LEARNING CENTERS IN THE KINDERGARTEN

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Abstract

This study focused on the use of learning centers in kindergarten. It examined: (a) the policy of the Department of Education with respect to the importance and implementation of learning centers in kindergarten, (b) the extent to which learning centers are currently being implemented in kindergarten classrooms, and (c) teachers' perceptions of learning centers. A questionnaire was distributed to 250 kindergarten teachers, representing 50 percent of the kindergarten teachers of each of the Province's 33 school boards. One hundred and sixty-three, or 71 percent, of the teacher questionnaires were completed and returned. A scheduled interview was conducted with the Early Childhood Consultant for the Provincial Department of Education. The theoretical basis for the use of learning centers is found in education as 'process'. The literature review indicates that the use of learning centers is an efficient and competent means of creating a 'process' oriented classroom. Findings from the study revealed that the use of learning centers is encouraged by the Department of Education and is recommended in the major resources which it provides for the kindergarten program. Results of the study indicate that most kindergarten teachers use learning centers in their classrooms and generally perceive them to be beneficial. But many teachers believe that with respect to the implementation of learning centers, they lack sufficient professional preparation and

have insufficient materials and resources to do so. Based on findings from this study, recommendations are made for further assistance and support for teachers and for further research.

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CHAPTER I

INTRODUCTION

Statement of the Problem

The 1989-90 Program of Studies for the province of Newfoundland does not refer to learning centers in the kindergarten program description. However, it does state that "Learning centres and resource-based teaching are important to the delivery of the primary curriculum" (p. 11).

The Kindergarten Curriculum Guide (1985), the major resource book for kindergarten teachers in this province, lists learning centers as a possible starting point in integrating learning experiences. It devotes a chapter to learning centers, promoting their use as a means of organizing and scheduling the kindergarten program.

Early Experiences (1983), another major resource for kindergarten teachers, argues that in order for a developmental program to effectively create a lively, exciting environment for learning, space, equipment, materials and experiences ought to come together in the form of learning centres.

Despite these references to the need for and effectiveness of learning centers in a kindergarten program, little emphasis seems to have been placed on training teachers in their use. Learning centers are a recent phenomenon in educational history, especially within Newfoundland. This

province has a low turnover rate of teachers, many of whom received their educational training before learning centers were commonly used. Possibly, only teachers who have trained in recent years would have had any exposure to the implementation of learning centers.

In the Bachelor of Education (Primary) program at Newfoundland's Memorial University the use of learning centers is a feature of several methodology courses, such as Language Arts, Primary Curriculum, Primary and Elementary Science Methods, and the Reading Institute. But there is no course which focuses specifically on learning centers.

At the time of implementing the Kindergarten Curriculum Guide (1985), the Department of Education had only minimally promoted learning centers in the field. Kindergarten teachers were given one half-day inservice by the Provincial Early Childhood Consultant. This session focused specifically on learning centers in mathematics. Likewise, program co-ordinators from each school board were given one half-day session. Further inservice to kindergarten teachers was at the discretion of the coordinator of each school board.

Given the factors mentioned, it appears likely that there are considerable differences among the Province's primary schools with respect to adoption and implementation of learning centers in kindergarten classes.

Purpose of Study

The purpose of the study was threefold. It sought to:

1. Examine the extent to which the Provincial Department of Education considers learning centers an essential component of the kindergarten program, and to what degree the Department believes such centers are, and should be, implemented.
2. Determine the extent to which learning centers are being implemented in kindergarten classes in this province.
3. Determine kindergarten teachers' perceptions of learning centers with respect to (a) teacher preparedness, (b) support for teachers, (c) principles of early childhood education, and (d) means of teaching basic skills.

Need for Study

Doll (1982) states that "In-service education must begin with perception, kindle the freedom and lust to change, then provide a method and support, and end in the confirmation of newborn habits. In this form, professional growth becomes self-transcendence" (p. 400). If children are to benefit from the use of learning centers, then teachers must become the first target group. According to the report on In-service Education in Newfoundland (1981), in-service is "...any planned attempt to improve the quality of curriculum and instruction which in turn would improve the learning

opportunities of students. It includes all activities which have as their major purpose the development of skills, attitudes and concepts aimed at improving teacher competence" (p. 3).

In addition to the recommendations about and support of learning centers by the Kindergarten Curriculum Guide (1985) and Early Experiences (1983), the recently implemented kindergarten mathematics guide, Explorations for Early Childhood (1988), is largely based on the utilization of learning centers. Its premise is that "Activity centers form the core of any good early childhood program" (p. 74).

In view of this further emphasis on the use of learning centers within the kindergarten program, many kindergarten teachers may see a need for assistance, in not only effectively implementing learning centers in mathematics, but in the kindergarten program in general.

The study indicates the extent to which learning centers are being implemented within Newfoundland kindergarten classes, and kindergarten teachers' perceptions of them. Based on the findings from the survey, certain recommendations can be made to the Provincial Department of Education with respect to the use of learning centers in kindergarten classes.

Limitations of the Study

This study focused on learning centers in kindergarten only. Not all kindergarten teachers in the Province were involved. The population sample consisted of approximately 230 teachers. This represented a random selection of 50 percent of all kindergarten teachers from each of the 33 school boards in Newfoundland and Labrador.

Definition of Term

For the purpose of this study a learning center is "...an area in the classroom which contains a collection of activities and materials to teach, reinforce, and/or enrich a skill or concept" (Kaplan, 1973, p. 21).

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The notion that children differ and that schools should provide for these differences became the impetus for 'open education' in the 1960s. However, open education created problems for many teachers.

> ...it's not surprising that many dedicated teachers have burned themselves out after two or three years of exhausting creative effort in their open classrooms. Many have turned away from open education with a feeling of disillusionment and inadequacy, or hesitated at even beginning to open up their classrooms. It's clear that there is a need for a middle ground, for methods that open the structured classroom from fear and authoritarianism and structure the open classroom so it's more orderly and rigorous. (Marshall, 1975, p. 7)

Marshall claims that teachers do not want to return to the 'traditional' way of teaching, and that learning centers can become this 'middle of the road' approach. She states, "For the past five years I have been working with a system called learning stations. It provides order and structure, yet leaves the teacher free to be creative and resourceful; it is a way station to a more open, individualized classroom" (p. 7). The belief in learning centers continued to grow and, according to Bennie (1977), this growth phenomenon "...rests on the fact that, in the final analysis, learning centers are an economical and efficient way of facilitating individualization of instruction" (p. 17).

In the literature learning centers are also referred to as activity centers, interest centers, or learning stations. Although not completely synonymous with terms such as child-centered classroom, open teaching and learning, integrated approach, thematic approach, and resource-based teaching, they are often used interchangeably because of their many common traits.

Many variations in the term 'learning centers' exist. Marshall (1975), defines learning centers as:

> ...a system that compresses basic skills work into a shortened period of time (leaving more time open for other activities), urges kids who are behind to catch up with their peers (while providing plenty of help and a supportive climate), liberates most kids (especially those who are more self-motivated) to get involved in projects and activities in their free time and motivates just about everyone. It gets kids working at their full capacity, learning just as much as they can. (p. 7)

Davidson, Fountain, Grogan, Short, and Steely (1976), state that:

> A learning center is an instructional device developed with a specific goal in mind. Activities are provided to reach an outcome (which could be different for each child).
>
> A center can be: designed for a purpose, designed for any number of activities, designed to introduce, develop, or reinforce a concept, designed for a group or an individual self-checking, designed for different ability and achievement levels, goal- or skill-oriented, open-ended, just for fun, teacher-made or student-developed, set up for activities that are concrete or abstract, assigned by a teacher, chosen by a student. (p. 6)

Some definitions, such as the one by Dales, Leeper, Skipper, and Witherspoon (1974), are somewhat more simplistic:

in the nursery, kindergarten, or child development center in which the child can engage in activities related to one of his various interests" (p. 155).

No one definition of a learning center can be all-encompassing. For the purposes of this study Kaplan's description will serve as a working definition. "A learning center is an area in the classroom which contains a collection of activities and materials to teach, reinforce, and/or enrich a skill or concept" (1973, p. 21).

According to Bennie (1977), the underlying philosophy of learning centers is based on three components: the ability of the child to assume responsibility for much of his or her own learning; the understanding that children learn in different ways and at varying rates; and the belief that it is incumbent upon educators to provide for these differences (p. 21).

However, the Kindergarten Curriculum Guide (1985) cautions that "Learning Centers are not for show; they are, as their name suggests, for learning. They cannot replace the teacher; they cannot be the prime source of instruction in the kindergarten classroom" (p. 63).

The remainder of the literature review will focus on: (a) education as 'process' as the theoretical basis for learning centers, (b) child-centered education, (c) learning centers, and (d) the Newfoundland scene.

Theoretical Basis for the Use of Learning Centers

Education As Process

Blenkin and Kelly (1987) state that "...from the very outset there has been a strong emphasis on the need to study child psychology, to understand how children think, learn and develop cognitively..." (pp. 35-36). This view sees education as 'process', wherein individualized curriculum fits the child's developmental needs, and learning becomes important for its own sake. Children are encouraged to learn how to learn, with the emphasis on the process of learning rather than the product. This process approach has had historical, philosophical, and psychological roots, and is the basis for the use of learning centers within the classroom.

Historical Basis

Education as 'process' has evolved over centuries of work by renowned educators. Many claim that it can be traced to the Greek philosopher Plato with his moral convictions and principles of teaching by example and experience through such influences as music and physical education. The notion of thinking in concrete terms can be traced to John Locke in the 1600s. But it is from Jean Jacques Rousseau in the 1700s that many underlying principles of education as 'process' can definitely be noted. Rousseau believed in the pre-determinedly good child, accepted the home as the primary educational environment, and thought that learning should be

meaningful and purposeful, based upon observation and experience.

Many of the tenets of the Swiss educational reformer, Johann Pestalozzi (1746-1827), remain embedded in modern education and his influence can be seen in American progressive educators such as Horace Mann, William Sheldon, Francis Parker, Lester Ward, and John Dewey. Barlow (1977) cites Pestalozzian salutary effects as being (a) the humane treatment of children, (b) experience-based curriculum, (c) emphasis on utilitarian subjects, (d) experimentation in education, and (e) the professionalization of education (pp. 157-167).

Over the last two centuries the notion of education as 'process' has been experimented with and refined. In 1816 Robert Owen created the first infant school in England where the children were exposed to play and intellectual activities. Friedrich Froebel in the mid-1800s organized the first kindergarten based on self-activities designed for attractiveness and success, with an emphasis on sensory experiences, play, and a family-like environment. With the early 1900s came a significant growth in the field of early childhood education. Maria Montessori created a school designed for liberty and freedom, emphasizing learning through the senses from specific materials. Margaret and Rachael McMillan developed the first nursery school in England in 1911 to encourage education for the very young child. But perhaps A.S. Neill's Summerhill School, which was founded in Great

Britain in 1921, was the most famous and idealistic example of open education.

More recently, theorists and educators such as Piaget, Bruner, Donaldson, and Eisner have given support to the theory of education as 'process'. According to Bruce (1987), "The work of these pioneer educators with young children and their families reveals a set of common principles which have endured and still have a useful future. The agreements between them have been fundamental in creating the early childhood tradition" (p. 9). The philosophy which sees education as 'process' coincides with these common principles of early childhood education. Bruce (1987) summarizes these principles as follows:

1. Childhood is seen as valid in itself, as a part of life and not simply as preparation for adulthood. Thus education is seen similarly as something of the present and not just preparation and training for later.

2. The whole child is considered to be important. Health, physical and mental, is emphasized, as well as the importance of feelings and thinking and spiritual aspects.

3. Learning is not compartmentalised, for everything links.

4. Intrinsic motivation, resulting in child-initiated, self-directed activity, is valued.

5. Self-discipline is emphasized.

6. There are specially receptive periods of learning at different stages of development.

7. What children can do (rather than what they cannot do) is the starting point in the child's education.

8. There is an inner life in the child which emerges especially under favourable conditions.

9. The people (both adults and children) with whom the child interacts are of central importance.

10. The child's education is seen as an interaction between the child and the environment the child is including, in particular, other people and knowledge itself. (p. 10)

Contemporary educators such as Nash, Katz, Blenkin, and Kelly also endorse and encourage this 'process'.

Philosophical Basis

Well known modern educator, John Holt, has written much concerning how children learn and why they fail. In his book How Children Fail (1971), Holt advises against instructing children in mindless repetitive tasks. He claims that:

> Since we can't know what knowledge will be needed in the future, it is senseless to try to teach it in advance. Instead, we should try to turn out people who love learning so much and so well that they will be able to learn whatever needs to be learned. (p. 218)

This is not to say that the product of learning is unimportant, but that the process of learning is, in itself, crucial if meaningful learning is to occur, and if children are to become self-directed learners.

According to Blenkin and Kelly (1987), education as 'process' has a new epistemological base with a view of knowledge as being temporary and tentative. They discuss five

features that aid this attainment of knowledge, each of which is philosophically based (pp. 14-16).

Firstly, knowledge can be gained through the senses. Learning through the senses first took on practicality with John Locke. "The source of knowledge, for Locke, was sense-experience..." (Jeffreys, 1967, p. 55). Locke saw the senses as 'doorways' through which the mind gained knowledge. However, Locke did not believe that sensory intake alone was sufficient for learning.

Secondly, the acquisition of knowledge requires varied personal experiences. This notion was first fully developed by John Dewey. In support of learning through doing Dewey (1962) states that:

> No book or map is a substitute for personal experience; they cannot take the place of the actual journey. The mathematical formula for a falling body does not take the place of throwing stones or shaking apples from a tree. (p. 54)

This notion is further supported by Jerome Bruner (1966) in the first of his four major features of a theory of instruction.

> First, a theory of instruction should specify the experiences which most effectively implant in the individual a predisposition toward learning -- learning in general or a particular type of learning. For example, what sorts of relationships with people and things in the preschool environment will tend to make the child willing and able to learn when he enters school? (pp. 40-41)

Thirdly, knowledge should not be imposed on children. This was a major belief of Jean Jacques Rousseau in the 1700s, who believed that knowledge is gained in a natural manner,

similar to the acquisition of oral language. Jerome Bruner's more recent notion of 'optimal structure' helps alleviate the imposing of knowledge on children. According to Bruner (1966) "...a theory of instruction must specify the ways in which a body of knowledge should be structured so that it can be more readily grasped by the learner ... structure must always be related to the status and gifts of the learner" (p. 41).

Fourthly, if knowledge is to be obtained, then the conditions for experiencing must be provided. Again this is based on Rousseau's philosophy of learning. Rousseau accepted the home as the primary educational environment and believed that formal settings should replicate 'home' and provide for meaningful and purposeful learning based upon direct observation and experiences. Rousseau believed:

> ...that each society has a responsibility for providing for each child suitable conditions of life and work beyond what parents can provide, and that all children are entitled to equality of educational opportunity and should, therefore, be equally exposed to working with their hands and learning by doing. (Barlow, 1977, p. 3)

Fifthly, the individual child, rather than knowledge, becomes the focus of the process. This concept of individualization, too, had its roots in Rousseau's philosophical beliefs, but was modified and adapted into practical usage by Pestalozzi. Pestalozzi believed that children have their own pace and direction of development and their own goals. Therefore each child must be treated as an individual. He viewed differences among individuals as a

means of strengthening the educational program rather than a requirement for diluting it (Barlow, 1977, p. 16).

Just as it has been shown that education as 'process' has a strong philosophical basis, it can also be shown to have a psychological basis. The psychological support comes largely from developmental psychology.

Psychological Basis

The Swiss psychologist, Jean Piaget (1896-1980), was not an educational theorist. However, because of his many child studies based on descriptive observations, educators utilize his findings in educational settings. Piaget's writings can provide a theoretical base for selecting cognitive content activities that match the child's developmental level. Thomas (1985) states that:

> Whether teachers adopt a Furth and Wachs version or an Elkind version of a Piagetian-based instructional style, they need to carry out their teaching in a setting that is conducive to a substantial amount of small-group and individualized activities. Tables, desks, and chairs need to be movable. Different interest centers around the classroom need to be available for use by pupils who are at a given developmental level and can most profitably pursue activities and use materials suited to the next level. (p. 298)

Piaget (1969) describes two key elements in the child's mental growth--the child as agent and the child as inward builder. The child-as-agent from birth has degrees of control over the environment (e.g., follows with eyes, explores with hands). Through the developmental mechanisms of assimilation, accommodation, equilibration, and schemas, the child organizes

the experiences from the outside world. It seems logical that the quality of these 'outside experiences', as well as the organizational abilities, will have an effect on the child's development.

