Implications for evaluation

Clearly, the value of process evaluation lies not only in the provision of interactional data which is related to the products of educational experiences, but also in the opportunity for fostering teacher-awareness. Moffett and Ryan (1975) have demonstrated that teachers are very often unaware of responding differently to different children. Day care supervisor's teaching involves rapidly paced sequences of interaction and it is understandably difficult for the day care supervisors to keep up with, let alone to monitor their own behaviour. However, the findings of this study suggest that there are many situations in which children would benefit if the supervisors had information about their interactions with children. Former research indicates that teachers can predict fairly accurately when asked about student ability, but are relatively unaware of their patterns of interactions with students (Baker, 1972), especially individual differences among children. If one assumes that day care supervisors are unaware of their interaction, and callousness, indifference or lack of responsibility is not the major cause of inappropriate interactions, it follows that much inappropriate

interaction can be modified by making the day care supervisor aware what he/she is doing. Present literature strongly supports this idea (Whithall 1956; McNeil 1971). Survey data show that effective supervisory evaluative methods are sorely needed. Most day care supervisors and teachers are rarely or never observed or given factual feedback by advisory consultants (Day Care Information 1975; McNeil 1971). Furthermore day care supervisors tend to reject the consultant's feedback as often they do not agree with or are unfamiliar with the values or criteria that the evaluation is based upon (McNeil 1971).

Good and Brophy (1974) point out that the evaluator of a teacher's interaction with children should be a resource person to the teacher, offering meaningful feedback and rational suggestions for change. Systematic evaluation of a day care supervisor's interaction with children could be implemented within the framework of supervisory services of the Area Day Care Information Office, thereby providing day care supervisors with useful information from objective observation about appropriate and inappropriate interaction with individual children.

Implications for children

Day care supervisors knowledgeable about their interactions with children could become more aware of and therefore able to modify their responses to children. They would be able to provide children optimal opportunities for acceptable behavioural responses by virtue of their own supportive

interaction. For instance, in one of the day care centres, Robbie, perceived as a behaviourally different child by the day care supervisor, continually received negative feedback and criticism for his behaviour. Had the day care supervisor become more aware of her interactions with Robbie by viewing a video tape or by feedback based upon objective observation she could have modified them in such ways as to restrict Robbie's unacceptable behaviour by providing him with acceptable alternatives that could be supported, praised and nurtured.

If the adult supervisor sets up supportive interactions as well as an appropriate physical environment, the behaviour of young children could better be supported. As a result, day care supervisors might have fewer children perceived as behaviourally different in their day care. Not only will the day care supervisor be setting a behavioural pattern and model for young children, she/he will also be providing interaction that encourages intellectual, social and emotional human competence (Bruner, 1971; White 1975).

The present study the day care supervisors perceived young children as behaviourally different or behaviourally adapted within the group, the question inevitably arises whether the same day care supervisor would differentiate among young children on other characteristics also, thereby creating such labels as high achievers, low achievers, intellectually competent, intellectually incompetent; emotionally well or emotionally unwell. With the information provided by the

present study and support of related research (see Chapter II), one can conclude that day care supervisors do perceive children differently and interact with them according to those perceptions. Thus, the day care supervisor's teaching style, behaviour and expectations of children may be changed, thereby affecting the young child's behaviour and learning potential.

Implications for training day care supervisors

The findings of this study imply that day care supervisors either lack knowledge about the interactional process between adult and child or have the knowledge but cannot implement it in practice. In order to provide all children in day care with optimal opportunities to develop a wide range of required competencies it is necessary to consider the addition of an interactional knowledge base in day care supervisors' training programs. Presently the various training programs emphasize methods courses and a basic course in child development. Knowledge of interactional process integrated with knowledge of child development could greatly enhance the day to day interactions of supervisors with each child.

