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PROJECT C.A.M.P.

A COGNITIVE AND MOTOR PROGRAM

by

Donna Ann Pucci

A Thesis  
submitted to the Faculty of Graduate Studies  
through the Faculty of  
Human Kinetics in Partial Fulfillment  
of the requirements for the Degree  
of Master of Human Kinetics at  
The University of Windsor

Windsor, Ontario, Canada

1983

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ABSTRACT

PROJECT C.A.M.P.

A COGNITIVE AND MOTOR PROGRAM

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Donna Ann Pucci

Project C.A.M.P. was an experiment designed to assist disadvantaged preschool children in the attainment of fundamental cognitive, motor, social, and self-help skills. To facilitate the process, C.A.M.P. was introduced to three preschool programs in the City of Windsor, Ontario. Three experimental conditions existed and were randomly assigned to the groups involved. The first experimental condition considered the effect of selected apparatus, movement-based C.A.M.P. lessons, and the training of instructors in the administration of the lessons. The second condition considered the effect of selected apparatus and the C.A.M.P. lessons. The third condition considered only the effect of selected apparatus. A City of Windsor Day Nursery served as the control group, receiving no treatment. A Chi-squared revealed no significant difference between groups at the .05 level of significance. Therefore concluding that the experimental conditions produced no difference in skill level when compared with the control group.

While the results seemed to indicate that neither appar-

atus, lesson plans, nor training of instructors produces a significant difference on those skill items assessed, some trends were noted. The training of instructors in the program present was the most significant of the findings and was supported (though nonsignificantly) by the data. Instructors not only need lesson plans, they require the skills to implement the lessons.

Incidental to the experimental hypotheses of treatment conditions were the research objectives. Developed in the Project was a method of evaluating children involved in a program without removing them from the environment. This took the form of the Skill Item Checklist. In addition, the mothers of the children were actively involved in the program. They enjoyed the program, became aware of their children's capabilities, and gave support to the positive effects of a quality mother-child interaction.

Though the results tended to be inconclusive, Project C.A.M.P. was viewed as having a positive influence on the mothers and children involved. Project C.A.M.P. concluded that disadvantaged children can be assisted with skill acquisition if programs known to be sound are implemented.

DEDICATION

I would like to dedicate this thesis  
to my family for all their love and support.

And especially to my godchild

Shana Marie

## ACKNOWLEDGEMENTS

This thesis was not done alone. It is the result of the work and support of many people.

I would like to thank Dick Dupuis and the instructors of Functional Leisure Systems Inc. It was their hard work and concern in the Play/Gyms which brought the lessons and the program to life. To Linda Edwards, my thanks for the opportunity to experience a true Cooperative Nursery Program. Thanks is also extended to Noreen Richards and the College Avenue Day Nursery Staff for their cooperation and assistance.

Slides were taken by Sue Swain and Jan Elder, pictures drawn by David Udelhoffen, and typing, a skill I have yet to master, was done by Eleanor Reeves, Janine Hepworth, and Marlene Aker. Mrs. Jan Ruch proofread and corrected the first draft. My thanks to all of you for your time and skill.

Special thanks is given to the members of my committee. To Prof. Kimmerle whose enthusiasm about movement education first convinced me to do research in this field of study. To Dr. Innerd whose guidance in child development and support during some of the rough spots were appreciated. To Dr. Moriarty whose concern with social programs and action research helped to keep Project C.A.M.P. going.



My very special thanks to my advisor Dr. James Duthie.  
It was his continuous support, advise, and encouragement  
which has brought Project C.A.M.P. to its completion.

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## CHAPTER 1

### I. INTRODUCTION AND IMPORTANCE OF THE STUDY

A child raised in an area of poor socioeconomic status is in many ways at a disadvantage when compared with a child raised in a more affluent environment. Mother, many times the sole financial support of the family, is not always available to play with her child. If mother does remain at home, there are usually other children for whom she must also care. Life in city housing projects is not necessarily comparable to running freely about an open field. Parking lots and enclosed playgrounds are a common substitute for open backyards. In a poor socioeconomic area, there is less money for toys and less opportunity for a child to interact with the natural environment.

The term disadvantaged may not be entirely due to the poor socioeconomic area in which a child has been raised. Cultural deprivation puts many young children behind their peers in motor, social, and cognitive skills. There are many immigrants who, upon arrival in a new country, are unable to secure jobs. These families find themselves in lower income housing. The children, unfamiliar with the language and play of Canadian children, withdraw. They will remain at a disadvantage unless provided with the opportunity to learn the ways of the culture in which they now find themselves.

As the young child approaches school-age years, it is discovered that many of the skills needed for successful completion of kindergarten and grade one are lacking. Cognitive skills such as the identification of colors and shapes, social skills of playing with other children, and fundamental motor patterns of balance and jumping are often lacking in children from poor socioeconomic backgrounds. These are the areas in which the children are at a disadvantage.