The child as inward builder

> ...directs our attention to what in fact lies behind our characteristic behaviour as human beings. Right from the start we build up in our minds a kind of working model of the world around us; in other words, a model of a world of persisting and moving objects and recurring happenings set in a framework of space and time and showing a regular order. (Issacs, 1961, p. 20)

According to Piaget this inward building is achieved through gradual, developmental, fixed stages at varied rates. The first three are described by Brunk (1975) and coincide with the early childhood years of which kindergarten is a component. The sensory-motor period (0-18 months) is characterized by sensory-motor interactions with the environment. The preoperational period (2-7 years) is described as the first crude attempts at symbolization and accelerated language development based on the limited experience within the environment. During the period of concrete operations (7-11 years) the child becomes capable of logical thought processes through the use of concrete objects or events within the environment (pp. 251-253). All three stages are based on the child's interactions with the environment Hence, the need for quality environments to aid quality interactions and organization is reinforced.

> ...there are stages of intellectual development through which children must pass, or different modes of thinking which they must be helped to develop, before they have available to them all the intellectual apparatus which might be employed by the mature, educated adult. What is crucial here of course is that these modes of thinking, these developed forms of intellectual apparatus, are only available to the individual whose educational experiences have promoted the development of them. It is this that is central to the view of education we are exploring here. And it is this that is the essential component of the notion of education as process, or as a series of processes of development. (Blenkin, Kelly, 1987, p. 22)

Margaret Donaldson also advocates education as 'process' with the focus on the child. In Children's Minds (1978) she states that "...teachers need to be clear not only about what they would like children to become under their guidance but about what children are actually like when the process is begun" (p. 15)

Influenced very much by Piaget's work, Donaldson uses many of his concepts as premises for her own beliefs, but not without criticism or differences of opinions. Piaget claims that children under the age of six are very egocentric and thus have communication problems. Donaldson (1978) argues that quite often a child's inability to communicate, particularly with adults, is due to the adult's inability to 'decenter' or place "...himself imaginatively at the child's point of view" (p. 17). As a result it is difficult to present questions or concepts on a level that the child can understand. A teacher's ability to decenter will enhance the relationship between teacher and child, thus permeating the whole environment.

Donaldson's (1978) main thrust is the need for the learning to be meaningful for the child.

> ...all normal children can show skill as thinkers and language-users to a degree which must compel our respect, so long as they are dealing with 'real-life' meaningful situations in which they have purposes and intentions and in which they can recognize and respond to similar purposes and intentions in others. (p. 121)

The child must become an active discoverer. According to Donaldson (1978) this entails:

> [guiding] ... the child towards tasks where he will be able objectively to do well, but not too easily, not without putting forth some effort, not without difficulties to be mastered, errors to be overcome, creative solutions to be found. This means assessing his skills with sensitivity and accuracy, understanding the levels of his confidence and energy, and responding to his errors in helpful ways. (pp. 114-115)

Bruner (1966) suggests three modes by which the child understands the world: the enactive mode (action), iconic mode (sensory), and symbolic mode (language) (pp. 10-12). "What is abidingly interesting about the nature of intellectual development is that it seems to run the course of these three systems of representation until the human being is able to command all three" (Bruner, 1966, p. 12). It is through a knowledge and understanding of a child's learning modes, such as is presented in Bruner's theory of instruction, that the teacher's role becomes vital in aiding the developmental growth of the child.

Another dimension of this process approach to learning is presented in the work of Elliot Eisner, who sees a close

linkage between the cognitive and affective domains. Eisner suggests that children learn through the senses wherein the chosen form of representation has an important role. If the senses are to play a major role in a child's learning process, then the environment needs to encourage and allow learning through visual, auditory, kinesthetic, olfactory, gustatory, and tactile experiences. In reaction to the traditional means of teaching Eisner states that:

> Didacticism, however, and emphasis upon the written word is no guarantee that the quality of educational experience will be good. On the contrary, it is often the case that such a mode of teaching leaves students in the role of game players who go through the motions of intellectual activity without integrating or internalizing the ideas or the spirit of the intellect. (1974, p. 75)

> ...while children must of course learn to read, write, and compute skillfully, the full development of only those skills in no way does children justice. They are capable of more, and schools must try to optimize what students can learn. (1985, p. xii)

The teacher, then, is influential in using means that will provide these sensory experiences for the child. Thus, the more effective the teacher, the more effective the learning.

Piaget's explanations of intellectual development are not sufficient in themselves. A classroom filled with educational manipulatives may not necessarily aid children to develop to their fullest potential. However, taken together, the work of Piaget, Bruner, Donaldson, and Eisner leaves little doubt as to the importance of the process of learning and, in fact,

provides a psychological basis for the process approach in the education of young children.

Child-Centered Education

Carl Rogers in The Interpersonal Relationship in the Foundation of Learning (1968) claims that education would be more effective if the focus was on 'learning' instead of 'teaching' (p. 23). For years the teacher monopolized the classroom with speaking and demonstrating. The child learned primarily by listening and absorbing factual information. Discontent with this approach led to a child-centered one.

> The child-centred movement in education grew as a protest 'against the old rigidly systematized school which imposed its procedure on all the pupils'. It was founded on the assumption that 'the educational system exists first, last and always to serve the development of the child as an individual'. (Enwistle, 1970, p. 22)

Blenkin and Kelly (1987) believe that in a child-centered educational setting "...the individual child himself or herself rather than knowledge becomes the focus of the process" (p. 15). Emphasis is on the process of learning rather than the product.

> ...it is rested in an empiricist epistemology which regards knowledge as a human creation and therefore devotes more attention to the knower than to knowledge itself. This represents a major shift of emphasis which is crucial for education and it is this shift that has to be appreciated and understood if one is to develop a clear and proper concept of what it means for education to be 'child-centred'. (Blenkin, Kelly, 1987, p. 209)

According to Blenkin and Kelly (1987), there appear to be certain key concepts in the notion of child-centeredness: the child's experiences, the child's growth, child-initiated activity, developmentally appropriate activities, and individualization.

Learning through experience is the key to child-centered education. Blenkin and Kelly (1987) see "...an emphasis on experience as the only source of true learning and ... a view of education as the guiding of this experience into productive channels" (p. 35). This is in keeping with the more recent theory of information processing, wherein the sense organs constitute one of the four principal elements of the human processing system (Thomas, 1985, pp. 326-350). One can assume, then, that as children utilize the maximum number of senses, as they are led to do so in a learning centered, child-centered approach, the probability that learning will occur is increased.

There appears to be a consensus among early childhood educators that all areas of a child's growth--socioemotional, cognitive, physical, and aesthetic--must be addressed in an educational setting. Support for this may be found in the National Association for the Education of Young Children position statements (1986), Seefeldt (1980), and Hendrick (1988). Hendrick's book, The Whole Child (1988), describes the five selves of the child: the physical self, the emotional self, the creative self, the social self, and the cognitive self (p. 34). The development of the whole child

is dependent on the growth of each. No one 'self' should be developed to the detriment of the others. In this respect Hendrick (1988) offers four basic premises:

> that curriculum be provided for every self; that the purpose of education is to increase competence in all aspects of the developing self; that physical and emotional health is absolutely fundamental to the well-being of children; and that children need time to be children. (p. 30)

Child-centered education presumes child-initiated activity. How important is child-initiated activity?

> Very important if we are to believe both the experts and the research. In fact, child-initiated activity should be central to an early childhood development curriculum. This is the consensus of early childhood leaders and parents, and it is supported by longitudinal research on program effects. (Schweinhart, 1987, p. 19)

According to Schweinhart, a child-initiated activity is one wherein the children choose an activity from a selection provided by the teacher. "Child-initiated activity is distinguished from random activity by its purposefulness: it is distinguished from teacher-directed activity by the fact that the child controls what happens" (p. 19).

Schweinhart cites three interrelated principles of child-initiated activity:

> Child-initiated activity acknowledges both the developmental levels of young children and their potential for learning.
>
> The best early childhood learning activities are child-initiated, developmentally appropriate, and open-ended.
>
> Open communication between teacher and child and among children will broaden children's perspectives as they learn to share ideas that are not directly imposed on them by the teacher. (p. 21)

Child-initiated activity can be traced to Piaget, who believed that the child must be given power to become producer as well as consumer.

> Piaget is difficult to understand, but his theory becomes meaningful as teachers pose problems for children to solve using the concrete materials, and as the teachers listen to children's explanations and reasoning about the problems.... Telling children is not teaching, as Piaget reminds us. Others do not convince us that we are wrong about our ideas; only we can convince ourselves. But the teacher who knows how to ask the right questions at the right time can spark children's own search for answers and stimulate the child to make his own discoveries. (Lavatelli, 1970, p. 2)

Developmentally appropriate activities are also essential to child-centered education. According to Hendrick (1988), developmentally appropriate "...means that the learning activities planned for the children are placed at the correct level for their age and are suited to individual children's tastes and abilities as well..." (p. 32). However, this is not always taken into consideration. "Many programs respond by emphasizing academic skill development with paper-and-pencil activities that are developmentally inappropriate for young children" (National Association for the Education of Young Children, 1986, p. 108).

The National Association for the Education of Young Children (NAEYC), (1986) "...believes that a major determinant of the quality of an early childhood program is the degree to which the program is developmentally appropriate" (p. 108). A comprehensive list of integrated components of appropriate and inappropriate practice is given in the NAEYC Position

Statement on Developmentally Appropriate Practice in Programs for 4- and 5-Year Olds.

> Developmentally appropriate teaching strategies are based on knowledge of how young children learn.... Developmentally appropriate programs are both age appropriate and individually appropriate; that is, the program is designed for the age group served and implemented with attention to the needs and differences of the individual children enrolled. (p. 110)

Since teachers should teach on the basis of how children learn, "They [teachers] prepare the environment so that it provides stimulating, challenging materials and activities for children. Then, teachers closely observe to see what children understand and pose additional challenges to push their thinking further" (National Association for the Education of Young Children, 1986, p. 109).

The importance of developmentally appropriate programs is supported by the NAEYC Position Statement on Developmentally Appropriate Practice in Early Childhood Programs Serving Children From Birth Through Age 8 (1986) in its listing and discussion of guidelines for developmentally appropriate practices. This position is further supported by David Elkind (1982). In fact, Elkind expresses concern that schools provide inappropriate developmental activities which are very stressful for young children.

Individualization is an extension of developmental appropriateness for young children and a major component of child-centered education. Should all children learn the same information at the same time? For years educators have

struggled with this question, resulting in methods such as ability-grouping and programmed instruction. The realization that children have distinctive characteristics and learning abilities has been well established by child development theorists such as Piaget (1969). Although Piaget claims that children progress sequentially through a series of stages, he does not imply that ages or grades automatically represent a particular stage. Teachers need to become adept at determining each child's 'stage'. Observation and informal testing are sufficient tools in achieving this in the majority of instances.

If individualization is viewed as trying to locate each child's optimal learning time and level, Bruner claims that "Experience ... points to the fact that our schools may be wasting precious years by postponing the teaching of many important subjects on the grounds that they are too difficult" (Bruner, 1960, p. 12). Bruner's notion of the 'spiral-curriculum' suggests that the foundations of any subject can be taught at any age. Through revisiting these subjects in increments of difficulty, learning should occur. Nash (1976) suggests that materials within a learning center should be sequenced according to levels of difficulty so that all children may benefit from them.

The use of learning centers does not exclude large group activities. While whole class teaching and learning must remain one means of program implementation, the need for

individualization is also a crucial one for children of any age level.

Individualized Education Program

Education as 'process' focuses on the child rather than the subject. This places a further emphasis on individualization. An Individualized Education Program is currently recommended by many education departments at the government level. This is particularly so with children who have learning disabilities. However, it has also become an approach recommended for all children whenever and wherever feasible.

Within the United States

> The individualized educational program (IEP) required by Public Law 94-142, the Education of all Handicapped Children Act, recognizes differences among students, including different rates of learning, and provides a sense of direction for maximal use of resources to ensure that students attain the required minimum competencies. (Fox, Rotatori, 1985, p. 18)

Public Law 94-142 and its amendment, Public Law 99-457 comprise the three basic provisions of education: (a) a free public education must be available to all children with handicaps, (b) each child shall be provided with an individualized educational program that is reviewed at appropriate intervals and (c) each child shall be educated in the least restrictive environment (Hendrick, 1988, p. 479).

According to Hendrick (1988), an Individualized Educational Program (IEP) is intended to identify the skills needed by the child and to help determine what the 'least

restrictive environment' should be. The IEP is to be preceded by a body of information about the child which has been developed by a team of staff members and support personnel. This team determines the necessary goals and objectives for the child from which the teacher devises an instructional daily plan (p. 479). Ideally "...one would hope that every youngster in that school has at least an informal I.E.P. developed for her and carried in the back of the teacher's mind" (Hendrick, 1988, p. 480).

Newfoundland's policy on Individualized Educational Programs may be found in its Special Education Policy Manual (1987).

> Screening and identification constitute the first step in the process; they are initiated by the classroom teacher in conjunction with the parents/ guardians. It is only after the teacher's systematic observation of the student and modification of teaching strategies have taken place that a referral may be necessary for detailed assessment and subsequent program planning. The individual program plan designed by the team determines the most enhancing environment(s) for the program's implementation. (p. 3(1))

One means of implementing an individualized program for a child is through that child's involvement at a learning center.

Learning Centers

Many renowned educators recommend the use of learning centers as a viable aid in teaching children, particularly young children. Their belief in the effectiveness of learning centers may be illustrated through some of their comments:

1. More and more teachers are turning to classroom learning centers as a means of making learning more vital, alive, and personal for their students. (Morlan, 1974, p. 1)

2. The main reason for grouping activities is to develop very fully the learning potential of each piece of equipment by positioning it near others with related learning objectives. The activities are grouped according to a primary aim. This does not preclude secondary uses for activities such as classifying in collage or creating with blocks. The arrangement helps the child to relate his ideas and activities from one material to the next. He gains a sense of satisfaction because he is more easily able to understand just what he is doing in school. The range of his activities is increased and he naturally grows to feel more competent. 'I like the classroom. You know where you are here.' (Nash, 1976, p. 55)

3. A grouping of materials for creative work in one area of the room is particularly effective with the younger child. By placing the materials close together and storing spare materials within reach, the child can paint, cut, paste, hammer, and saw the same article. In this setting, too, the young child learns more readily to work on the same item from day to day without teacher direction. Superficially, we may appear to be limiting the child's creative efforts to one part of the room. This particular approach works against the dissipating distractibility of early childhood. It utilizes the spontaneous tendency to try different combinations. It helps to reduce stereotyped conventions about what can be done with what. (Nash, 1976, p. 93)

4. Predicated on the belief that children learn in different ways at various rates, learning centers have come to be viewed increasingly by educators as an economical and viable strategy for accommodating diverse learning styles and a wide range of learning needs at every level. (Bennie, 1977, xii).

5. Establishing centers of interest, with all dramatic play materials in one area of the room, blocks in another, and quiet table games

> together in another corner of the room gives children a sense of purpose for the materials as well as clearly defined areas for specific types of activities. This ordering helps children see relationships and fosters their intellectual growth. (Seefeldt, 1980, p. 105)

6. Organizing the space into learning areas provides children with an opportunity to engage in a wide variety of experiences. (Byrne, Rowen, & Winter, 1980, p. 77)

7. Classroom or schoolyard learning centers set up by imaginative teachers offer the balance of structure and freedom young children need to explore diverse sensory experiences. (Early Childhood, 1982, p. 54)

Blake (1977) considers the use of learning centers to be more of an attitude than an approach. As a result, difficulties arise in providing a guaranteed prescription for implementing successful learning centers. Blake believes that learning centers are more than the physical organization of activities and space. More importantly, they require the development of specific objectives based on pupil assessment as well as knowledge about what children should learn and how they learn (pp. 22-25).

There are many kinds of learning centers varying in subject, size, and organization. The types of learning centers identified by Blake (1977) include: (a) subject-focused versus thematic, (b) interest versus skill, (c) short-term versus long-term, (d) compulsory versus non-compulsory and (e) centers just for fun. A classroom may contain one, all, or a combination of types. A learning center may utilize varied materials to achieve its goals. No two learning centers may be exactly alike because of the

uniqueness of teachers and students and their specific needs. However, all learning centers should have certain common characteristics:

1. They should look enticing so that they attract attention and interest.

2. They should include manipulative materials whenever possible and appropriate.

3. They should be set up so that students have no difficulty figuring out what they are to do. At the same time, they should be open-ended so that students can modify or add to the activities at the center.