The following example serves to illustrate the lack of such knowledge, as well as its non-integration with child development understanding. The day care supervisor, Mrs. X, perceived four year old Sarah as behaviourally different, describing her as rude and a liar. One morning Mrs. X sat next to Sarah during snack. Sarah initiated the interaction

by informing Mrs. X about herself. "Do you know I'm a whale trainer?" Mrs. X replied, "Oh no you are not, you're too small." "Oh no," replied Sarah, "I am, and I train sharks too!" Mrs. X turned so that her back almost faced Sarah and retorted, "You can't, you are too little." "Oh yes I can, I'm big, 'cause I'm getting a dolphin and I'm going to train him too!" was the reply. Mrs. X immediately left the table and said, "Those are lies, Sarah. Can't you tell me true things - ever?" Sarah was quiet for a moment, then said, "I know something that you don't know." Mrs. X looked extremely irritated and did not reply. Sarah continued, "You think whale doctors are whales don't you? Well, they aren't you know, whale doctors are people!" Mrs. X went to the other side of the room and began a conversation with another child.

Had this day care supervisor some knowledge about the interaction process and integrated it with her understandings of child development, her interaction with the child might have been more accepting and supportive. Many similar situations were recorded during the course of the study providing strong support for incorporating knowledge about teacher-child interaction in a training program.

Implications for Further Research

This exploratory study held in natural day care settings tends to raise more questions than it answers. However, because it is a field study it does throw some light on

variables, processes and interactions that deserve careful attention in future research.

In general, the data from this study firmly supports the view that differential teacher interaction is real but is by no means universal. A parallel investigation to this study might elect to use a variety of methods for assessing children's developmental status, possibly thereby more accurately defining the validity of the day care supervisors' perceptions of individual children. Matching this assessment to the day care supervisors' interactions with the child also might provide information about the needs of individual children and the way in which the supervisor meets these needs through interaction analyses.

In previous interactional research involving young children and teachers (Katz, 1969; Prescott, 1969; Richenberg-Hackett 1962), the findings provided information about the "average" teacher interaction with a group of children. However, these findings could not reflect the way the day care supervisor actually interacts with individual children. For example: the day care supervisor who provides nurture in general to a group of children might simultaneously provide negative feedback to or criticism of individual children. Similarly the typical teacher-class observation system, nurture may average high on a measure. However, the average nurture provided to the group by the supervisor inaccurately portrays the supervisor's interaction and degree of nurture as experienced by an individual child. The outcome of this study suggests that observation of dyadic day care supervisor-child interaction

might be expanded to study reciprocal interaction between the child and the day care supervisor.

In observing different day care supervisors in their interaction with young children there appeared to be distinct differences in the effect of such interaction upon children's desirable behaviour. It might be fruitful to study the effective kinds of things day care supervisors do, interaction of the day care supervisor with children and the consequences upon the children's social, emotional and intellectual development. Further understanding of the day care supervisor's interaction with pre-school children and the effect of their specific interactions upon children's development seems to be crucial to quality day care programs.

The interactions of each day care supervisor in this study with eight children who represented the extremes in behaviour measured at a very low frequency. Might it be that the day care supervisor interacted with greater frequency with children found in the middle of the two extreme categories? In other words does the day care supervisor anticipate more difficult interaction with the behaviour extremes thus preferring not to interact with them but rather with the majority of children found in the middle of the behaviour continuum? This question would require extended research of the present problem possibly using the same data base.

Because a firm understanding of dyadic interactions between the day care supervisor and each child is vital, it is

necessary to develop an instrument which can be used for the purposes of evaluating such interaction. The Brophy-Good Teacher-Child Dyadic Interaction (1969) measure was successfully employed in this study as a research instrument. However further research might develop an instrument capable of effectively providing an objective evaluation of a day care supervisor's interaction with children, or modifying the Brophy-Good Teacher-Child Dyadic Interaction System so that interaction can be coded by observers as they occur in the natural day care setting without the use of a video tape recorder.

Another aspect of this study, which might well be the subject of additional research, is the value of video tape recording and playback as a method for changing the day care supervisor's interactional pattern with young children. The opportunity for the supervisor to view herself or himself in interaction with the children can be a most powerful aid to improvement. A research study needs to address the following questions; What would happen if the day care supervisors were informed of their behaviour by viewing the video tape and suggestions for change were made? Can day care supervisors change undesirable interaction patterns with individual children after they have become firmly established? How would this affect the children if the day care supervisors interaction did change? Systematic study is required by collecting video taped data on how day care supervisors interact with children, providing feedback by observing the video tape and then

suggesting change.