Successful completion of kindergarten and grade one becomes difficult for children who are not able to keep up with their peers. As the years go by, they fall further behind as they struggle to obtain fundamental skills. The cycle continues and disadvantaged children remain disadvantaged. Eventually, many have to receive remedial assistance to provide them with the skills they should have had prior to entering school.

Sara Smilansky (1968) found that children from disadvantaged backgrounds could be assisted in obtaining skills necessary for school. Smilansky exposed disadvantaged Israeli children to a variety of play training and educational activities. These children soon caught up with their peers.

In Smilansky's study the children were actually removed from their disadvantaged environment for a period of time. Removing children from their natural environment in a poor socioeconomic area has the effect of putting a band-aid on a wound which needs stitches. The wound may heal, but the



scar will be unsightly. These children, regardless of how stimulating the new environment, must still return home. They still live in city housing projects. They still have courtyards to play in. They still do not have the same opportunities as their peers.

What is needed is to change the environment from within. Mothers need to learn the skills necessary to educate their children as the children learn skills necessary for success in school.

Jerome Kagan (1969) strongly emphasises the point that the quality of the mother-child relationship is a determinant of a child's skill level. He encourages concentrating efforts on raising the quality of the mother-child relationship rather than dealing with the child alone.

In her article concerning the Mother-Child Home Programme, Phyllis Levenstein (1976, p. 286) states that "the mother of a preschool child is likely to be the principle environmental agent of her child's intellectual growth". She goes on to say that if the cognitive foundation as established through the mother has not been laid before the child enters school, it will most likely be too late to do anything about it.

The quality of the mother-child relationship can be assisted in a cooperative situation where the mother remains throughout the course of the lesson in which her child is involved. The lesson would be specifically designed to provide the child with the opportunity to acquire fundamental

skills through a problem solving approach. By observing their children, mothers become aware of how they can assist them in their skill learning and play.

Project C.A.M.P., a Cognitive And Motor Program, is an attempt at bringing about change within the environment. Developmental material in the form of Play/Gyms, is made available to mothers and their preschool children from poor socioeconomic areas. The Play/Gyms were established in and around housing projects so that the mothers and their children need not be removed from their immediate environment. Disadvantaged children can, in this way, be provided with opportunities for growth. Project C.A.M.P. is a demonstration of the belief that intervention at the preschool level with a movement based program is the best way for disadvantaged children to receive an advantage.

II. PLAY/GYMS - A DESCRIPTION

Preschool children require and enjoy moving. They require and enjoy playing. Some children, however, need assistance in their movement and play. For these children programs which provide direction and structure are available. A play/gym is an environment specifically designed to meet this need.

For the purposes of this study, an enclosed area (a gym) equipped with an assortment of large and small apparatus con-

stituted a play/gym. (see Appendix A for List of Apparatus) Each play/gym was equipped with essentially the same apparatus both in quality and quantity.

The play/gyms used in this study were located throughout the city of Windsor, Ontario, each receiving a different experimental treatment. Play/Gym 1 (Roseville Center) was located on the East side of Windsor and received training, C.A.M.P. lessons, and apparatus (see Appendix B and C for Training Schedule and C.A.M.P. Lessons). Play/Gym 2 (Scott Hall), located in downtown Windsor, received C.A.M.P. lessons and apparatus. Play/Gym 3 (Donlon Hall) was located in Windsor West and received only apparatus. Activities in Play/Gym 3 consisted of songs, games, free play, and craft lessons prepared by the play/gym instructors.

Although the activities run at each of the play/gyms varied (especially between Play/Gyms 1 and 2 using C.A.M.P. lessons and Play/Gym 3 which did not use C.A.M.P. lessons), the same format was used by each one for every class. This format is outlined below.

<u>Activity</u>	<u>Time</u>
A) Arrival and free play	5 - 10 minutes
B) Opening Circle	5 - 10 minutes
C) Lesson	20 - 25 minutes
D) Closing Circle	5 minutes
Total	35 - 50 minutes

The small apparatus, balls, bean bags, and hoops were made available to the children upon arrival to the play/gym. The children were free to use the small apparatus alone, in groups, or with their mothers.

The first session following the free play period was Opening Circle. During this time period, the instructors of the C.A.M.P. lessons (Play/Gyms 1 and 2) introduced the lesson of the day. This time was also used for reviewing colors, shapes, and numbers. The instructors at Play/Gym 3 usually spent this time singing the children's favorite songs.