4. They should be designed in such a way that learning opportunities can be extended and expanded by changing or adding materials and/or instructions. (One center, for example, can contain as many as four levels of learning and still deal with the same topic.) (Nations, 1976, p. 10)

Nations (1976) further adds that:

> All learning centers, however, share a purpose: to help young people develop independent learning skills. For this reason many educators believe that learning centers can:
>
> - Help students become self-motivated
> - Help students learn at their individual paces
> - Help students and their teachers know one another better as persons--not just as stereotyped 'students to be taught' and 'teachers who teach'
> - Help students develop their own goals--sometimes with, sometimes without, the help of teachers and/or other students
> - Provide opportunities for students to evaluate their own progress

- Help students learn how to work independently

- Provide opportunities for students to learn from one another--to give help and to receive it

- Provide opportunities for students to explore different ways of learning and to find the ways that work best for them. This should be a continuing exploration, with freedom and encouragement to try something again that wasn't successful the first time around.

- Help students use different ways of communicating ideas, information, and feelings

- Help students become acquainted with various learning resources and learn how to use them

- Help students develop a multi-faceted approach to learning as they discover that there are many kinds of knowledge, skills, and ways of acquiring and using them

- Provide teachers with many opportunities for assessing needs and achievements of individuals and the group and for planning appropriate learning experiences; provide opportunities for students to participate in these activities. (p. 10)

This is not to say that these purposes cannot be achieved through any other means but that the use of learning centers is one very feasible possibility.

In recent years some research has been undertaken to determine the effects of learning centers on the learning process. The following are some examples.

Martha Markovitch (1982) designed a study to address the problem of inadequate language development skills in first-grade children. A learning center approach combined with the language-experience method comprised the target group while a basal-reader approach in a conventional method comprised the control group. Test results indicated that a large percentage of target students achieved the projected increases on posttests while a few control students showed significantly increased scores. However, the experiment could be criticized for its failure to statistically control for the impact of the language-experience method.

Nancy Varner (1982) implemented a study to develop independent language arts skills with a kindergarten enrichment group through learning centers. Specifically the project sought to help students gain independent work habits, to improve their care of materials, and to raise their reading ability by one grade level. Ten learning centers were organized and utilized. All ten children moved from preprimer to mastery of primer reading materials, markedly improved their work habits, and, with incentives withdrawn, continued to take better care of materials. However, this study cannot be used to generalize about the population at large.

Carol Keller (1985) implemented a study to improve basic skills in low achieving kindergarten students through supervised learning centers. The school contained 802 students from low- and middle-class families, with several

ethnic groups included. All kindergarten students were administered the Cooperative Preschool Inventory. Students lacking the basic readiness skills, who could not work independently and were deficient in receptive language skills, were identified. Specific learning centers were devised. The six target students would go to an individualized supervised center following a teacher-directed activity. The learning center supervisors were six trained volunteer parents. The study was conducted for 60 minutes each morning over a three-month period. Observations were made by an unbiased observer during the first three days, the sixth week, and at the conclusion of the study. The findings indicated significant improvement in cognitive growth, independent work skills, use and care of materials, and a positive attitude to learning. Whether these findings are a direct result of individualization at learning centers and not a normal occurrence is debatable. It is likely, however, that the use of learning centers was a contributing factor.

Newfoundland Scene

A description of kindergarten may be found in the Newfoundland and Labrador Program of Studies (1989-90).

> Most children are introduced to formal education through kindergarten, a mandatory half-day educational program provided by all primary schools in the Province of Newfoundland and Labrador. Kindergarten provides an essential complement to the child's experiences at home and in the community. The program attempts to meet the physical, social, emotional, intellectual, and moral needs of the growing five-year-old. Because

> every child is unique the kindergarten program is committed to individualization. (p. 1)

The Program of Studies (1989-90) lists the three key resources for kindergarten teachers as being: (a) Early Experiences: A Resource Guide for a Developmental Program in Early Childhood Education, (b) Kindergarten Curriculum Guide and (c) Preschool Parent Resource Package (pp. 1-2).

Early Experiences: A Resource Guide for a Developmental Program in Early Childhood Education (1983) is comprised of three major parts. Part 1 reviews the current thinking on child development and the importance of play. Part 2 provides practical strategies for planning, organizing, and initiating an informal development program. Part 3 sets out an observational method for the ongoing assessment of the effectiveness of the program as well as of the progress of individual children (Overview). It is Part 2, "The Program", which discusses learning centers. According to Eden (1983) the author of Early Experiences:

> In a developmental program, the most effective way to create a lively, exciting environment for learning is to tie the organization of space, equipment, materials and experiences to learning centres -- or, in other words, to give a special identity to certain locations in the room, an identity that defines what the children can find, do and learn in that spot. Such centres not only provide for specific developmental needs but also bring many aspects of development together in integrated experiences. (p. 49)

Eden (1983) further adds that "...the developmental objectives of any informal program can be met with a core group of five basic learning centres" (p. 49). These centers

include: (a) the home center, (b) the sand/water center, (c) the block center, (d) the arts center, and (e) the quiet center. Other beneficial centers which Eden (1983) recommends include: (a) the woodworking center, (b) the listening center, (c) the science center, and (d) the interest center (p. 49).

The Kindergarten Curriculum Guide (1985) "...is the major resource in the kindergarten classroom" (Program of Studies, 1989-90, p. 1). This Kindergarten Curriculum Guide addresses the topics: (a) What is Kindergarten?, (b) Child Development, (c) The Kindergarten Teacher, (d) The Kindergarten Curriculum, (e) Integrating Learning Experiences, (f) Organizing and Scheduling, (g) Parental Involvement, and (h) Assessment. Its emphasis on learning centers is included in Chapter 6, "Organizing and Scheduling". In this chapter it is stated that "Learning centers can be incorporated into the classroom to provide effective learning activities. The types and arrangement of learning centers should be in keeping with the objectives of the kindergarten program. Learning centers should support the kindergarten curriculum" (p. 61). The Kindergarten Curriculum Guide also suggests that certain learning centers are basic to a kindergarten program: (a) Library or Book Center, (b) Group Assembly Center, (c) Language Arts Center, (d) Music Center, (e) Physical Education (Movement Center), (f) Mathematics Center, and (g) Science Center (p. 61). Other suggested centers include: (a) Block Center, (b) Art Center, (c) Sand Play Center, (d) Water Play

Center, (e) Manipulative Materials Center, and (f) Display Center (for any curriculum area) (p. 61).

In further support of a learning center approach in kindergarten the Kindergarten Curriculum Guide (1985) states that:

> Traditionally, time has been blocked into small subject-matter segments during which all children in a class engage in the same activity at the same time. This type of organization is not functional in kindergarten; Froebel, Dewey, Piaget, and Montessori would never have considered such organization as functional. (p. 64)

The other key kindergarten resource, the Preschool Parent Resource Package, provides information on many important aspects of early childhood education. It does not directly address the topic of this study.

There is a need to include the recommended learning resource for mathematics in the discussion of a learning center approach in kindergarten. Explorations for Early Childhood (1988) gives eight principles of the program, all of which derive from the theoretical foundation on which learning centers are based:

1. Because most children in the primary grades are at a preoperational stage of development, they learn mathematics best by manipulating concrete materials and interacting with their environment.

2. Play is recognized as an important factor in the development of the whole child. It is through play that the child acquires and confirms knowledge of the environment.

3. Children must manipulate materials and verbalize the results of their activity to develop a solid grasp of mathematical concepts.

4. Experiences and learning styles of children vary considerably. Activities must be designed to accommodate individual needs.

5. Children should be encouraged to think and engage in tasks that motivate as well as challenge. Problem-solving skills and strategies should be integrated into all facets of your program.

6. The internalization of mathematical concepts and the development of language skills are two aspects of a child's intellectual growth that can and should reinforce each other.

7. It is important to encourage the children to search their environment for examples of concepts under consideration and to place mathematical experiences in practical and meaningful situations.

8. By providing an environment that is accepting, encouraging, stimulating, and enjoyable, a program can foster a strong self-image and a positive attitude towards mathematics. (pp. 4-7)

These principles could well apply to any curriculum area.

Learning centers are given much emphasis in Explorations for Early Childhood (1988). It features ideas for a math, sand, block, art, dramatic play, water, and science center. According to Explorations for Early Childhood, Activity Centers provide an opportunity for:

- free exploration of materials, ideas, and relationships
- fostering social, emotional, and intellectual growth
- child initiation as well as teacher initiation of activities
- the exploration, reinforcement, and extension of ideas presented in the Circle Activities

- building on the mathematical potential of a child's play, interests, questions, or discoveries. (p. 9)

It seems evident, then, from the review of the literature and the major kindergarten teacher resources for Newfoundland and Labrador, that the use of learning centers should predominate in the implementation of a kindergarten program.

Summary Statement

The literature has addressed the 'process' of education as the theoretical basis for the use of learning centers in the classroom. The historical, philosophical, and psychological roots of education as 'process' emphasize the role of the child and the teacher in the learning process. Learning centers are meant to address needs such as: (a) focusing on the child, (b) learning through experience, (c) child-initiated activities which are developmentally appropriate, and (d) individualization of learning. These are also goals which are synonymous with child-centered education. Recent research advocates focusing on the child and recommends the use of learning centers as one means of doing so, particularly in the Kindergarten. The official kindergarten guide in the province of Newfoundland makes this recommendation also.

Current early childhood specialists, such as Hendrick (1988), believe that:

> Children need time and personal space in which to grow. They need time to be themselves--to do nothing, to stand and watch, to repeat again what they did before--in short, they need time to live in their childhood rather than through it. If we offer the young children we teach rich and appropriate learning opportunities combined with enough time for them to enjoy and experience those opportunities to the full, we will be enhancing that era of childhood, not violating it. (p. 30)

The use of learning centers in the classroom can help achieve this.

CHAPTER III

METHODOLOGY

This study was a field survey and included:

(1) A questionnaire for kindergarten teachers. Permission for the distribution of the questionnaires was obtained from each of the Province's 33 school boards (Appendix A). The sample size was 230 kindergarten teachers, representing fifty percent of the kindergarten teachers of each school board. Within each board teachers were randomly selected and asked to complete the questionnaire (Appendix B). Respondents returned the completed questionnaires to the researcher in the self-addressed stamped envelope distributed with the questionnaire.

(2) An interview with the Provincial Consultant for Early Childhood Education. Permission was granted for a taped interview (Appendix C). (For the interview schedule see Appendix D.)

The questionnaire consisted of four sections, focusing on: (a) biographical data, (b) current teaching responsibilities, (c) teachers' use of learning centers, and (d) teachers' perceptions of learning centers.

The specific learning centers included in Section D of the questionnaire are those suggested as basic to the kindergarten program in the two major resources for

Newfoundland Kindergarten teachers, Kindergarten Curriculum Guide and Early Experiences.

CHAPTER IV

ANALYSIS AND DISCUSSION OF DATA

The survey undertaken included a collection of data from completed teacher questionnaires and an interview conducted with the Provincial Consultant for Early Childhood Education.

The findings from these two sources are analyzed and discussed separately.

SECTION I

Analysis of Teacher Questionnaire Responses

The teacher questionnaire was distributed to 230 kindergarten teachers. This represented 50 percent of each of the 33 school boards' kindergarten teachers within Newfoundland and Labrador. One hundred sixty-three, or 71 percent of all questionnaires distributed, were completed and returned to the researcher.

The questionnaire sought to answer a variety of questions which include:

1. To what extent are learning centers being implemented in kindergarten classes in this province?
2. What types of learning centers are most frequently used by kindergarten teachers?

3. Which of the specific learning centers recommended by the Kindergarten Curriculum Guide (1985) and Early Experiences (1983) are most commonly used by kindergarten teachers?

4. What relationship is there between, on the one hand, certain teacher factors such as: (a) sex, (b) age, (c) degrees held, (d) date last degree awarded, (e) teaching experience, (f) teaching experience in kindergarten, (g) present teaching duties, (h) kindergarten class size, and (i) total class size, and, on the other hand, with reference to learning centers, teachers' perceptions of: (a) teacher preparedness, (b) support for teachers, (c) principles of early childhood education, and (d) means of teaching basic skills.

Data from the questionnaire responses were analyzed in two ways. Frequency distributions from items 1-14 are presented in table form and are discussed. Items 15-54 have been categorized under four headings: (a) teacher preparedness (items 15, 20, 27, 38, 47), (b) support for teachers (23, 24, 32, 39, 43, 54), (c) principles of early childhood education (16, 17, 18, 19, 21, 22, 25, 26, 28, 30, 31, 33, 36, 37, 40, 42, 44, 45, 46, 48, 49, 50, 51, 52, 53), and (d) means of teaching basic skills (29, 34, 35, 41). A one-way analysis of variance was performed between each of these categories and items 1-9 (Teacher Factors). Findings are presented in table form and discussed. Where relevant, findings from specific

items within particular categories are presented. Significance was established at the 0.050 level.

Data from responses to items 1-14 are presented first. These are recorded frequency distributions accompanied by discussion.

Items 1 and 2 refer to biographical information about the respondents. The responses are presented in Tables 1 and 2 respectively and are discussed.

Item 1

Sex:

Male 1
Female 2

Table 1

Teacher Sample by Sex

Sex	Number of Respondents	Percent
Male	4	2.5
Female	159	97.5
Missing Responses	0	0
Total	163	100.0

Item 2

What was your age at last birthday?

Under 25 years	1
26-30 years	2
31-35 years	3
Over 35 years	4

Table 2

Teacher Sample by Age

Sex	Number of Respondents	Percent
Under 25 years	15	9.2
26-30 years	23	14.1
31-35 years	47	28.8
Over 35 years	78	47.9
Missing Responses	0	0
Total	163	100.0

Table 1 indicates that 97.5% of all kindergarten teacher respondents are female. Traditionally this has been the case of Newfoundland and Labrador primary teachers and in particular kindergarten teachers. Although it is no longer a solely female role, the change is very slow.

According to Table 2, almost half of the 163 respondents (47.9%) are over 35 years of age compared with 9.2% who are under 25. This is reflective of the current aging teaching force within Newfoundland and Labrador as documented by

Press (1990) in the report Toward 2000: Trends Report 2: Elementary-Secondary Projection. This report states that "Since the early 1970s there has been a constant aging of the teacher workforce" (p. 31). It lists 38.9 years as the average age of teachers in the Province for 1989-90 (p. 32).

Items 3 and 4 concern teacher qualifications. Responses are presented in Tables 3 and 4 and are discussed.

Item 3

What degree(s) do you hold?

Bachelor of Arts (Education) Primary 1
Bachelor of Arts (Education) Elementary 2
Bachelor of Education (Primary) 3
Bachelor of Education (Elementary) 4
Other 5
(Please specify) _____

Table 3

Degrees Held

Degrees Held	Number of Respondents	Percent
B.A.(Ed.) Primary	76	46.6
B.A.(Ed.) Elementary	30	18.4
B.Ed. Primary	15	9.2
B.Ed. Elementary	9	5.5
Other	28	17.2
Missing Responses	5	3.1
Total	168	100.0

Item 4

When was your last degree awarded?

Before 1970	1
1970-1975	2
1976-1980	3
1981-1985	4
Since 1985	5

Table 4

Date Last Degree Awarded

Last Degree Date	Number of Respondents	Percent
Before 1970	4	2.5
1970-1975	31	19.0
1976-1980	20	12.3
1981-1985	41	25.2
Since 1985	40	24.5
Missing Responses	27	16.6
Total	163	100.0

With respect to teacher qualifications, 46.6% of the kindergarten teacher respondents indicate that they possess a B.A.(Ed.) Primary degree. This degree was replaced by a B.Ed. Primary degree at Newfoundland's Memorial University in 1983-84. The B.Ed. degree is held by 9.2% of the respondents. This gives a combined total of 55.8% of all respondents who have a degree in primary education, a degree whose program includes kindergarten teacher training. However, 44.2% of the

respondents may not have received specific kindergarten teaching training. In fact, responses indicate that 18.4% possess a B.A.(Ed.) Elementary degree and that 5.5% possess the new B.Ed. Elementary degree. This is a combined total of 23.9% of all respondents who have elementary educational training and yet are kindergarten teachers. In addition, 17.2% of the respondents indicate that they hold other degrees. These 'others' are specified and include: (a) Secondary degree, (b) B.Sc. degree, (c) B.Sp.Ed. degree, and (d) M.Ed. degree. Some of these qualifications may not have provided relevant professional preparation for kindergarten teachers. These findings reiterate Riggs' (1987) statement in the Report of the Small Schools Study Project that "...teachers in both small and large schools have high academic qualifications", but that "...there is extensive misassignment of teachers who teach in areas different from the designation of the degree which they hold--especially in primary grades" (pp. 55-56).