It is hoped that the strengths of video tape observations in natural day care settings and the instrument reliability of the Brophy and Good Teacher-Child Dyadic Interaction (1969) will be utilized in future investigations arising from this study.

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Community Care Facilities
Licencing Board Standards

PROCEDURES AND STANDARDS TO FOLLOW IN LICENSING SERVICES FOR CHILDREN

I. INTERPRETATION

The following definitions are used in licensing services for children.

Interim Permit:

An interim permit allows a facility to begin operation once satisfactory reports have been received. It may be issued for a period not exceeding one year. It is issued before a licence is granted and allows time for assessment of the program.

Licence:

A licence is issued to an applicant by the Community Care Facilities Licensing Board once the Board is assured that the program is operating satisfactorily. It is not transferable from one location to another, or from one person to another. A licence remains valid until suspended or surrendered.

Supervisor:

"Supervisor" means a person who has completed the minimum basic training for a preschool supervisor required by the Community Care Facilities Licensing Board and whose name appears on the Board's registry as having approved standing.

Assistant:

"Assistant" means a person who may not have completed the minimum training requirements for a supervisor but has commenced training or been granted partial credit for previous training. Such a person may receive special permission from the Community Care Facilities Licensing Board to substitute for the person in charge in the event of the person in charge being absent from the licenced center.

Head Supervisor:

When enrollment in a center reaches sixty children an additional supervisor must be employed who, in addition to minimum training requirements, has had several years of practical experience and has demonstrated supervisory and administrative abilities. The head supervisor shall be responsible for the administration of the center.

Responsible Adult:

"Responsible adult" means a person nineteen years of age or over and approved by the local Department of Human Resources staff and the local Public Health staff.

II. DESCRIPTION OF SERVICES

A. ALL DAY SERVICES

Family Day Care

Family Day Care simulates as closely as possible the home environment in providing care for children. When a responsible adult cares for more than two children not related to the person by blood or marriage, a licence is required. The maximum number of children permitted in a family day care home is five. This number includes this person's own preschool children.

Group Day Care

Group Day Care provides an opportunity for social, emotional, physical and intellectual growth for children in a group setting. All group centers require a qualified person in charge known as the supervisor. A maximum of twenty-five children between three years and school entrance age may be cared for in one group. Group care programs for children under three years of age are permitted by the Community Care Facilities Licensing Board on an individual basis.

B. HALF DAY SERVICES

Nursery School

Nursery School provides an opportunity for social, emotional, and intellectual growth for the child three years of age to school age. All nursery schools require a qualified person in charge known as the supervisor.

Kindergarten

Kindergarten provides an opportunity for social, emotional, physical and intellectual growth for children eligible to enter Grade 1 the following year. All kindergartens require a qualified person in charge known as the supervisor.

C. PART TIME SERVICES

Child Minding

Child Minding provides supervised group care for children for no more than three hours, two days a week. The Board

requires a social recommendation for the person in charge to determine personal suitability.

Out-of-School Care

Out-of-School Care provides supervision and social and recreational experiences for children of school age. The Board requires a social recommendation on the person in charge to determine personal suitability.

D. SPECIALIZED DAY CARE

Specialized Day Care provides a group experience for children who exhibit a physical handicap interfering with development, an identifiable developmental lag, or behaviour indicating difficulty in emotional and/or social adjustment. The program should provide opportunities for physical, emotional, social and intellectual growth as well as specialized care for specific needs.

III. PROCEDURES FOR LICENSING

The following procedures should be carried out in order to obtain a licence for provision of services to children.

1. Applicants may obtain the packet of licensing information provided by the province's Community Care Facilities Licensing Board from the local Public Health Office or a Department of Human Resources Day Care Information Center or a Department of Human Resources Office.

2. Plans should be discussed with the Public Health staff and Human Resources staff who will provide specific information regarding the requirements for the type of care to be offered.

3. Applicants are strongly advised to make sure that the chosen location meets local zoning by-laws before committing themselves to financial obligations.

4. The applicant submits the following to the local Health Unit:

   (a) Completed application form
   (b) Confirmation of municipal or regional zoning regulations.
   (c) Three copies of the floor plan. The floor plan must include the size of areas of use for play, sleep, etc. The type and number of toilet fixtures are to be included.