The lesson for the day followed Opening Circle. These lessons varied from one day to the next depending on the lesson outlined in C.A.M.P. for that week. The greatest variety of lessons naturally took place at Play/Gym 3. The children were allowed to play freely the entire class. The actual lesson part of class was cut short at Play/Gym 2 if time was a limiting factor (which was often the case). The lesson at Play/Gym 2 usually ran 10 - 15 minutes. When the lesson was completed, the children were brought back into a circle for a closing song, review of the day's activities, and good-byes.

Each play/gym had 2 - 3 instructors present at all times. The instructors came from a variety of backgrounds though all had had some experience working with young children in a recreational setting. Parents, most often the mothers, stayed with their child during the entire class

so as to assist the child in the activities. An exception to this was Play/Gym 2. While the mothers were always present at the program, some chose to assist in the program by making equipment (i.e. bean bags) or helping with snack rather than staying in the gym area. The instructors of the program, however, were mothers with children in the gym program.

### III. PURPOSE OF THE STUDY

The purpose of this study was to determine the effect of a movement based program on the acquisition of cognitive, motor, social, and self-help skills in disadvantaged pre-school children. Children taking part were from poor socio-economic areas of Windsor whose mothers remained with them throughout.

The dependent variables on which the children were measured were based on the Developmental Profile II of Alpern, Boll, and Shearer (1980). As well, skill items were chosen from developmental charts outlined by Cratty (1972), Houlihan (1978), Stanley (1977), and Elkind (1978). Those skill items chosen were considered to be age appropriate for children of 36 - 60 months (3 - 5 years). There were thirty skill items which were selected for measurement. These were divided into four categories. The categories were Cognitive (10 items), Motor (10 items), Social (6 items,

and Self-Help (4 items).

Alpern, Boll, and Shearer (1980) define the categories as follows:

**MOTOR:** the measurement of the child's physical development by determining abilities with tasks requiring large and small muscle coordination, stamina, flexibility, and sequential control skills.

**COGNITIVE:** the measurement of the child's intellectual abilities by assessing the preschool child's development of skills prerequisite to scholastic functioning.

**SOCIAL:** the measurement of the child's interpersonal relationship abilities. The child's emotional needs for people as well as the manner in which the child relates to friends, relatives, and various adults exemplify the skills which measure functional performance in the social situation.

**SELF-HELP:** the measure of the child's ability to cope independently with the environment and measure the child's skills with tasks such as dressing and working. This is an assessment of the degree to which a child is capable of responsibly caring for himself and others.

(p. 1)

In this study, poor socioeconomic status was a variable which was held constant. A child was considered to be of poor socioeconomic status if the child lived in and around Windsor Public Housing. All of the play/gyms, as well as the city of Windsor Day Nursery, were located in and around Windsor Public Housing areas and drew their attendance from surrounding populations.

This study was designed to determine not only the

effectiveness of a movement based program, but to acquire knowledge regarding the usefulness of apparatus and the necessity of training instructors. To assist in this determination, the following experimental hypotheses were formulated:

- A) Children in Play/Gym 3 (Donlon Hall) provided only with apparatus will demonstrate a significant difference on 30 selected skill items when compared with the control group (Windsor Day Nursery) which received no treatment.
- B) Children in Play/Gym 2 (Scott Hall) provided with apparatus and C.A.M.P. lessons will demonstrate a significant difference on 30 selected skill items when compared with Play/Gym 3 (Donlon Hall).
- C) Children in Play/Gym 1 (Roseville Center) provided with apparatus, C.A.M.P. lessons, and training will demonstrate a significant difference on 30 selected skill items when compared with Play/Gym 2 (Scott Hall).

In other words the effects of apparatus, planned lessons, and specific training will be positive and interactive.

Project C.A.M.P., with its lesson plans, training program, and apparatus, was the method used to meet the following research objectives:

- A) To determine the effectiveness of a movement based program in assisting disadvantaged preschool children in attaining skills necessary for successful entrance into kindergarten.
- B) To develop a method of assessing a preschool child's skills without removing the child from the situation in which the assessment is to take place.
- C) To encourage mothers to become aware of the capabilities of their own children and to provide them with

the opportunity to learn skills which may be used at home.

#### IV. LIMITATIONS AND ASSUMPTIONS

- A) The children involved in the study were disadvantaged as a result of being raised in and around areas of poor socioeconomic status and have already been deprived of essential learning opportunities.
- B) The instructors in the play/gyms were capable of effectively administering the C.A.M.P. lessons.
- C) Play/Gyms 1 and 3 (Roseville Center and Donlon Hall) began programs on March 1, 1982 while Play/Gym 2 (Scott Hall) began its regular program September, 1981. The treatment program, C.A.M.P. lessons were introduced into Play/Gym 2 on March 1, 1982.



## CHAPTER II

### REVIEW OF LITERATURE

The review of literature covered in this section not only provides support for the C.A.M.P. program itself, but is also a discussion of the rationale for the entire study. Project C.A.M.P. was more than an experiment designed to determine the effectiveness of one type of program as compared to another. It was an experience in social programming. This review provides a summary of social research in the area of disadvantaged children. This in itself provides a justification for the C.A.M.P. project attempted in Windsor.