Responses to Item 4, concerning the date of the last degree awarded, indicate that 49.9% of the respondents have received a degree within the past ten years, with 25.2% obtaining a degree between 1981-1985 and 24.5% obtaining one since that time. Such recent training, at least for primary teachers, would suggest some exposure to current educational practices such as the use of learning centers. On the other hand, many respondents (33.8%) received their most recent degree prior to 1981, with 2.5% having received it prior to

1970. For such kindergarten teachers, the philosophy and implementation strategies of a relatively new educational phenomenon such as learning centers will not likely have been a feature of their professional preparation.

Items 5 and 6 refer to teaching experience. Responses are recorded in Tables 5 and 6 and are discussed.

Item 5

How many years of total teaching experience do you have?

Less than one year	1
1-5 years	2
6-10 years	3
11-15 years	4
More than 15 years	5

Table 5

Total Teaching Experience

Teaching Experience	Number of Respondents	Percent
Less than 1 year	3	1.8
1-5 years	27	16.6
6-10 years	22	13.5
11-15 years	36	22.1
More than 15 years	75	46.0
Missing Responses	0	.0
Total	163	100.0

Item 6

How many years of this teaching experience have been spent as a kindergarten teacher?

Less than one year	1
1-5 years	2
6-10 years	3
11-15 years	4
More than 15 years	5

Table 6

Kindergarten Teaching Experience

Kindergarten Teaching Experience	Number of Respondents	Percent
Less than 1 year	14	8.6
1-5 years	60	36.8
6-10 years	29	17.8
11-15 years	39	23.9
More than 15 years	21	12.9
Missing Responses	0	.0
Total	163	100.0

The questionnaire requested teachers' total years of experience and their experience as kindergarten teachers. Table 5 indicates that 46.0% of all respondents have more than 15 years of teaching experience, and another 22.1% have between 11-15 years. This leaves 31.9% who have 10 or fewer years of total teaching experience.

Table 6 indicates that 63.2% of all respondents have 10 or fewer years experience as kindergarten teachers. Of this group, 45.4% have five or fewer years of their teaching experience in kindergarten. The remaining 36.8% have 11 or more years of kindergarten teaching experience, with 12.9% of them having more than 15 years. Thus, although a large percentage of these kindergarten teachers (68.1%) have 11 or more years of total teaching experience, 63.4% have fewer than 10 years as kindergarten teachers. This may be largely due to declining enrolments and thus a gradual decline in teacher turnover. According to Press (1990):

> The decline in teacher turnover is undoubtedly a reflection of the general state of the economy. Teachers cannot or will not give up tenured positions when the job market offers few prospects for comparable or better positions. Nor can teachers count on moving from district to district any more. (pp. 39-40)

As a result many teachers may seek and receive new assignments within their school. This, again, tends to exacerbate the situation referred to by Riggs (1987) concerning misassignment of teachers. It may well suggest that many seemingly 'senior' teachers will need extra inservice training in the principles of early childhood education.

Findings from Item 7 concerning current teaching duties are presented in Table 7 and are discussed.

Item 7

Which of the following best describes your present teaching duties?

I teach kindergarten only, both in the morning and afternoon 1

I teach kindergarten for half of the day and another grade(s) for the other half 2

I am a multigrade teacher (I teach kindergarten and another grade(s) at the same time) 3

I teach under another arrangement 4
(Please describe) _____

Table 7

Present Teaching Duties

Present Teaching Duties	Number of Respondents	Percent
Kindergarten (Full Day)	76	46.6
Kindergarten (Half) Another Grade (Half)	28	17.2
Multigrade	39	23.9
Another Arrangement	20	12.3
Missing Responses	0	0.0
Total	163	100.0

As shown in Table 7 nearly half (46.6%) of the respondents have kindergarten as their only teaching responsibility. This represents the most desirable

kindergarten teaching arrangement in terms of commitment to the children and expectations of the kindergarten program.

However, this is counteracted by the 53.4% of respondents who have other teaching duties. Three categories comprise this total.

Of the respondents, 17.2% teach kindergarten for half of the day and another grade or grades during the other half. These teachers may have to be 'experts' in more than one field. Furthermore, it makes unreasonable demands on their preparation time.

A further 12.3% of the respondents indicate that they teach under another arrangement. Many of these specify that they are half-time teaching units and that they teach kindergarten only for half of the day. Although this may be personally desirable to some teachers it may mean that peer contact, and school and professional involvement will be less than for full-time teachers.

Finally, 23.9% of the respondents indicate that they are multigrade teachers. This means that they teach kindergarten along with another grade or grades at the same time. Many school boards avoid grouping kindergarten children along with other grade levels whenever possible because of the special needs of young children. However, with lowering pupil enrolment, particularly in small schools, multigrade situations are on the increase. Factors such as these may cause teachers to perceive any new instructional approach such as learning centers to be an additional burden rather than a

very viable means of achieving manageability and a supportive learning environment.

Items 8 and 9 of the teacher questionnaire deal with class size. Item 9 was included to allow for teachers who teach more than one grade level. The findings from these items are reported in Table 8 and are discussed.

Item 8

How many kindergarten children are presently in your class at one time?

Fewer than 10	1
10-14	2
15-19	3
20-25	4
More than 25	5

Item 9

How many children in total do you presently have in your class at one time?

Fewer than 10	1
10-14	2
15-19	3
20-25	4
More than 25	5

Table 8

Class Size

Class Size	Kindergarten Class Size Number of Respondents	Percent	Total Class Size Class Size Number of Respondents	Percent
Fewer than 10	39	23.9	14	8.6
10-14	43	26.4	38	23.3
15-19	46	28.2	45	27.6
20-25	26	16.0	36	22.1
More than 25	8	4.9	29	17.8
Missing Responses	1	.6	1	.6
Total	163	100.0	163	100.0

The Provincial Collective Agreement (1988-1990) for the Newfoundland Teachers' Association states that "In the interest of education and in order to promote effective teaching and learning conditions, the school board will endeavor to establish class size appropriate to the teaching situation involved..." (p. 31). Although the Kindergarten Curriculum Guide (1985) does not state a specific pupil-teacher ratio, a relatively small class size would be desirable.

As shown in Table 8, a combined total of 78.5% of the respondents have fewer than 19 kindergarten children. This, perhaps, may be interpreted as appropriate to a kindergarten situation. However, Table 8 also illustrates that a substantially lower percentage (59.9%) have fewer than 19 children when totalled with other grade level children in their class. Again, while only 20.9% of the respondents have a less desirable class size of 20 or more kindergarten children, 39.9% of the multigrade teachers have that number. Thus, even some apparently small or reasonable class size situations are compounded by teachers having more than one grade level. Hence, while it would seem that a large majority of teachers have an ideal kindergarten class size, as the data show, many of these teachers have more than kindergarten children with whom to work. Certainly, this would have an effect on teachers' use of learning centers and on their perceptions of them.

The following items from Sections C and D of the teacher questionnaire are specifically about learning centers. Items 10 and 11 are presented in Tables 9 and 10 respectively and are discussed.

Item 10

Do you use learning centers in your kindergarten classroom?

Yes 1
No 2

Table 9

Learning Center Use

Learning Center Use	Number of Respondents	Percent
Yes	161	98.8
No	2	1.2
Missing Responses	0	0
Total	163	100.0

Item 11

Approximately how many years have you been using learning centers in your classroom?

None 1
Less than 2 years 2
2-5 years 3
6-10 years 4
11-15 years 5
More than 15 years 6

Table 10

Years of Learning Center Use

Years of Use	Number of Respondents	Percent
None	2	1.2
Less than 2 years	36	22.1
2-5 years	98	60.1
6-10 years	16	9.8
11-15 years	8	4.9
More than 15 years	3	1.8
Missing Responses	0	0
Total	163	100.0

Most respondents (98.8%) indicate that they use learning centers in their classrooms as shown in Table 9. The highest percentage represented in Table 10 (60.1%), have been using learning centers for 2 - 5 years which coincides with the time elapsed since the Kindergarten Curriculum Guide (1985) was issued to kindergarten teachers in this Province. This document contains information and guidance on the use of learning centers. The second highest rating in Table 10 indicates that 22.1% of the respondents have been using learning centers for less than two years. Perhaps this can be attributed to a time allowance for teacher inservice after the introduction of the Kindergarten Curriculum Guide (1985). It can be accounted for also by the fact that 45.4% of

teachers indicate in Table 6 that they have 5 years or less teaching experience.

According to Table 10, 9.8% of all kindergarten teacher respondents indicate that they have been using learning centers for 6 - 10 years and 6.7% for an even longer period of time. Hence, a considerable number of the respondents initiated the use of learning centers in their classrooms prior to the introduction of the Kindergarten Curriculum Guide (1985).

Item 12 refers to the use of learning centers on a daily basis. The responses to this item are presented in Tables 11 and 12 and are discussed.

Item 12 (a)

(a) Do you use learning centers on a daily basis?

Yes 1
No 2

Table 11

Daily Basis

Daily Basis	Number of Respondents	Percent
Yes	116	71.2
No	46	28.2
Missing Responses	1	.6
Total	163	100.0

(b) If yes, approximately what percentage of each day is spent in using them?

Less than 10% 1
10% - 25% 2
26% - 50% 3
51% - 75% 4
76% - 100% 5

Table 12

Percentage of Daily Use

Percentage of Daily Basis	Number of Respondents	Percent
Less than 10%	4	2.5
10% - 25%	64	39.3
26% - 50%	39	23.9
51% - 75%	10	6.1
76% - 100%	2	1.2
Missing Responses	44	27.0
Total	163	100.0

As Table 11 indicates, 71.2% of all the kindergarten teacher respondents use learning centers in their classroom on a daily basis. For what percentage of the day do these teachers use learning centers? Findings in Table 12 show that 39.3% use learning centers for '10% - 25%' of the day with 23.9% using them for '26% - 50%' and 6.1% for '51% -75%'. Very few teachers use them for greater or lesser proportions of their day. Since 28.2% of the respondents indicate in

Table 11 that they do not use learning centers on a daily basis it is to be expected that not all respondents would complete Item 12b.

One of the most significant findings from this item is that respondents use learning centers on a daily basis. It would be reasonable to expect that not all teachers use them to the sane extent each day. After all, teachers' styles vary and what works well for some teachers might not for others.

Item 13 concerns some types of learning centers that can be used in classrooms. The specific types listed were selected from Blake (1977) and were discussed earlier in this study. Findings from Item 13 are presented in Table 13 and are discussed. Since respondents could select more than one response, the number of learning center types selected total more than the total number of teacher respondents (163).

Item 13

Which best describes the types of learning centers you use? Circle more than one response if applicable.

None	1
Subject oriented (e.g., Math, Science)	2
Theme oriented (i.e., a center that coincides with a specific theme)	3
Skill oriented (i.e., a center for a specific concept such as beginning sounds) ..	4
Centers just for fun	5
A combination of different types of centers .	6

Table 13

Types of Learning Centers

Types of Learning Centers	Number of Respondents	Percent
None	2	1.2
Subject Oriented	91	55.8
Theme Oriented	75	46.0
Skill Oriented	49	30.1
Centers for Fun	72	44.2
Combination of Centers	107	65.6
Missing Responses	0	0

Only 1.2% of the 163 respondents in Table 13 indicate that they use no type of learning center in their classroom. This corresponds with the 1.2% in Table 9 who replied "No" when asked if they used learning centers in their kindergarten classroom. All other respondents, as shown in Table 13, use more than one type of learning center. Indeed, "Combination of Centers" is the category most often selected (65.6%). It is worth noting that the Kindergarten Curriculum Guide (1985) encourages teachers to use a combination.

'Subject Oriented' learning centers are reported in use by 55.8% of the sample. Although the teaching of distinct subject disciplines is not specifically advocated in the

Kindergarten Guide, subject related types of learning centers are suggested.

The integration of subject disciplines through themes is strongly encouraged by the kindergarten program. Given this kind of encouragement it might have been reasonable to expect that more than 46% of the sample would indicate their use of 'Theme Oriented' centers.

A smaller percentage of respondents (30.1%) use 'Skill Oriented' learning centers. This is encouraging, since the philosophy of the Kindergarten would not support the teaching of skills out of context. Likewise, the Kindergarten Curriculum Guide (1985) does not advocate such practice.

Item 14 lists specific learning centers which kindergarten teachers may use in their classroom. Those centers are suggested as basic to the kindergarten program in the two major resources for Newfoundland kindergarten teachers, Kindergarten Curriculum Guide (1985) and Early Experiences (1983). Responses to this item are presented in Table 14 and are discussed. Since teachers could select more than one response, the total number of responses is greater than 163, the number of respondents who returned the questionnaire.

Item 14

Do you at any time during the kindergarten year have any of these centers in your classroom?

Reading (Book) Center	1
Water Play Center	2
Sand Play Center	3
Block Center	4
Housekeeping Center	5
Science (Nature) Center	6
Math Center	7
Art Center	8
Woodworking Center	9
Listening Center	10
Interest Center	11
Group Assembly Center	12
Language Arts Center	13
Music Center	14
Physical Education (Movement) Center	15
Manipulative Materials Center	16
Display Center (for any curriculum area)	17
Additional Centers (which are not listed here)	18

Table 14

Specific Learning Centers

Specific Learning Centers	Number of Respondents	Percent
Reading (Book) Center	160	98.2
Water Play Center	113	69.3
Sand Play Center	127	77.9
Block Center	152	93.3
Housekeeping Center	131	80.4
Science (Nature) Center	110	67.5
Math Center	161	98.8
Art Center	128	78.5
Woodworking Center	6	3.7
Listening Center	134	82.2
Interest Center	57	35.0
Group Assembly Center	77	47.2
Language Arts Center	121	74.2
Music Center	38	23.3
Physical Education (Movement) Center	12	7.4
Manipulative Materials Center	124	76.1
Display Center	92	56.4
Additional Centers	41	25.2

Despite the fact that responses to Item 13 (Table 13) indicate 55.8% of the teachers use 'Subject Oriented' learning centers, findings in Table 14 indicate that subject related learning centers are utilized by a high percentage of the respondents (Math - 98.8%, Reading - 98.2%, Art - 78.5%, Language Arts - 74.2%, and Science - 67.5%). It is possible that these centers are not designed to focus on subject disciplines but that teachers recognize the beneficial integration of subjects into many learning centers. The two other subject-related learning centers specified in Table 14 are used by far fewer teachers in the sample: Music (23.3%) and Physical Education (7.4%). This is perhaps due to the fact that many kindergarten children receive their music and physical education instruction from specialist teachers who are not their regular classroom teachers.

As shown in Table 14, many of the non-traditional types of activities that comprise a learning center receive high response rates (Block - 93.3%, Listening - 82.2%, Housekeeping - 80.4%, and Sand - 77.9%). These are, in fact, the learning centers for which the most concrete guidelines are given in the Kindergarten Curriculum Guide (1985) and/or Early Experiences (1983). The data suggest that teachers are making an effort to include the recommendations of the program in their classrooms. One wonders why the woodworking centers appear in only 3.7% of the respondents' classrooms? Could it be attributed to the safety factor?

Low ratings are given to Display (56.4%), Group (47.2%), and Interest (35.0%) centers. It might have been wise to have omitted these from the questionnaire, despite their inclusion in the Kindergarten's major resources, since arguably most centers will have displays, will involve groups, and will be of interest to the children.

The most surprising and somewhat disappointing finding in Table 14 is that only 25.2% of the respondents indicate that they use 'Additional Centers'. This is particularly surprising since 46.0% in Table 13 indicate that they use 'Theme Oriented' learning centers, and yet few, if any, of the listed learning centers in Table 14 could be categorized as thematic. On the other hand, respondents who chose 'Skill Oriented Centers', 'Centers for Fun', and 'Combination of Centers' in Item 13, may feel that these types include some of the specific learning centers listed in Item 14.

The remainder of this analysis (Items 15-54) deals with teacher perceptions in relation to certain teacher factors. Items 1-9 include such teacher factors as sex, age, degrees held, date last degree awarded, total teaching experience, teaching experience in kindergarten, present teaching duties, kindergarten class size, and total class size. Findings from these items have already been presented in the form of frequency distributions. Items 15-54 deal with teachers' perceptions of learning centers and are grouped into four

categories: (a) teacher preparedness, (b) support for teachers, (c) principles of early childhood education, and (d) means of teaching basic skills. A one-way analysis of variance was performed between each of these four categories and Items 1-9 (Teacher Factors) to determine significance at the 0.050 level and is reported as the F Probability.