5. A qualified pre-school supervisor must be in charge of the Nursery School, Kindergarten or Group Day Care program. If this person has been engaged at the time of application, the name should appear on the application form. The qualifications of the supervisor must be cleared with the Community Care, Facilities Licensing Board,

1075 Quadra Street, Parliament Buildings, Victoria, B.C.

6. When the application is received, the local Public Health Staff or the licensing staff in Victoria will request inspections to determine if the building which the applicant proposes to use meets applicable health, fire, electrical, plumbing and building regulations. On receipt of satisfactory inspection reports an interim permit may be issued. During the period that this permit is valid, a social report will be requested by the Board from the Department of Human Resources or an alternate designated agency. The Community Care Facilities Licensing Board will issue a licence when the reports indicate all the requirements have been met.

IV. STANDARDS FOR LICENSING

1. The building used by the facility must meet all applicable provincial and municipal health, fire, electrical, plumbing, building, and zoning regulations.

2. Procedures to follow in an emergency or when one adult is alone with a group of children must be established prior to the opening of the facility.

3. The following standards of care are expected to be met in facilities providing services to children.

A. ALL DAY SERVICES

Family Day Care

Hours: Maximum of ten hours per day. No child may be kept overnight.

Ages and Number of Children: Only five children may be cared for at one time. This includes the responsible adult's own pre-school children. No more than two children under the age of two may be cared for at one time.

Staff Qualifications: Responsible adult.

Staff to Child Ratio: One adult to five children.

Physical Standards: Sleeping facilities must be available for each child. There should be sufficient space available for individual and group play.

Equipment: The person in charge must provide play equipment appropriate for the ages of the children in care. The equipment must stimulate healthy social, intellectual, physical and emotional growth. The equipment must be in good repair and in sufficient supply to allow for individual and group play.

(5)

Group Day Care

Hours: Maximum of ten hours per day. No child may be kept overnight.

Ages: Between three years and school entrance age. Group care programs for children under three years of age are permitted by the Community Care Facilities Licensing Board on an individual basis.

Number of Children: Maximum of twenty-five children per group. No more than seventy-five children may be accommodated in one center. Available space determines the maximum number in a specific group or center.

Staff Qualifications: Supervisor and assistants.

Staff to Child Ratio: A supervisor or an assistant must be on the premises at all times when children are present. When the number of children exceeds eight but does not exceed twenty, there should be an assistant in addition to the supervisor. When the number of children exceeds twenty but does not exceed twenty-five there should be two assistants in addition to the supervisor. When the enrollment in a center reaches sixty a head supervisor is required.

Absence of Person-In-Charge: In the absence of the supervisor in charge during operating hours arrangements shall be made for an assistant to be left in charge. For absences of over one week, qualification of the temporary supervisor-in-charge must be cleared with the Community Care Facilities Licensing Board.

Physical Standards: Thirty square feet of floor space per child exclusive of hallways, built-in storage and fixtures, and bathrooms. There must be individual sleeping arrangements available for each child. i.e. cot or three inch foam mattress with a washable cover and washable warm bed covers. One toilet an one hand-basin for every ten children. A fenced outdoor play area should be easily accessible.

Equipment: For suggested guidelines please refer to Brochure #5, Equipment for Children, Day Care for Children in British Columbia.

B. HALF DAY SERVICES

Nursery School

Hours: Maximum of three hours per day.

Ages of Children: Between three years and school entrance age.

Number of Children: Maximum of twenty-five children in one group. No more than seventy-five children may be accommodated in one center. Available space determines the maximum number permitted in a specific group or center.

Staff Qualifications: Supervisor and assistant

Staff to Child Ratio: One supervisor for fifteen children. When the number of children exceeds fifteen an assistant must be present. When the enrollment in a center reaches sixty a head supervisor is required.

Physical Standards: Thirty square feet of floor space per child exclusive of hallways, built-in storage and fixtures, and bathrooms. One toilet and one handbasin for every fifteen children. Outdoor play space should be readily accessible.

Equipment: For suggested guidelines please refer to Brochure #5, Equipment for Children, Day Care for Children in British Columbia.