The category of "Teacher Preparedness" includes these items:

Item 15 The Kindergarten Curriculum Guide provided by the Department of Education adequately prepares me to implement learning centers in my classroom.

Item 20 I have received sufficient preservice on how to implement learning centers.

Item 27 The amount of inservice I have received from my school board on learning centers has been sufficient.

Item 38 I feel competent and qualified in using learning centers in my classroom.

Item 47 My own readings, experimentation and experience have been the major contributing factors in my usage of learning centers.

Findings between "Teacher Preparedness" and "Teacher Factors" are presented in Table 15 and are discussed.

Table 15

Teachers' Perceptions of Teacher Preparedness

Teacher Preparedness	F PROB
Sex	.7958
Age	.0171
Degree(s) Held	.0785
Date Last Degree Awarded	.8828
Total Teaching Experience	.5980
Teaching Experience In Kindergarten	.5571
Present Teaching Duties	.7939
Kindergarten Class Size	.3397
Total Class Size	.6271

Table 15 indicates that there is a significant difference of .0171 between teachers' perceptions of their preparedness with respect to their age. Responses to Items 20 and 27 provide the greatest significant differences and are shown in Table 16.

Table 16

Teacher Preparedness: Age

	Item 20 I have received sufficient preservice on how to implement learning centers.				Item 27 The amount of inservice I have received from my school board on learning centers has been sufficient.			
	Strongly Agree	Agree	Disagree	Strongly Disagree	Strongly Agree	Agree	Disagree	Strongly Disagree
Under 25	6.7	33.3	46.7	13.3	0.0	6.6	80.0	13.3
26-30	8.7	26.1	39.1	26.1	8.7	17.4	43.5	30.4
31-35	2.1	34.0	12.6	21.3	2.2	26.1	41.3	30.4
Over 35	10.7	49.3	33.3	6.7	6.7	52.0	32.0	9.3
Significance		.0073				.0002		

An F Probability of .0073 in Table 16 indicates that teachers in the '31-35' age category perceive their amount of preservice differently from those of 'over 35'. The majority of teachers between '31-35' (43.9%) either disagree or strongly disagree with having received sufficient preservice training on how to implement learning centers, while the greater percentage of teachers 'over 35' (60.0%) agree or strongly agree that they have received such training.

Item 27 indicates a significant difference of .0002 in how teachers 'under 25' and those between '31-35' perceive the extent of their school board inservice on learning centers compared with those teachers 'over 35'. The majority of teacher respondents 'under 25' (93.3%) and those between '31-35' (71.7%) disagree or strongly disagree that the amount of school board inservice has been sufficient, while the greater number of teachers 'over 35' (58.7%) either agree or strongly agree that this is so.

It appears that the older teachers (over 35) perceive themselves as being more 'prepared' to use learning centers in their classrooms than do the younger teacher respondents. This difference might be attributed, in part, to the degree of experience. Older teachers might not interpret 'preparedness' in terms of hours of inservice, or preservice per se. In fact, older teachers might have become prepared through their experience and, regardless of preservice or inservice, would answer positively.

While the overall category of "Teacher Preparedness" is not significantly different at the 0.050 level with respect to academic qualifications, Table 15 shows a close approximation of .0785, which is worthy of mention. An examination of the data indicates that some teachers differ significantly in their responses to Item 27 within the category, as is seen in Table 17.

Table 17

Teacher Preparedness : Degree(s) Held

	Item 27 The amount of inservice I have received from my school board on learning centers has been sufficient			
	Strongly Agree	Agree	Disagree	Strongly Disagree
B.A.(Ed.) Primary	**8.1**	**41.9**	35.1	14.9
B.A.(Ed.) Elementary	0.0	50.0	33.3	16.7
B.Ed. Primary	0.0	20.0	53.3	26.7
B.Ed. Elementary	0.0	0.0	**87.5**	**12.5**
Other	3.7	22.2	40.7	33.3
Significance		.0228		

According to Table 17 teachers possessing a B.Ed. Elementary degree differ significantly at .0228 in their perception of school board inservice on learning centers from teachers with a B.A. (Ed.) Primary degree. This table illustrates several noteworthy points. Both the B.A. (Ed.) Primary and B.A. (Ed.) Elementary teachers have the highest percentages of agreement (50.0%). Since these two degrees are no longer offered at Memorial University, it would be reasonable to assume that these degrees are held by the older and more experienced teachers. These teachers may feel their inservice has been sufficient partly due to their greater experience and to having received more inservice. These two degrees were replaced by the B.Ed. Primary and B.Ed. Elementary degrees in 1983-84. The fact that no B.Ed. Elementary teachers respond in a positive manner to their inservice may be explained by their possible lack of experience and their inability to match their inservice with their degree training. Presumably, the B.Ed. Primary teachers may be lacking in experience as well, but their Primary training may account for 20.0% of them viewing their inservice in a positive manner.

The overall findings of teachers' perceptions of their preparedness to use learning centers in their classrooms suggest that the older the teachers the more positive their responses. Positive responses also seem to increase when teachers are assigned to areas matching their academic qualifications.

The category of "Support for Teachers" includes these items:

Item 23 I have sufficient materials and equipment to implement learning centers in my classroom.

Item 24 I am encouraged and supported in my use of learning centers by my principal.

Item 32 I am encouraged and supported in my use of learning centers by other teachers in my school.

Item 39 Parents support the use of learning centers in my classroom.

Item 43 I am encouraged and supported in my use of learning centers by my school board.

Item 54 Learning centers alleviate problems associated with limited supplies and materials.

Findings between "Support for Teachers" and "Teacher Factors" are presented in Table 18 and are discussed.

Table 18

Teachers' Perceptions of Support for Teachers

Support for Teachers	F PROB
Sex	.8986
Age	.0311
Degree(s) Held	.3943
Date Last Degree Awarded	.6986
Total Teaching Experience	.0407
Teaching Experience in Kindergarten	.4367
Present Teaching Duties	.0327
Kindergarten Class Size	.0184
Total Class Size	.0045

Table 18 indicates that there is a significant difference of .0311 with teachers' perceptions of the overall category "Support for Teachers" according to their age. Within this category this is particularly true for responses to Item 23 as is shown in Table 19.

Table 19

Support for Teachers: Age

	Item 23 I have sufficient materials and equipment to implement learning centers in my classroom.			
	Strongly Agree	Agree	Disagree	Strongly Disagree
Under 25	6.7	26.7	**53.3**	**13.3**
26-30	4.3	43.5	21.7	30.4
31-35	10.6	44.7	38.3	6.4
Over 35	**14.3**	**53.2**	27.3	5.2
Significance		.0120		

There is a significant difference of .0120 between the responses of teachers 'under 25' to Item 23, compared with those teachers 'over 35'. Of the latter group 67.5% agree or strongly agree that they have sufficient materials to implement learning centers in their classroom while 66.6% of teachers 'under 25' disagree or strongly disagree that they do.

Table 19 also indicates a significant difference of .0407 in teachers' responses to their perceptions of the overall category "Support for Teachers" in relation to their total teaching experience. Within this category some teacher

responses to Item 23 are particularly different, as is shown in Table 20.

Table 20

Support for Teachers: Total Teaching Experience

	Item 23 I have sufficient materials and equipment to implement learning centers in my classroom.			
	Strongly Agree	Agree	Disagree	Strongly Disagree
Less than 1 year	0.0	0.0	**33.3**	**66.7**
1-5 years	7.4	25.9	48.2	18.5
6-10 years	0.0	59.0	31.8	9.1
11-15 years	13.9	44.4	33.3	8.2
More than 15 years	**14.9**	**54.1**	25.7	5.4
Significance		.0013		

As Table 20 indicates all of the 'most junior' teachers disagree or strongly disagree that they have sufficient materials and equipment to implement learning centers. However, the majority (69.0%) of the 'most senior' teachers agree or strongly agree that they do.

These latter two findings illustrate that once again, older, more experienced teachers feel more qualified to implement learning centers in their classrooms. This might

suggest that more experienced teachers have been accustomed to having considerably fewer materials provided them, and have learned to improvise. Over the years, too, they might have accumulated more materials through their own initiative and/or school and school board assistance. This might not be true for younger and less experienced teachers. Or, it could be counter-argued that the younger, more recently trained are more aware of all they do not have and thus responded so.

Table 18 also shows a significant difference of .0327 in teachers' responses to their perceptions of the overall category "Support for Teachers" and their present teaching duties. Within this category responses to Items 39 and 54 are particularly different as is shown in Table 21.

Table 21 indicates a significant difference of .0409 between teachers who teach kindergarten only and those who teach kindergarten for half of the day, in their responses to Item 39. But this difference is one of degree only. What is most evident from Table 21 is teachers' overwhelming positive feelings of parental support for learning centers in their classroom.

Table 21

Support for Teachers: Present Teaching Duties

	Item 39 Parents support the use of learning centers in my classroom.				Item 54 Learning centers alleviate problems associated with limited supplies and materials.			
	Strongly Agree	Agree	Disagree	Strongly Disagree	Strongly Agree	Agree	Disagree	Strongly Disagree
Teach Kindergarten only, both morning and afternoon	16.9	74.6	8.5	0.0	15.1	46.6	32.9	5.5
Teach Kindergarten for half day, another grade other half.	0.0	88.3	16.7	0.0	25.0	28.6	35.7	10.7
Multigrade Teacher	8.3	69.4	22.2	0.0	0.0	38.5	48.7	12.8
Another Arrangement	0.0	87.5	12.5	0.0	23.5	35.3	35.3	5.9
Significance	.0409				.0288			

Table 21 also illustrates a significant difference of .0288 between teachers' present teaching duties and responses to Item 54. The majority of teachers who teach kindergarten only (61.7%) either agree or strongly agree that learning centers alleviate problems associated with limited supplies and materials. However, the majority of multigrade teacher respondents (61.5%) disagree or strongly disagree that this is so. Why might this be? It could be suggested that those teachers who teach kindergarten only have more time to create teacher-made materials, or that they actually have more supplies. In addition to possibly having fewer materials, these multigrade teachers have to be concerned with materials for several grade levels. What they have must be shared around, and it is likely this would include even those items designated for kindergarten use only. The use of learning centers might, in fact, tend to illustrate the need for more supplies rather than alleviate the problem.

As is illustrated in Table 18, there is also a significant difference of .0184 in teachers' responses to their perceptions of the overall category "Support for Teachers" and the kindergarten class size. Within this category, certain teacher responses to Items 23 and 54 differ in particular as is shown in Table 22.

Table 22

Support for Teachers: Kindergarten Class Size

	Item 23 I have sufficient materials and equipment to implement learning centers in my classroom.				Item 54 Learning centers alleviate problems associated with limited supplies and materials.			
	Strongly Agree	Agree	Disagree	Strongly Disagree	Strongly Agree	Agree	Disagree	Strongly Disagree
Fewer than 10	2.6	35.9	46.2	15.4	2.6	33.4	51.3	12.8
10-14	11.6	51.2	20.9	16.3	23.8	38.1	28.6	9.5
15-19	15.2	47.8	37.0	0.0	18.2	52.3	27.3	2.3
20-25	16.0	48.0	24.0	12.0	8.7	26.1	56.5	8.7
More than 25	12.5	62.5	25.0	0.0	0.0	62.5	25.0	12.5
Significance		.0332				.0037		

Regarding Item 23, Table 22 indicates that a significant difference of .0332 exists in the responses of teachers who have 'fewer than 10' kindergarten children in their class and those who have 'more than 25'. The majority of the former group (61.6%) either disagree or strongly disagree that they have sufficient materials and equipment to implement learning centers. However, the majority of teachers who have 'more than 25' kindergarten children (75.0%) agree or strongly agree that they do.

In response to Item 54 which states "Learning centers alleviate problems associated with limited supplies and materials", a significant difference of .0037 occurs in the responses of teachers who have 'fewer than 10' kindergarten children in their class and those who have '15-19'. Of the former group 64.1% disagree or strongly disagree that learning centers alleviate problems associated with limited supplies and materials, while 70.5% of the latter group agree or strongly agree with this statement.

The findings from Table 22 indicate that the teachers with the smallest class sizes feel most strongly that they do not have sufficient materials and that learning centers do not alleviate that problem. One would have expected the opposite response and can only wonder why this is so. Could it be that expectations for the "perfect program" are higher for those teachers?

Table 18 also shows a significant difference of .0045 in teachers' responses to their perceptions of the overall category of "Support for Teachers" and their total class size. This was included to allow for teachers who have more than one grade level in their class. Within this category, certain teacher responses differ in particular to Items 23 and 24, as is shown in Table 23.

Table 23 indicates that teachers who have 'fewer than 10' children in their class differ significantly at .0156 in their responses to Item 23 compared with teachers who have 'more than 25'. The majority of teachers in the former group (78.5%) disagree or strongly disagree that they have sufficient materials to implement learning centers, while 65.5% of the latter group respond in the opposite manner.

In relation to Item 24 a significant difference of .0191 occurs in the responses of teachers who have 'fewer than 10' children in their class and those who have '20-25'. Of the former group, 23.1% disagree or strongly disagree that they are encouraged and supported in their use of learning centers by their principal, while only 5.7% of the latter group respond in this manner.

In general, these findings from Table 23 indicate that teachers with the fewest children in their classrooms perceive themselves as having less support than those teachers with more children. Again, one might have thought the opposite to be true, and wonders why this is so.

Table 23

Support for Teachers: Total Class Size

	Item 23 I have sufficient materials and equipment to implement learning centers in my classroom.				Item 24 I am encouraged and supported in my use of learning centers by my principal.			
	Strongly Agree	Agree	Disagree	Strongly Disagree	Strongly Agree	Agree	Disagree	Strongly Disagree
Fewer than 10	0.0	21.4	57.1	21.4	7.7	69.2	15.4	7.7
10-14	7.9	44.7	28.9	18.4	18.4	68.4	[illegible]	7.9
15-19	13.3	48.9	35.6	2.2	36.4	59.1	4.5	0.0
20-25	11.4	54.3	25.7	8.6	45.7	48.6	0.0	5.7
More than 25	17.2	48.3	27.6	6.9	34.5	55.2	10.3	0.0
Significance	.0156				.0191			

The overall findings of the category "Support for Teachers" indicate that the older and more experienced teachers perceive themselves as having sufficient materials to implement learning centers when compared with the younger, less experienced teachers. Most teachers are positive in their responses to parental support. Teachers who teach kindergarten only believe that learning centers alleviate problems associated with materials more so than do multigrade teachers. Most surprisingly, the teachers with the smallest class sizes perceive themselves as having received less support than those with the largest class sizes.

The category of "Principles of Early Childhood Education" includes these items:

Item 16 Learning centers encourage independence in children.

Item 17 Learning centers promote individualization.

Item 18 Learning centers promote peer interaction.

Item 19 Learning centers encourage children to become decision-makers.

Item 21 Learning centers aid children in developing self-discipline.

Item 22 Learning centers provide many opportunities for meaningful and purposeful learning.

Item 25 Learning center activities are developmentally appropriate for the child.

Item 26 Learning centers are an excellent means of integrating subject areas.

Item 28 Children are highly motivated by the use of learning centers.

Item 30 Learning centers encourage organizational strategies in children.

Item 31 Learning centers enhance the teacher's opportunities for observation.

Item 33 Learning centers can be representative of real life situations.

Item 36 Learning centers can focus on the whole child.

Item 37 Learning centers provide many open-ended activities.

Item 40 Learning centers place an emphasis on the child.

Item 42 Learning centers provide teachers with many opportunities for pupil-evaluation on a one-to-one basis.

Item 44 Learning centers help ease the transition for the child from home to school.

Item 45 Learning centers integrate learning and play.

Item 46 Learning centers provide the child with more opportunities for self-directed learning.

Item 48 Learning centers place importance on <u>how</u> the child learns rather than solely on <u>what</u> the child learns.

Item 49 Learning centers encourage child-initiated activities.

Item 50 Learning centers allow children to learn from direct experience.

Item 51 Learning centers enhance the child's self-image.

Item 52 Learning centers provide a stimulating environment.

Item 53 Learning centers allow the teacher to expand upon and enrich the curriculum.

Findings between "Principles of Early Childhood Education" and "Teacher Factors" are presented in Table 24 and are discussed.

Table 24

Teachers' Perceptions of Principles of Early Childhood Education

Principles of Early Childhood Education	F PROB
Sex	.5705
Age	.9907
Degree(s) Held	.9895
Date Last Degree Awarded	.4140
Total Teaching Experience	.8817
Teaching Experience in Kindergarten	.5610
Present Teaching Duties	.7545
Kindergarten Class Size	.1021
Total Class Size	.4577

Table 24 indicates no significant difference in responses at the 0.050 level between teachers' perceptions, with respect to the overall category "Principles of Early Childhood Education", and any of the nine factors listed. However, there is a significant difference between some of these factors and certain specific items.

Certain teacher responses to Item 52 differ significantly in relation to the "Date Last Degree Awarded", as is shown in Table 25.

Table 25

Principles of Early Childhood Education: Date Last Degree Awarded

	Item 52 Learning centers provide a stimulating environment.			
	Strongly Agree	Agree	Disagree	Strongly Disagree
Before 1970	0.0	75.0	25.0	0.0
1970 - 1975	48.4	51.6	0.0	0.0
1976 - 1980	45.0	55.0	0.0	0.0
1981 - 1985	26.8	68.3	4.9	0.0
Since 1985	50.0	50.0	0.0	0.0
Significance		.0099		

As Table 25 shows, teachers who received their last degree 'before 1970' differ significantly at .0099 in their responses to Item 52 from teachers who received their degree 'since 1985'. While 75.0% of the former group agree that learning centers provide a stimulating environment, 100% of the latter group either strongly agree or agree. While it is true that 25.0% of the teachers who received their academic qualifications prior to 1970 disagree that learning centers provide a stimulating environment, an overwhelming majority of the other teachers respond very positively.

Certain teacher responses to Items 17 and 42 differ significantly in relation to "Present Teaching Duties", as is shown in Table 26.

According to Table 26, teachers who teach kindergarten for half of the day differ significantly at .0217 in their responses to Item 17 from teachers who teach multigrades or another arrangement. However, the difference is one of degree. An examination of the table indicates that the majority of teachers in the sample recognize that learning centers promote individualization, some more strongly than others. Again, the findings are very positive.

Table 26

Principles of Early Childhood Education: Present Teaching Duties

	Item 17 Learning centers promote individualization.				Item 42 Learning centers provide teachers with many opportunities for pupil evaluation on a one-to-one basis.			
	Strongly Agree	Agree	Disagree	Strongly Disagree	Strongly Agree	Agree	Disagree	Strongly Disagree
Teach Kindergarten only, both morning and afternoon	46.1	51.3	2.6	0.0	41.3	54.7	4.0	0.0
Teach Kindergarten for half day, another grade other half.	44.4	55.5	0.0	0.0	26.9	69.2	3.8	0.0
Multigrade	21.1	73.7	5.3	0.0	18.4	68.4	13.2	0.0
Another Arrangement	26.3	63.2	10.5	0.0	33.3	44.4	22.2	0.0
Significance	.0217				.0360			

In response to Item 42, a significant difference of .0360 occurs in the responses of teachers who teach kindergarten only and those who teach multigrades. This particular difference is again in degree of agreement. Table 26 illustrates that the majority of teachers agree that learning centers provide many opportunities for pupil evaluation on a one-to-one basis. Only a small proportion of teachers disagree with this statement, and for the most part, they are teachers of multigrades and other arrangements. This is not unexpected, since assessment on a one-to-one basis will present greater difficulties for teachers who have more than one grade level of children with whom to work.

Concerning these findings it may be suggested that teachers who teach in arrangements considered to be least desirable, such as multigrade, may find it more difficult to obtain the maximum benefits from any new approach. Because of heavier workloads these teachers may have less time and fewer opportunities to concentrate on individual children. This may be further compounded by large class sizes, which is often a feature of a multigrade situation.

Certain teacher responses to Items 18, 21, 25 and 49 differ significantly as is shown in Table 27.

Table 27

Principles of Early Childhood Education: Kindergarten Class Size

	Item 18 Learning centers promote peer interaction.				Item 21 Learning centers aid children in developing self-discipline.				Item 35 Learning center activities are developmentally appropriate for the child.				Item 49 Learning centers encourage child-initiated activities.			
	Strongly Agree	Agree	Disagree	Strongly Disagree	Strongly Agree	Agree	Disagree	Strongly Disagree	Strongly Agree	Agree	Disagree	Strongly Disagree	Strongly Agree	Agree	Disagree	Strongly Disagree
Fewer than 10	36.8	60.5	2.6	0.0	7.7	84.6	7.7	0.0	15.4	79.5	5.1	0.0	12.8	84.6	2.6	0.0
10-14	69.7	27.9	2.3	0.0	30.2	60.5	9.3	0.0	34.9	65.1	0.0	0.0	46.3	55.8	0.0	0.0
15-19	66.7	33.3	0.0	0.0	28.9	62.2	6.7	2.2	28.6	61.4	0.0	0.0	22.7	68.2	9.1	0.0
20-25	64.0	36.0	0.0	0.0	8.0	72.0	12.0	8.0	40.0	60.0	0.0	0.0	16.0	80.0	0.0	4.0
More than 25	25.0	75.0	0.0	0.0	25.0	75.0	0.0	0.0	12.5	87.5	0.0	0.0	37.5	62.5	0.0	0.0
Significance	.0063				.0378				.0320				.0080			

As Table 27 indicates, teachers who have '10-14' kindergarten children in their class differ significantly at .0063 in their responses to Item 18 from teachers who have 'more than 25'. But the difference is one of degree only. An overwhelming majority of the teachers believe that learning centers promote peer interaction.

A significant difference of .0378 occurs in the responses to Item 21 of teachers with '20-25' kindergarten children in their class from those with 'more than 25'. All of the latter group either agree or strongly agree that learning centers aid children in developing self-discipline, while 20.0% of the former group either disagree or strongly disagree with this statement.

In response to Item 25, a significant difference of .0320 occurred in the responses of teachers with '20-25' kindergarten children and those with 'more than 25'. But once again, the difference is one of degree. With the exception of 5.1%, all teacher respondents agree that learning center activities are developmentally appropriate for the child.

The significant difference of .0080 is one of degree also for responses to Item 49. Once again, the majority of teachers agree that learning centers encourage child-initiated activities.

The findings from Table 27 are overall very positive. For the most part teachers agree that the learning center approach in the kindergarten is true to the principles of

early childhood. However, teachers with the largest class sizes are more positive about the contribution which learning centers can make towards helping children achieve self-discipline. The need to encourage and even require self-discipline may be necessary for management purposes.

Certain teacher responses to Item 25 differ significantly in relation to "Total Class Size", as is shown in Table 28.

Table 28

Principles of Early Childhood Education: Total Class Size

	Item 25 Learning center activities are developmentally appropriate for the child.			
	Strongly Agree	Agree	Disagree	Strongly Disagree
Fewer than 10	**0.0**	92.9	7.1	0.0
10-14	31.6	68.4	0.0	0.0
15-19	29.5	68.2	2.3	0.0
20-25	37.1	62.9	0.0	0.0
More than 25	**39.3**	60.7	0.0	0.0
Significance		.0354		

Table 28 indicates that there is a significant difference of .0354 between the teachers with the smallest and largest numbers of children in their responses to Item 25. But the most significant feature of this table seems to be its positive findings. Almost all teachers agree that learning center activities are developmentally appropriate for the child.

The overall findings of the category "Principles of Early Childhood Education" indicate that the teachers in this sample are very positive in their perceptions of the use of learning centers. Instances of disagreement are few.

The category of "Means of Teaching Basic Skills" includes these items:

Item 29 Learning centers encourage oral communication.

Item 34 Learning centers provide many opportunities for writing.

Item 35 Learning centers provide many opportunities for discovery learning and problem-solving.

Item 41 Learning centers provide many opportunities for reading, both informally and formally.

Findings between "Means of Teaching Basic Skills" and "Teacher Factors" are presented in Table 29 and are discussed.

Table 29

Teachers' Perceptions of Means of Teaching Basic Skills

Means of Teaching Basic Skills	F PROB
Sex	.7535
Age	.9043
Degree(s) Held	.8029
Date Last Degree Awarded	.2578
Total Teaching Experience	.7484
Teaching Experience in Kindergarten	.1902
Present Teaching Duties	.8225
Kindergarten Class Size	.6642
Total Class Size	.1725

Table 29 indicates no significant difference in responses at the 0.050 level between teachers' perceptions, with respect to the overall category "Means of Teaching Basic Skills", and any of the nine factors listed. However, there is a significant difference between some of these factors and certain specific category items.

Certain teacher responses to Item 29 differ significantly in relation to "Teaching Experience", as is shown in Table 30.

Table 30

Means of Teaching Basic Skills: Teaching Experience

	Item 29 Learning centers encourage oral communication.			
	Strongly Agree	Agree	Disagree	Strongly Disagree
Less than 1 year	**0.0**	100.0	0.0	0.0
1-5 years	**63.0**	37.0	0.0	0.0
6-10 years	40.9	54.5	4.5	0.0
11-15 years	61.1	38.9	0.0	0.0
More than 15 years	40.5	56.8	2.7	0.0
Significance		.0352		

As Table 30 indicates, teachers who have a total of 'less than 1 year' teaching experience differ significantly at .0352 in their responses to Item 29 from those with '1-5' years. The difference, however, is one of degree. What is most significant in the table is the very positive response by almost all respondents to the statement that learning centers encourage oral communication.

Certain teacher responses to Item 29 differ significantly in relation to "Kindergarten Teaching Experience", as is shown in Table 31.

Table 31

Means of Teaching Basic Skills: Kindergarten Teaching Experience

	Item 29 Learning centers encourage oral communication.			
	Strongly Agree	Agree	Disagree	Strongly Disagree
Less than 1 year	35.7	57.1	7.2	0.0
1-5 years	**65.0**	35.0	0.0	0.0
6-10 years	46.4	53.6	0.0	0.0
11-15 years	35.9	59.0	5.1	0.0
More than 15 years	33.3	**66.7**	0.0	0.0
Significance		.0085		

As Table 31 indicates, teachers who have '1-5' years of teaching experience in kindergarten differ significantly at .0085 in their responses to Item 29 from those with 'more than 15' years. But the difference is again, only one of degree. The most significant finding here, too, is the high positive agreement with the statement that learning centers encourage oral communication.

The overall findings of the category "Means of Teaching Basic Skills" suggest that teachers in this sample perceive learning centers as a viable means thereto. The differences are mainly in the strength of agreement. Any negative responses are of relatively small proportions.

SECTION II

A Discussion of the Interview with the Provincial Consultant for Early Childhood Education

A scheduled interview was conducted with the Provincial Consultant for Early Childhood Education (Appendix D). A complete transcript of this taped interview can be found in Appendix E. A presentation and discussion of this interview follows.

The Provincial Consultant for Early Childhood Education was asked to describe the philosophy upon which the kindergarten program is based. According to her the philosophy can be found in the first chapter of the Kindergarten Curriculum Guide. The philosophy or belief is based on the cognitive discovery approach to learning. This approach involves active physical and mental learning of children which complements the education received from their families. The whole child must be developed with a strengthening of the physical, emotional, social, and intellectual areas. This philosophy is built on the historical contributions of people such as John Dewey, Jean Piaget, and Maria Montessori. The description given here comprises the commitment to education as 'process', and hence provides the framework for children experiencing through learning centers that was presented earlier in the review of the literature.

The next two questions sought information on the official introduction of learning centers in the kindergarten

program and whether or not their use was a requirement of all teachers. According to the Consultant, some kindergarten teachers within the Province have been using learning centers for a number of years. However, the official introduction and acknowledgement of such centers came with the publication of the Kindergarten Curriculum Guide in 1985. The use of learning centers in the kindergarten classroom is a practice that is strongly encouraged by the Department of Education. However, the degree of implementation varies from school board to school board. While the Consultant believes that the use of learning centers is encouraged and recommended by all school boards, she was uncertain as to whether any school board had made their use mandatory.

In response to the next question addressing time allocation, the Consultant felt hesitant in recommending a daily proportion of time which would be appropriate for children's involvement in learning center activities. She believed it was ultimately the individual teacher's decision since factors such as a teacher's personality would determine how comfortable that teacher would be in using learning centers. Some teachers may be comfortable using learning centers for 15-20 minutes of each day and others for the whole day. However, she did suggest that 20-50% of the kindergarten day would seem to be a reasonable expectation, either within a curriculum schedule or during a block of time designated as 'learning center time'.

In response to whether or not she felt that kindergarten teachers received sufficient inservice training before implementing learning centers within their classrooms, the Consultant pointed out that the Department of Education is responsible for inservice for school board personnel only. These personnel would be, in turn, responsible for providing inservice for kindergarten teachers. Each school board has its own designated personnel who work with kindergarten teachers. The Consultant suggested that the school boards which have a primary co-ordinator probably place the greatest emphasis through inservice on instructional approaches such as learning centers for kindergarten and primary teachers. Other school boards which have a language arts co-ordinator with a specific interest in kindergarten might also provide such inservice. Since the amount of inservice provided varies from one school board to another, it is possible that some teachers receive extensive inservice training with others receiving very little, if any.

As to the extent to which teachers are prepared to implement learning centers within their classroom, the Consultant indicates that from her own observations throughout the Province she feels some teachers are very well prepared while others are not, and some fall between these two extremes. In terms of practice, the teachers who feel best prepared implement learning centers more comfortably and satisfactorily.

The Consultant made recommendations as to how teachers could become better equipped to effectively implement learning centers. The main mechanism should be through inservice, and she feels more emphasis could be placed on it where this is not now the case. If specific school boards do not have personnel with the required expertise, then outside help could be brought in. This could include other teachers and/or co-ordinators. Teacher visitation is another tool which the Consultant believes is already effective within this Province and one which could be utilized more fully than at present. Teacher visitation would involve kindergarten teachers who use learning centers effectively and comfortably in opening their classrooms to less prepared teachers who could visit to observe and participate in learning center activities in progress.

The next question sought information about the extent to which the Department provided resource materials or funding to aid in setting up learning centers. According to the Consultant, although the Department of Education provides school boards with some required materials, there is no direct material or funding provided to kindergarten teachers specifically for learning centers. The only materials the Department has provided which could be appropriate for use in learning centers are two Mathematics manipulative kits: Relationshape Kit; and Multilink Cube Kit. These two kits are supplied to all kindergarten teachers in the Province. Despite the lack of provisions and funding, the Early

Childhood Consultant believes, based on visits to schools around the Province, that the prevalence of learning centers is increasing because interest in learning centers is still growing. But again, this varies among school districts. Some school boards have all teachers using learning centers, others have some, and there are districts where no teachers use learning centers. The Consultant feels that great improvements are necessary to ensure that more teachers are effectively involved in their use.

Within this study it is the view of education as 'process' which provides the theoretical basis for the use of learning centers. The Consultant was asked whether she sees a link between education as 'process' and the learning center approach in promoting child-centered education. She believes there is a very strong link. It is strong if for no other reason than that children have to be involved with the materials placed at learning centers. She cites the sandbox as an example where children become actively involved. At the sandbox children intuitively manipulate the sand and the props. They observe and measure. In addition to actively involving children, learning centers encourage self-directed activity. Although teachers can guide and direct, it is the children who make choices, who decide when and how to work the materials, and who understand the concepts. Individualization can also be promoted through the use of learning centers, by their inclusion of materials appropriate for varying levels of ability. The affective domain is also

provided for. Different learning centers can cater to moods, interests and feelings, as well as abilities. The Consultant sees all these attributes of learning centers as being process oriented or helping children learn how to learn. She believes that the use of such centers is one main instructional approach which allows children to be the actual focus of the learning process. Thus, their use can help achieve a child-centered classroom.

The Consultant was asked about the use of learning centers in meeting the objectives of the kindergarten program. She feels they can be, indeed, an effective means of achieving the objectives of the kindergarten program if effectiveness can be measured in terms of how some kindergarten teachers who use learning centers feel about them. Many teachers feel that such centers provide a very efficient way of achieving these objectives. In the classrooms of <u>those teachers</u> children are happily involved in the learning process. In terms of assessment the Consultant believes that learning centers can be at least as meaningful as any other instructional approach which has been used in kindergarten.

In conclusion, the Early Childhood Consultant reiterated her conviction that kindergarten teachers need more support from the Department of Education, school boards, schools, principals, and peers. She further added that most kindergarten teachers have a heavy workload. Many have large classes, two classes of children per day, or additional

teaching assignments. Frustrations stem from lack of materials, funding, inservice and support. According to the Consultant these frustrations are legitimate and are deserving of attention.

On the whole, the interview indicated that the Department of Education encourages and supports the use of learning centers within kindergarten classrooms. The Department believes that the use of these centers is an effective means of fostering child-centeredness and education as 'process', the philosophy upon which the kindergarten program is based.