Kindergarten

Hours: Maximum of three hours per day.

Ages of Children: Between five years and school entrance age.

Number of Children: Maximum of thirty children in one group. No more than seventy-five children may be accommodated in one center. Available space determines the maximum number permitted in one specific group or center.

Staff Qualifications: Supervisor and assistant.

Staff to Child Ratio: One supervisor for twenty children. When the number of children exceeds twenty an assistant must be present. When the enrollment in a center reaches sixty, a head supervisor is required.

Physical Standards: Thirty square feet of floor space per child exclusive of hallways, built-in storage and fixtures and bathrooms. One toilet and one handbasin for every fifteen children. Outdoor play space should be readily accessible.

Equipment: For suggested guidelines please refer to Brochure #5, Equipment for Children, Day Care for Children in British Columbia.

C. PART-TIME SERVICES

Child Minding

Hours: A child may be kept no longer than three hours per day and no more than two days per week.

Ages of Children: A child must be two years of age.

(7)

Number of Children: Maximum of twenty children in one group. No more than seventy-five children may be accommodated in one center. Available space determines the maximum number permitted in a specific group or center.

Staff Qualifications: Responsible adult.

Staff to Child Ratio: One responsible adult for every ten children. Where children under three years of age are cared for, one additional responsible person for every ten children.

Physical Standards: Thirty square feet of floor space per child exclusive of hallways, built-in storage and fixtures, and bathrooms. One toilet and one handbasin for every fifteen children.

Equipment: For suggested guidelines please refer to Brochure #5, Equipment for Children, Day Care for Children in British Columbia.

Out-of-School Care

Hours: Maximum of four hours a day during school term and a maximum of ten hours a day during school closure to meet family need. No child may be kept overnight.

Ages of Children: School age.

Number of Children: Maximum of forty children per group. When the groups contain children in grades I and II, the group size should not exceed twenty children.

Staff Qualifications: Responsible adult.

Staff to Child Ratio: Each group shall have a responsible adult as the person in charge. When the group exceeds twenty children a second responsible person should be available for supervision. In a center with two groups, one of the responsible adults shall also be responsible for the center. In a center with three or more groups there shall be a responsible adult in charge of the center in addition to a responsible adult in charge of each group.

Physical Standards: Thirty square feet of floor space per child exclusive of hallways, built-in storage and fixtures, and bathrooms. Outdoor play area should be readily accessible.

Equipment: Play equipment appropriate for the ages of the children in care should be provided. The equipment should be in good repair and sufficient supply for the number of children in attendance.

D. SPECIALIZED DAY CARE

A wide variety of programs may be offered as specialized group day care. The standards for these programs are determined on an individual basis by the Board in consultation with those offering the program and acknowledged authorities in the area of care given through the program. Staff qualifications, staff ratio, physical standards and equipment required are related to the needs of the children in care. Hours of operation of the service and numbers and ages of the children cared for depend on the type of program offered.

V. INSPECTION

Regular inspections will be made by accredited representatives of the Community Care Facilities Licensing Board to ensure that regulations made under the Community Care Facilities Licensing Act and other applicable Acts are followed.

Approved by the Community
Care Facilities Licensing Board
December 19, 1974

Community Care Facilities
Licensing Board
Health Department
Parliament Buildings
Victoria, B. C.

Letter of Inquiry

January 25,1977,

Dear

It was my pleasure to meet many of the day care supervisors at a meeting on January 20 in the Day Care Information Services North Shore Office.

If you reacall I outlined a study project that I am proposing to do within the North Shore day care centres. Should you be interested in taking part in the project, I would be happy to meet with you at your centre to provide you with more details and information.

Should your centre be willing to participate in this project I would be most appreciative to know of your decision by February 12. Please call me at at any time.

Sincerely,

Hannah Polowy

Appendix C

Non Computable Variables

Variable		bdm	bdf	bam	baf
7	$\bar{x}$	0	0	0	0
	sd	0	0	0	0
9	$\bar{x}$	0	0	0	0
	sd	0	0	0	0
11	$\bar{x}$	0	0	0	0
	sd	0	0	0	0
19	$\bar{x}$	0	0	0	0
	sd	0	0	0	0
20	$\bar{x}$	0	0	0	0
	sd	0	0	0	0
21	$\bar{x}$	0	0	0	0
	sd	0	0	0	0
22	$\bar{x}$	0	0	0	0
	sd	0	0	0	0
23	$\bar{x}$	0	0	0	0
	sd	0	0	0	0
24	$\bar{x}$	0	0	0	0
	sd	0	0	0	0
25	$\bar{x}$	0	0	0	0
	sd	0	0	0	0
30	$\bar{x}$	0	0	0	0
	sd	0	0	0	0
31	$\bar{x}$	0	0	0	0
	sd	0	0	0	0

Note:

bdm = behaviourally different male
bdf = behaviourally different female
bam = behaviourally adapted male
baf = behaviourally adapted female

APPENDIX D

DEFINITION OF TERMS

Behaviourally different) Behaviourally adapted)	The description is defined by the questionnaire (p.45) which was developed to identify behaviourally different and behaviourally adapted children.
Behaviour contacts	A category in the Brophy and Good Teacher-Child Dyadic Interaction (1969 p.5) describing interaction in which the teacher provides the child with information about his behaviour.
Criticism	Negative teacher evaluative reactions that go beyond the level of simple negation by expressing anger or personal criticism of a child, in addition to indicating the incorrectness of his response (Brophy and Good 1969 p.25).
Interaction	Observable patterns of action between teacher and child (Flanders 1970).
Negative feedback	Simple negation (Brophy and Good 1969 p.25).
Non support	Consists of criticism and negative feedback interactions of the day care supervisor in the work and procedure category as created by child or teacher.
Perception	Defined by Hargreaves (1972)p.3 of dissertation.
Positive feedback	Simple affirmation (Brophy and Good 1969, p.25)
Nurture	A day care supervisor's interactional response giving the child confidence, encouragement, comfort and help (Prescott, 1972, p.12).
Praise	The teacher's evaluative interactions which go beyond the level of simple affirmation or positive feedback by verbally complimenting the child and/or by accompanying verbalization of positive feedback.

	with expressions or gestures connoting excitment or warmth B(Brophy and Good, 1969 p.23).
Procedure contacts	Interaction in which the teacher-child interaction is concerned with the child's individual needs and interests (Brophy and Good 1969, p.5).
Response opportunity	Interaction in which the child publicly attempts to respond to a question posed by the teacher within any group situation (story time, discussion time, small group activity) (Brophy and Good 1969, p.5).
Restriction	Conflict exists when child does not accept teacher's goals and teacher moves to obstruct child's activities. Teacher behaviour makes it clear to a child without damaging his self esteem that there are limits which must be respected (Prescott 1972, p.4).
Support	Consists of nurture, positive feed-back and praise.
Work contacts	Interaction in which the teacher-child interaction is concerned with those areas which are deliberately planned by the teacher (equipment, materials, activities).

APPENDIX E

TEACHER-CHILD DYADIC INTERACTION: A MANUAL FOR CODING CLASSROOM BEHAVIOR

Jere E. Brophy

Thomas L. Good

INTRODUCTION

This manual presents the rationale and coding system used by the authors to study dyadic interaction between teachers and children in classrooms. Emphasis is stressed on the word dyadic, since the manual applies only to those classroom interactions in which the teacher is dealing with a single, individual child. There are two major differences between the present system and other systems in common use: (a) it is not a universal system that attempts to code all classroom behavior -- expository lecturing and other situations in which the teacher is addressing himself to the entire class as a group are omitted entirely; (b) the teacher's interactions in his class are recorded and analyzed separately for each individual student, so that the student rather than the class is treated as the unit of analysis. Except for the observation aspect of behavior modification studies, classroom research on teacher-child interaction has tended

to treat the class as a unit, ignoring intra-class individual differences in teacher-child contact patterns. The present authors have argued at length elsewhere (Good and Brophy, 1969) that this methodology is not always appropriate for the kinds of questions which have been investigated with it. In addition, it is specifically inapplicable to studies that focus on intra-class individual differences, including studies of communication of differential performance expectations by teachers. The coding system to be presented was developed specifically for the latter research purpose, although it is applicable to a much wider range of studies of teachers' and pupils' classroom behavior.