The interview also indicated that many inconsistencies exist concerning the implementation of learning centers, such as the varying degrees of involvement with learning centers from school board to school board, individual teacher's decisions as to whether or not to implement learning centers, variations in the daily proportion of time devoted to learning centers, and the provision of inservice on learning centers. Many school boards do not have a primary consultant and, stemming largely from this factor, the provision of inservice training in the use of learning centers is very uneven across the Province. Furthermore, some school districts have a greater commitment than others to promote the use of learning centers. The Department realizes that kindergarten teachers are in need of considerable support, in terms of both inservice training and resource materials, to effectively implement learning centers throughout the kindergarten classrooms of this Province.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study focused on the use of learning centers in the Kindergarten. This approach to teaching and learning is based on the theory of education as 'process' whereby children are encouraged to learn how to learn with the emphasis on the 'process' of learning more than on the 'product'. According to the literature, the use of learning centers is definitely a process-oriented approach. Education as 'process' has been espoused by educators, philosophers, and psychologists alike, among whom have been Rousseau, Pestalozzi, Montessori, Piaget, Bruner, Donaldson, and others.

The use of learning centers is recommended by the Department of Education of Newfoundland and their use is emphasized in three of the Kindergarten's major resources: (a) Kindergarten Curriculum Guide (1985), (b) Early Experiences (1983), and (c) Explorations For Early Childhood (1988).

A field survey was conducted for this study by means of a questionnaire to kindergarten teachers and a scheduled interview with the Early Childhood Consultant of the Department of Education.

The questionnaire was distributed to 230 randomly selected Kindergarten teachers, representing 50 percent of

the kindergarten teachers of each of the Province's 33 school boards. The questionnaire sought to determine (i) the extent to which learning centers are being implemented in kindergarten classes in this Province, and (ii) teachers' perceptions of learning centers with respect to: (a) teacher preparedness, (b) support for teachers, (c) principles of early childhood education, and (d) means of teaching basic skills. One hundred and sixty-three, or 71 percent of the questionnaires were completed and returned to the examiner.

A tape-recorded interview was conducted with the Early Childhood Consultant with the Department of Education. The interview sought to examine the extent to which the Provincial Department of Education considers the use of learning centers as essential in the Kindergarten and how widespread the Department believes their use to be.

There follows a summary of the major findings from the field study:

Of the kindergarten teachers surveyed, 97.5% are female. This is not surprising considering the fact that traditionally primary teachers have been female.

Almost half of the respondents (47.9%) are over 35 years of age. This supports the findings of Press (1990) in Toward 2000: Trends Report 2: Elementary-Secondary Projections which reports the average age of Newfoundland teachers during 1989-90 to be 38.9 years (p. 32). The report claims that "This shift toward the middle years came about largely because the number of teachers increased marginally during a time when

enrolments were declining, thus reducing the annual infusion of new teachers" (p. 31).

In keeping with the teacher age factor and the low teacher turnover rate, one third of the respondents in this study received their university degree before 1981, with 2.5% receiving their degree prior to 1970. Hence, almost half of them (46.6%) have a B.A. (Ed.) Primary degree, which is a program no longer offered by Memorial University. The B.Ed. Primary degree was introduced in 1983-84, and only 9.2% of the respondents have this qualification. While 96.9% of the sample hold at least one degree, nearly half of these (44.2%) are not qualified in primary education. This supports Riggs' findings in the Report of the Small Schools Study Project (1987), that although teachers have high academic qualifications, many are misassigned within schools (pp. 55-56).

Given the age factor, it is not surprising that 68.1% of the kindergarten teachers surveyed have been teaching for more than 11 years. Yet, many of them (63.2%) have been kindergarten teachers for fewer than ten years. This again indicates a misassignment of teachers, perhaps due in part, to declining enrolments and the redeployment of teachers.

The survey also revealed the heavy workloads that many kindergarten teachers have. More than half of the respondents (53.4%) are responsible for teaching duties in addition to their kindergarten assignment, with 17.2% teaching another grade level for half of the day and 23.9% having multigrade

situations. This workload is often compounded by class size problems. While it is true that 78.5% have fewer than 19 kindergarten children, only 59.5% have fewer than 19 children in total.

The survey revealed some very positive findings concerning the use of learning centers. Nearly all of the kindergarten respondents (98.8%) use learning centers in their classrooms. Of these teachers, 60.1% have been using them for 2-5 years. Not only do they use learning centers, but 71.2% use them on a daily basis, with the majority of teachers using them for 10-50% of their day. This indicates the extent to which kindergarten teachers in this Province comply with the recommendations of the Department of Education and the major kindergarten resources to implement learning centers in the classroom.

With respect to the types of learning centers which teachers use, almost two thirds of the sample use a combination of centers. Of the 18 specific learning centers suggested in the Kindergarten Curriculum Guide (1985) and Early Experiences (1983) the following, in order of frequency of use, are being used by more than 70% of the respondents: (a) Math, (b) Reading, (c) Block, (d) Listening, (e) Housekeeping, (f) Art, (g) Sand, (h) Manipulatives, and (i) Language Arts. The woodworking center is least often used by these teachers (3.7%). In general, however, it would seem that kindergarten teachers are trying to utilize learning centers within their classrooms.

The findings which follow are based on a one-way analysis of variance between certain teacher factors and teachers' perceptions of learning centers.

The most significant finding from teachers' perceptions of their preparedness is the difference in perceptions between the older and younger teachers. The former generally feel well prepared to implement learning centers in their classrooms. This is not true of the younger teachers. This is borne out in a number of instances. More than half of the older teachers (60.0%) believe they have received sufficient preservice training, while most of the younger teachers (54.0%) feel they have not. The older teachers feel positive about the inservice training they receive from their school board (58.7%) while the younger ones disagree (93.3%). Again, those teachers trained through the earlier B.A. (Ed.) degree programs, both primary and elementary, whom we may assume to be the older teachers, are more positive about the inservice they receive from their school boards (50.0%) than are those more recently trained and whom we assume to be the younger teachers (B.Ed. Primary - 20.0% and B.Ed. Elementary - 0.0%). The responses of the latter group must take into account their misassignment; teachers qualified to teach elementary grades are not qualified to teach kindergarten. In fact, the teachers who are most negative about the inservice provided by their school boards are the younger, elementary-trained teachers. The importance of preparedness to implement learning centers is reinforced by the Consultant of Early

Childhood Education. Based on her observations from classroom visits around the Province, she claims that the best prepared teachers, through preservice and inservice, are those who implement learning centers more comfortably and satisfactorily.

There are a number of significant findings regarding materials and equipment needed for the implementation of learning centers. Again, the most experienced teachers are most positive in their perceptions of the support they receive. For example, 67.5% of the older teachers feel that they have sufficient materials and equipment, but 66.6% of the younger teachers feel they do not. While 69.0% of the teachers with the most teaching experience agree with this statement all of the youngest teachers in the sample disagree.

As is to be expected, the teachers who teach kindergarten only 61.7% see learning centers as a means of alleviating problems associated with materials. Multigrade teachers (61.5%), however, feel that this is not the case. The Early Childhood Consultant stated that the Department of Education does not provide direct funding or materials specifically for the use of learning centers.

Somewhat surprisingly, teachers with the largest class sizes are more positive about materials for learning centers than are those teachers with the smallest class sizes. Teachers with more than 25 kindergarten children (75.0%) feel that they have sufficient supplies, while those with fewer than 10 children (61.6%) feel they do not. Furthermore, 70.5%

of the teachers with 15-19 kindergarten children agree that learning centers alleviate problems associated with materials, while 64.1% of the teachers with fewer than 10 children disagree. Most surprisingly, multigrade teachers who have more than 25 children (78.5%) feel that they have sufficient materials, while multigrade teachers with fewer than 10 children (65.5%) feel that they do not.

Similar responses occur in how teachers perceive support from their principals. While many teachers agree that they receive support from their principal, the major endorsement comes from teachers with fewer than 10 children. The majority of teachers, however, agree that parents support their use of learning centers in the classroom.

A key finding from this field survey is the overwhelmingly positive response of teachers' perceptions of learning centers as a teaching-learning style which is attuned to the principles of early childhood education. Any differences in perceptions are largely in the strength of agreement. Teachers generally agree that learning centers contribute to: (a) a stimulating environment, (b) individualization, (c) pupil evaluation, (d) peer interaction, (e) self-discipline, (f) developmentally appropriate activities, and (g) child-initiated activities. A negative note, however, is expressed by 25% of those teachers who received their degree before 1970. These teachers disagree that learning centers provide a stimulating environment. However, the overall findings indicate the tremendous

conviction that kindergarten teachers have that learning centers are an effective tool within the classroom. This is reiterated by the Early Childhood Education Consultant, who sees a direct link between learning centers and the principles of early childhood education. She also perceives a continued increase in the use of learning centers, based on the continued interest shown in them, not only by kindergarten teachers, but teachers in general.

Teachers' perceptions of learning centers as a means of teaching basic skills are likewise very positive. Some teachers see their use in this regard more strongly than others. This is, once again, further evidence of the belief of kindergarten teachers that learning centers are indeed beneficial.

Conclusion

Kindergarten teachers within Newfoundland and Labrador are encouraged by the Provincial Department of Education and the major resources of the kindergarten program to use learning centers in their classrooms. This field study indicates that the majority of teachers in this sample use learning centers and, moreover, use them on a daily basis. Furthermore, teachers are extremely positive in their perceptions of learning centers as a means of teaching basic skills and of teaching in a manner which is attuned to the principles of early childhood education.

The survey does indicate, however, teachers' somewhat less positive perceptions of their preparedness to implement learning centers in their classroom and of the support they receive to do so. Of particular concern are the issues of insufficient preservice training, inservice training, and the lack of materials. This perception is particularly prevalent among the younger teachers. Although the older and more experienced teachers are more positive in these perceptions, that in itself may be cause for concern. It may be a question of complacency. One would hope that teachers could see room for improvement and growth, despite their years of experience, particularly when experimenting with new teaching styles and techniques such as learning centers in the classroom.

The study highlights several other factors. The kindergarten teaching population is an aging one, as is the rest of the Newfoundland teaching population. Many of these teachers received their training more than fifteen years ago. Many of them have been misassigned in terms of teaching grade levels for which they are not academically qualified. Multigrade teaching situations are on the increase. Inconsistencies exist in terms of the amount of inservice training received for the implementation of learning centers. All of these factors heighten the need for inservice training on an ongoing basis to aid those teachers in improving the quality of classroom instruction. The Department of Education is responsible for the inservice training of school board personnel only, with each school board, in turn, being

responsible for the inservice training of its teachers. This can only be properly achieved if each school board has appropriately qualified personnel who are responsible for helping and supporting its primary teachers. This is the belief also of the Department of Education, as emphasized by the Early Childhood Consultant.

Despite the heavy workloads of many kindergarten teachers in terms of large class sizes, other teaching duties, multigrade situations, insufficient inservice training, and insufficient materials, these teachers are making a concerted effort to implement learning centers within their classrooms. In spite of the problems, these teachers are very positive in their perceptions of the benefits of using learning centers. Such striving towards quality education should not go unsupported.

Recommendations

Based on the findings of this study certain recommendations can be made:

1. It is recommended that there be an increased emphasis on learning centers in the preservice degree program of primary teachers.
2. It is recommended that school boards within the Province which do not now employ a Primary Co-ordinator should do so as soon as possible.

3. It is recommended that in future school boards assign to kindergarten, only teachers who possess the appropriate qualifications.
4. It is recommended that wherever possible kindergarten teachers be responsible for kindergarten only. Failing that, extra teaching duties should be kept to a minimum.
5. It is recommended that school boards currently providing inservice education to their kindergarten teachers with respect to learning centers continue to do so, and increase provisions of this service where there is evidence that this is necessary.
6. It is recommended that school boards should arrange for teachers who successfully implement learning centers to provide inservice sessions, primarily in their own classrooms, for their school district peers.
7. It is recommended that principals of primary and elementary schools be provided, along with their kindergarten teachers, inservice education with respect to learning centers.
8. It is recommended that a needs assessment be conducted among all kindergarten teachers giving them an opportunity to list in order of priority the needs which, if met, would facilitate the implementation of learning centers within their classrooms. It is further recommended that these

needs, as determined by the teachers, be met insofar as possible.

9. It is recommended that the Early Childhood Consultant with the Department of Education set up a committee comprised of teachers who have been successful with the implementation of learning centers. The committee would be asked to prepare and distribute to all kindergarten teachers a booklet highlighting benefits of and ways to implement learning centers in their classrooms.
10. It is recommended that further research in this area focus on the implementation of learning centers in the primary school beyond the Kindergarten.

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APPENDIX A

Letter to School Boards

P.O. Box 96
Campbellton
Newfoundland
A0G 1L0

April 3, 1989

Dear Superintendent:

I am a graduate student in the Faculty of Education at Memorial University, and I am nearing completion of my Master of Education degree program. My thesis involves a survey to determine the use of learning centers in the Kindergarten program of our Province. My study includes a questionnaire, which I wish to distribute to fifty percent of all Kindergarten teachers employed by the thirty-three school boards in the Province. I enclose a copy for your information.

Would you please permit me to administer the questionnaire to Kindergarten teachers within your school board? If you agree to my request could you please have forwarded to me the names and school addresses of all your Kindergarten teachers. This would enable me to make a random selection of fifty percent of these teachers and to forward my questionnaire directly to them.

Thank-you for your anticipated cooperation.

Sincerely,

Ruby Manuel
Graduate Student

RM/mk

Enclosure

APPENDIX B

Covering Letter and Teacher Questionnaire

ID # _____

Dear Teacher:

I am currently working on a Master of Education Degree. My thesis focuses on learning centers in kindergarten. This survey will help to determine (1) the extent to which learning centers are being implemented within our province and (2) kindergarten teachers' perceptions of them. Fifty percent of the kindergarten teachers employed by each of the thirty-three school boards in the Province are being asked to complete this questionnaire.

Could you please complete and return this questionnaire to me, in the stamped envelope provided, not later than June 9, 1989.

Please be assured that your response will be kept in strict confidence. The code number at the top right hand corner allows me to determine whether or not the questionnaire has been returned. In no way will it be used to identify you in the coding and analysis of data.

Thank you so much for your anticipated time, cooperation and effort. Your assistance is greatly appreciated.

Sincerely,

Ruby Manuel
Graduate Student

RM/mk

TEACHER QUESTIONNAIRE

Section A

Please respond by circling the appropriate numeral at the right.

1. Sex:

Male	1
Female	2

2. What was your age at last birthday?

Under 25 years	1
26-30 years	2
31-35 years	3
Over 35 years	4

3. What degree(s) do you hold?

Bachelor of Arts (Education) Primary	1
Bachelor of Arts (Education) Elementary	2
Bachelor of Education (Primary)	3
Bachelor of Education (Elementary)	4
Other	5

(Please specify) _____

4. When was your last degree awarded?

Before 1970	1
1970-1975	2
1976-1980	3
1981-1985	4
Since 1985	5

5. How many years of total teaching experience do you have?

Less than one year	1
1-5 years	2
6-10 years	3
11-15 years	4
More than 15 years	5

6. How many years of this teaching experience have been spent as a kindergarten teacher?

Less than one year	1
1-5 years	2
6-10 years	3
11-15 years	4
More than 15 years	5

Section B

Please respond by circling the appropriate numeral at the right:

7. Which of the following best describes your present teaching duties?

I teach kindergarten only, both in the morning and afternoon	1
I teach kindergarten for half of the day and another grade(s) for the other half	2
I am a multigrade teacher (I teach kindergarten and another grade(s) at the same time)	3
I teach under another arrangement ..... (Please describe) _____	4

8. How many kindergarten children are presently in your class at one time?

Fewer than 10	1
10-14	2
15-19	3
20-25	4
More than 25	5

9. How many children in total do you presently have in your class at one time?

Fewer than 10	1
10-14	2
15-19	3
20-25	4
More than 25	5

.....

The remaining items in the questionnaire are related to learning centers. For the purpose of this study a learning center is "...an area in the classroom which contains a collection of activities and materials to teach, reinforce, and/or enrich a skill or concept" (Kaplan, 1973, p. 21).

Section C

10. Do you use learning centers in your kindergarten classroom?

Yes	1
No	2

11. Approximately how many years have you been using learning centers in your classroom?

None	1
Less than 2 years	2
2-5 years	3
6-10 years	4
11-15 years	5
More than 15 years	6

12. (a) Do you use learning centers on a daily basis?

Yes	1
No	2

(b) If yes, approximately what percentage of each day is spent in using them?