In stressing the need to shift from the class to the individual student as the basic unit of analysis in classroom observation studies, Good and Brophy (1969) question two tacit assumptions made at least implicitly by investigators who study teacher effectiveness with observation and coding systems using the class as a unit. These two assumptions are: (a) intra-class individual differences in the way the teacher interacts with different children are of little or not importance relative to inter-class differences among teachers: (b) the teacher behavior variables involved are properly conceptualized as interactions between the teacher and the class as opposed to interactions between teacher and individual children. The first assumption is

called into question by a review of the literature of classroom observation studies which shows that differences between sex, SES, racial, and other groups are regularly found when investigators look for them and that large intra-class variability on the measures taken is the rule rather than the exception. Given the large individual variation within a class, the second assumption may also be questioned, since it follows that the teacher's average score on traditionally studied variables such as warmth or indirectness may not actually reflect the way he actually treats the majority of the students in his classroom. For example, the teacher who is neutral toward the majority of his students but warm and rewarding towards a subgroup might appear moderate to high on a measure of teacher warmth derived from a typical observation system using the class as the unit. In such a bimodal situation, there is no "typical" or "average" teacher warmth; in effect, the majority of the children are experiencing low teacher warmth. Use of an averaged frequency score inaccurately portrays both the teacher's general behavior and the degree of teacher warmth experienced by individual pupils.

In view of the preceding considerations, we conclude that observation of dyadic teacher-child interaction is the method of choice not only in research concerning individual differences among the children in a class, but also in research on teacher effectiveness, which frequently has been approached through systems using the class as the unit. Teacher warmth,

teacher indirectness, and other teacher variables which have usually been studied with the latter methods are variables which have usually been studied with the latter methods are variables of teacher behavior which are usually directed to individual children rather than to the class as a group. They are, in effect, variables of dyadic interaction and should be conceptualized as such. The relatively weak effects that have been reported in studies of teacher effectiveness using such variables may be a result of failure to take into account intra-class individual variation rather than a result of weakness in the variables themselves as predicators of student performance. A change in research design from the class to the individual as the unit of analysis would be more appropriate conceptually and more powerful statistically for evaluating the importance of these teacher behaviors.

Although the system to be presented below does not involve coding everything that goes on in the classroom, it does attempt universality with reference to the class of dyadic contacts: every interaction between the teacher and an individual child is coded. In addition, several aspects of the system involve preservation of the sequential nature of teacher-child interaction, so that cycles of initiation and reaction are not lost in the coding process. This feature is especially important for studying the communication of performance expectations, since it allows separation of effects due primarily to the teacher from effects due

primarily to the child. The system also allows for the conversion of raw codes from the individual children into percentage scores which neutralize the effects of differences in the absolute frequencies of various types of interactions they have with their teacher. Teachers' interactions with particular children or subgroups of children may then be compared directly with interaction in equivalent situations with other individuals or groups. In this way, quality of contact (what the teacher does when engaged in certain kinds of interactions with the child) and quality of contact (the sheer frequency of the different kinds of interactions) may be studied separately and evaluated. Finally, data for the entire class treated as a group may also be obtained by combining the codes for the individual members.

The behavior categories and coding procedures presently being used to study communication of performance expectations in the classroom are presented below. To simplify presentation, only those behaviors actually being coded with the present system are presented in the body of the manual. The coding sheets used in gathering data in the classroom from this manual are presented as Appendix One (General Class Activities Coding Sheet) and Appendix Two (Reading and Recitation Group Coding Sheet). A discussion of other behavior variables, which could have been studied but were excluded from the present research for theoretical and/or practical reasons, is presented in Appendix Three.

Discussion of these variables is deferred until the appendices because they do not appear on the coding sheets shown in Appendices One and Two. Incorporation of these additional variables (or any others) would require redesigning of the coding sheets to accommodate the new categories. Mention of the material in Appendix Three is made here at the beginning of the manual, however, because it points up an important fact about the system to be presented in particular and the notion of coding dyadic interaction in the classroom in general: The system to be presented should not be conceived as a finished, closed system to be used without modification. Different research questions may require the coding of different variables and/or a different approach to coding some of the same variables included in the following system.