Less than 10%	1
10% - 25%	2
26% - 50%	3
51% - 75%	4
76% - 100%	5

13. Which best describes the types of learning centers you use? Circle more than one response if applicable.

None	1
Subject oriented (e.g., Math, Science)	2
Theme oriented (i.e., a center that coincides with a specific theme)	3
Skill oriented (i.e., a center for a specific concept such as beginning sounds)	4
Centers just for fun	5
A combination of different types of centers	6

Section D

Please respond by circling the appropriate numeral at the right. Circle more than one response if applicable.

14. Do you at any time during the kindergarten year have any of these centers in your classroom?

Reading (Book) Center	1
Water Play Center	2
Sand Play Center	3
Block Center	4
Housekeeping Center	5
Science (Nature) Center	6
Math Center	7
Art Center	8
Woodworking Center	9
Listening Center	10
Interest Center	11
Group Assembly Center	12
Language Arts Center	13
Music Center	14
Physical Education (Movement) Center	15
Manipulative Materials Center	16
Display Center (for any curriculum area)	17
Additional Centers (which are not listed here)	18

Section E

For each question, please circle the numeral which best represents your viewpoint.

		strongly agree	agree	disagree	strongly disagree
15.	The Kindergarten Curriculum Guide provided by the Department of Education adequately prepares me to implement learning centers in my classroom	1	2	3	4
16.	Learning centers encourage independence in children	1	2	3	4
17.	Learning centers promote individualization	1	2	3	4
18.	Learning centers promote peer interaction	1	2	3	4
19.	Learning centers encourage children to become decision-makers	1	2	3	4
20.	I have received sufficient preservice on how to implement learning centers	1	2	3	4
21.	Learning centers aid children in developing self-discipline	1	2	3	4
22.	Learning centers provide many opportunities for meaningful and purposeful learning	1	2	3	4
23.	I have sufficient materials and equipment to implement learning centers in my classroom	1	2	3	4

		strongly agree	agree	disagree	strongly disagree
24.	I am encouraged and supported in my use of learning centers by my principal	1	2	3	4
25.	Learning center activities are developmentally appropriate for the child	1	2	3	4
26.	Learning centers are an excellent means of integrating subject areas	1	2	3	4
27.	The amount of inservice I have received from my school board on learning centers has been sufficient	1	2	3	4
28.	Children are highly motivated by the use of learning centers	1	2	3	4
29.	Learning centers encourage oral communication	1	2	3	4
30.	Learning centers encourage organizational strategies in children ...	1	2	3	4
31.	Learning centers enhance the teacher's opportunities for observation	1	2	3	4
32.	I am encouraged and supported in my use of learning centers by other teachers in my school	1	2	3	4
33.	Learning centers can be representative of real life situations	1	2	3	4

		strongly agree	agree	disagree	strongly disagree
34.	Learning centers provide many opportunities for writing	1	2	3	4
35.	Learning centers provide many opportunities for discovery learning and problem-solving	1	2	3	4
36.	Learning centers can focus on the whole child	1	2	3	4
37.	Learning centers provide many open-ended activities	1	2	3	4
38.	I feel competent and qualified in using learning centers in my classroom ..	1	2	3	4
39.	Parents support the use of learning centers in my classroom	1	2	3	4
40.	Learning centers place an emphasis on the child	1	2	3	4
41.	Learning centers provide many opportunities for reading, both informally and formally	1	2	3	4
42.	Learning centers provide teachers with many opportunities for pupil-evaluation on a one-to-one basis	1	2	3	4

		strongly agree	agree	disagree	strongly disagree
43.	I am encouraged and supported in my use of learning centers by my school board	1	2	3	4
44.	Learning centers help ease the transition for the child from home to school	1	2	3	4
45.	Learning centers integrate learning and play	1	2	3	4
46.	Learning centers provide the child with more opportunities for self-directed learning	1	2	3	4
47.	My own readings, experimentation and experience have been the major contributing factors in my usage of learning centers	1	2	3	4
48.	Learning centers place importance on <u>how</u> the child learns rather than solely on <u>what</u> the child learns	1	2	3	4
49.	Learning centers encourage child-initiated activities	1	2	3	4
50.	Learning centers allow children to learn from direct experience	1	2	3	4
51.	Learning centers enhance the child's self-image	1	2	3	4

		strongly agree	agree	disagree	strongly disagree
52.	Learning centers provide a stimulating environment	1	2	3	4
53.	Learning centers allow the teacher to expand upon and enrich the curriculum ...	1	2	3	4
54.	Learning centers alleviate problems associated with limited supplies and materials	1	2	3	4

Thank-you!

APPENDIX C

Letter to Early Childhood Consultant with the Department of Education

P.O. Box 96
Campbellton, NF
A0G 1L0

October 11, 1989

Early Childhood Education Consultant
Fifth Floor
Atlantic Place
Water Street
St. John's, NF

Dear

I am currently working on a Master of Education degree at Memorial University. My thesis concerns "Learning Centers In The Kindergarten". The intent of this study is to determine the extent to which learning centers are being implemented in kindergarten classrooms throughout this province and to determine teachers' perceptions of them. Fifty percent of each school board's kindergarten teachers have been surveyed.

In view of your present position as Early Childhood Consultant I would like to conduct a tape-recorded interview with you, at your convenience, to discern the Department of Education's policy on learning centers.

I have enclosed the interview questions for you to view in advance.

Sincerely hoping that you are able to comply with my request and thanking you for your anticipated co-operation.

Sincerely,

Ruby Manuel

APPENDIX D

Interview Schedule for the Early Childhood Consultant with the Department of Education

INTERVIEW SCHEDULE

1. Could you briefly describe the philosophy upon which the kindergarten program is based?
2. When did learning centers first officially enter the kindergarten program?
3. Are all kindergarten teachers within this province required to use learning centers within their classrooms?
4. What percentage of each day would you recommend learning centers operate in the kindergarten class?
5. Do you feel that kindergarten teachers were provided sufficient inservice before implementing learning centers within their classes?
6. Do you feel that kindergarten teachers are presently prepared to implement learning centers in kindergarten? If no, how would you recommend that teachers become better equipped to effectively implement them?
7. Did, or does, the Department provide any resource materials or funding to aid in setting up learning centers within the kindergarten classrooms?
8. From your discussions with kindergarten teachers and your visitations to various classes around the Province, how prevalent do you believe the use of learning centers is within kindergarten classrooms at present?
9. Education as process provides the theoretical basis for the use of learning centers. This view sees education wherein individualized curriculum fits the child's

developmental needs, and learning becomes important for its own sake. Children are encouraged to learn how to learn with the emphasis on the process of learning rather than the product. What link do you feel learning centers have with education as process?

10. According to Blenkin and Kelly (1987) there appear to be certain key concepts in the notion of child-centeredness: the child's experiences; the child's growth; child-initiated activity; developmentally appropriate activities; and individualization. In your opinion, then, do learning centers provide opportunities for child-centered education, and if so, how?
11. Do you have any evidence as to how effective the use of learning centers is in achieving the objectives of the kindergarten program?
12. Are there any additional comments or information concerning learning centers that you would like to give?

APPENDIX E

Transcript of Interview with the Early Childhood Consultant of the Department of Education

Transcript of Interview with the Early Childhood Consultant of the Department of Education

Question 1

Could you briefly describe the philosophy upon which the kindergarten program is based?

Response

Okay, ah, in the Provincial Kindergarten Curriculum Guide, that's described at some length in the first chapter, but basically the philosophy or the belief that the kindergarten program is based upon is a belief in the cognitive discovery approach to learning which in a nutshell basically, refers to the active learning of children, the actual hands-on, minds-on, kind of learning that is espoused, and this cognitive discovery approach or philosophy is based upon the findings of a number of people who have historically been involved in kindergarten and they would include John Dewey, Jean Piaget, and Maria Montessori. And the belief also in essence, this is the approach to kindergarten, but our understanding and belief about kindergarten itself as an entity or as a process is that it is a complement to the education that young children receive in their families, and it is an essential complement obviously to that education and one, that sort of strengthens children's development in all areas of physical, emotional social and intellectual. We're looking at the whole child basically.

Question 2

When did learning centers first officially enter the kindergarten program?

Response

Well, I think by-and-large kindergarten teachers in this province, some of them anyway, have been probably involved in learning centers for quite a number of years, but if you're looking at the official introduction and acknowledgement of learning centers in the Kindergarten in the Province, it would probably be with the publication of the Kindergarten Curriculum Guide which was in 1985.

Question 3

Are all kindergarten teachers within this province required to use learning centers within their classrooms?

Response

Well, required is a strong word. I guess it's a recommended practise by the Department of Education, one that is strongly encouraged. It's ultimately up to the school boards, the various school boards around the province to actually see that kindergarten teachers become involved in this regard, and whether or not it is a requirement of school boards is - I'm uncertain if various school boards require it or not, but I do know that all school boards do encourage and recommend the use of learning centers. But whether or not it's something that is carved in stone, and says you must do it, I think that is ultimately up to the school boards and I

don't think that there's any school board who would probably twist somebody's arm and say you must do it or your job is on the line, that kind of thing. But I think in many ways it is encouraged and reinforced.

Question 4

What percentage of each day would you recommend learning centers operate in the kindergarten class?

Response

Well, I hesitate to give any particular percentage of time because, it depends I think, there are a number of factors involved; you have the kindergarten teacher's personality and the personality of the teacher will determine how comfortable perhaps, that individual is with the introduction of learning centers in the classroom, and some teachers might feel comfortable with doing it for 15 or 20 minutes a day, other teachers will probably go about their business the whole day in learning centers and be very comfortable with that. As an overall percentage I would say probably somewhere in the range of 20-50% would be a reasonable amount of time that individuals could be involved with the learning centers and that could be within, let's say, in a daily schedule, that could be for example when you have math on a curriculum schedule for example, a program of activities, that could translate very easily into whole class instruction and then learning centers or you might have a block of time that is called learning centers whereby all

children are involved in centers of a variety - the housekeeping, your art, your sand, and so on. So, it really is difficult to sort of determine a set percentage that would be a workable arrangement for everybody. So, I think that it's probably up to the individual.

Question 5

Do you feel that kindergarten teachers were provided sufficient inservice before implementing learning centers within their classes?

Response

Well, here at the Department of Education we are responsible for inservicing the school board personnel, who in turn are responsible for inservicing kindergarten teachers. Now, each board, of course, has their own personnel who work with kindergarten teachers in this regard. Some boards are fortunate enough to have Primary Co-ordinators and in those cases I would feel, my guess estimate would be that they probably receive a lot more emphasis on inservice for kindergarten and the Primary, of course, on these kinds of instructional approaches like learning centers. Other school boards have individuals perhaps in the person of a language arts co-ordinator, or special ed. co-ordinator who has specific interest in kindergarten and in those cases, perhaps those boards have also provided a lot of inservice to kindergarten teachers. But, I think it's probably something that is unique to every board. Some boards have probably

given their kindergarten teachers quite a bit of inservice on learning centers while other boards have probably not even skimmed the surface.

Question 6

Do you feel that kindergarten teachers are presently prepared to implement learning centers in kindergarten? If no, how would you recommend that teachers become better equipped to effectively implement them?

Response

From my observations in the Provincial scene, I think that there are many kindergarten teachers who are quite prepared and many kindergarten teachers who are not at all prepared and then there are numerous in between both of these extremes. And in terms of practice, how that actually translates into practice, obviously those who are the best prepared are the ones who are implementing them comfortably and satisfactorily.

Well, I think the main mechanism that we have in the educational system here is the inservice, and of course school boards being responsible for that, working with kindergarten teachers I think that that is an area where perhaps more emphasis could be placed. If indeed, personnel of the school board didn't have that expertise, perhaps people could be brought in from other districts - other teachers, other co-ordinators to help the kindergarten teachers in a specific district. Another thing that works very well in the province is kindergarten teachers visiting other kindergarten teachers,

the ones who are having the learning centers on the go can open up their classroom if they feel comfortable in doing so and have other kindergarten teachers visit. And I think that works wonders - to be able to interact and see what's going on in the classroom with regard to learning centers is a real eye-opener. It probably hits home harder than any amount of talk inservice can do.

Question 7

Did, or does, the Department provide any resource materials or funding to aid in setting up learning centers within the kindergarten classrooms?

Response

Well, the Department of Education provides school boards with required materials and in the case of anything that would be suitable for use of learning centers, the only thing I can think of is in the area of mathematics, where there have been two manipulative kits made available to all kindergarten teachers and those are the relationshape kit and the multilink cube kit and that could be placed in a math center or at a manipulative center in a kindergarten classroom. Aside from that there is no direct material, no funding directly to kindergarten teachers, where it could be for learning centers.

Question 8

From your discussions with kindergarten teachers and your visitations to various classes around the Province, how prevalent do you believe the use of learning centers is within kindergarten classrooms at present?

Response

Okay, I think it's growing all the time because interest is continuing to grow and again I think it's all a varying - all boards are experiencing their kindergarten teacher use of learning centers to varying extents. Some boards have teachers, all teachers, in their districts using learning centers, other boards may have a handful, other boards probably have no teachers currently involved with learning centers. So, although I think it's growing, there are still great strides to be made, in terms of making sure that more people are involved and more effectively involved in the use of learning centers.

Question 9

Education as process provides the theoretical basis for the use of learning centers. This view sees education wherein individualized curriculum fits the child's developmental needs, and learning becomes important for its own sake. Children are encouraged to learn how to learn with the emphasis on the process of learning rather than the product. What link do you feel learning centers have with education as process?

Response

Well, I think learning centers go hand in hand with the belief that children's process of learning is as important as the product and largely that strong link is there because children have to be actively involved with the materials that you provide at these learning centers. You have for example the sandbox. Children obviously, instinctively are going to go and play, and manipulate with the materials you provide

with the sand, the props that you have there. And, so they are definitely very actively involved and the process of learning is alive and well when you see children with a wheel going around and they pour sand into it and they're watching and observing and measuring and these kinds of things - very much involved in the process. And, similarly, it's self-directed activity to a large extent. Many times teachers can guide and direct children's activities at the learning centers, but very much self-directed activity goes on there too, and that obviously is helping children become involved in the process of learning how to learn. They have to choose what they're going to be involved in, they have to work with the materials and understand the processes as they are involved with them. So, I think it's a very strong link with the issue of process as opposed to product.

Question 10

According to Blenkin and Kelly (1987), there appears to be certain key concepts in the notion of child-centeredness: the child's experiences; the child's growth; child-initiated activity; developmentally appropriate activities; and individualization. In your opinion then, do learning centers provide opportunities for child-centered education, and if so, how?

Response

Well, I think absolutely. This is one of the main approaches, I think instructional approaches, that allow children to be the actual focus of the learning process, largely because they are self-directed in many cases. They

can go and choose materials, they can go and decide when and how they're going to work with the materials there. Also, the issue of individualization, which was one of the concepts in that discussion there about child-centeredness. Individualization of activities at centers can be promoted by way of having materials that would be appropriate for varying degrees of ability of children. So, very much individualization, and obviously then, child-centeredness in that regard. And, children's moods, their interest, and how they're feeling from one day to the next, can be taken into consideration because maybe they're feeling in a quiet kind of a mood and they want to go to the Language Corner and sit quietly and browse through books. Another day they might be a little bit more boisterous and go to the sandbox and the housekeeping and the block play which are a little bit noisier and more involving their energies. And so in that case you've got the child at focus, you know, their interests, their moods, their abilities are all taken into consideration. So, I think it's very much a child-centered approach to learning.

Question 11

Do you have any evidence as to how effective the use of learning centers is in achieving the objectives of the kindergarten program?

Response

Well, if we're looking at it as effective in the achievement of objectives of the kindergarten program in the Province, I believe that the kindergarten teachers who are using learning centers would attest to the fact that it's probably the most painless means of achieving objectives because children are so involved, happily involved, in what they're doing and I believe that the outcomes in terms of what is eventually the reporting of children's progress at the end of the year is just as satisfactory as what it would be if any other instructional approach had been used, and probably even more satisfactory and certainly less painful than the type or kind of instruction that we are probably traditionally used to in terms of kindergarten.

Question 12

Are there any additional comments or information concerning learning centers that you would like to give?

Response

Well, only that I support the fact that kindergarten teachers in this Province could use a lot more support, school board, department support both, as well as actual school support from their principals and other staff members, because they do have a heavy load, in many cases very large classes, two classes a day, other teaching assignments in addition to their kindergarten workload. And I believe that frustrations such as not enough materials, not even enough consumables,

lack of funding, lack of inservice and support are very real issues for the kindergarten teacher and I think this is where support probably needs to be directed.