"At its best, social research provides a reasonable sense of the various ways a problem can be understood and a reasonable account of how solutions might be approached." (Weiss 1977, p. 79)

There exists in today's literature numerous accounts of the plight which faces children, from poor socioeconomic backgrounds. These are the children who are likely to be evaluated as high risk early in their school years (Elkind 1978, Craig 1976). High risk children are those who experience difficulty in adapting to the kindergarten situation; many are developmentally delayed in cognitive, motor, social, and self-help skills. Experiencing difficulty in kindergarten indicates that these children have not yet attained the necessary skills prior to entrance into kindergarten. Unless assisted in some fashion, these children stand an

above average chance of remaining behind their peers throughout their academic years. Because these children are at a disadvantage, a social as well as an educational problem is created.

Researchers have approached this problem with various solutions. Smilansky (1968) and Rosen (1974) have suggested that training disadvantaged children in sociodramatic play will have a positive influence on the children's ability to solve problems. The ability to problem solve is seen as being a key factor in determining whether or not a child will be successful in school.

Smilansky's study of disadvantaged Israeli children, though quite encouraging, failed to demonstrate an increase in problem solving skills as a direct result of play training. That children trained in sociodramatic play tend to show an increase in the quality of their sociodramatic play was essentially the result of Smilansky's study (1968). The taking on of the roles of others, as well as the acting out of situations, is encouraged during this type of play and may lead to more effective means of solving problems. Training in sociodramatic play may be one solution to the problem of assisting disadvantaged children.

In a study designed to replicate Smilansky's findings in a North American setting, Catherine Rosen trained culturally disadvantaged children in sociodramatic play (1974). Her results were similar to those found by Smilansky — training in sociodramatic play leads to an increase in the

quality of the sociodramatic play in which the children engage; however, Rosen also discovered an increase in the quality of the children's interactions. She concludes that the children needed one another in order to participate in sociodramatic play. Other children were required to act out the various roles and situations. As the children sought the positive feeling derived from participation in sociodramatic play, they also sought one another. Play training would seem to be a positive solution to the problem of improving social skills. Placing children in a situation where they need each other may be a way of encouraging such social skills as taking turns and cooperation.

In a recent article, James Christie (1981) questions the validity of the play training claims. He proposes that apparent success of play training may be attributed to the group activity being adult guided rather than to the play training itself. As Christie points out in the Smith and Sydall study (1978), play training had no significant effect when adult interaction was strictly controlled. Smith and Sydall controlled for adult interaction by observing the verbal interaction of children in play training and in skills tutoring. They conclude that gains in cognitive performance may be brought about by the adult interaction. This indicates that the importance of the adult presence should not be underestimated. It should, in fact, be considered when adapting the environment for disadvantaged children.

---

Another attempt at a solution to the problem of assist-

ing children from disadvantaged backgrounds was put forth in a study conducted by Kenneth Rubin (1976). Rubin's study considered the effects of preschool programs on the cognitive skills of the children assessed. He compared children attending a Piagetian based preschool with those attending a traditional preschool. Both schools were located in a poor socioeconomic area of Windsor, Ontario.

Rubin discovered a significant increase in cognitive test scores of those children attending the Piagetian based preschool. Differences in scores were accounted for by explaining the differences in the two programs. The Piagetian based preschool allowed the children greater initiative in choosing activities. There existed more opportunities for the children to explore their environment and not remain passive recipients of a teacher's instruction. Increased interaction with the environment in addition to more 'hands on' experiences accounted for the differences in the cognitive test scores (Rubin 1976).

Rubin's study focused on children from a poor socioeconomic background. His conclusions indicate that an experienced based program is effective in producing a differential increase in the cognitive skills of disadvantaged children.

In another study conducted in Windsor, Ontario, Duthie and Innerd attempted to raise the cognitive skills of children identified as high risk (Duthie and Innerd 1981). Project Starting Blocks was subsequently introduced into

the Windsor Public and Separate schools. Starting Blocks consisted of materials such as colored blocks and numbered cards specifically designed to foster the cognitive development of the high risk child.

While the results of the study failed to indicate a significant increase in all areas tested, an increase in some areas of cognitive development did occur, the most significant being that of color identification (Duthie and Innerd 1981). An increase in cognitive ability was noted particularly in those children initially labeled as high risk by the Windsor Early Identification Project (1980).

Recommendations from these findings included the introduction of additional gross motor activities to compliment the learning of cognitive skills. It has been suggested by Duthie and Innerd that the teachers' use of the Starting Blocks Kit was too static. A more dynamic application was recommended for both the teachers and children. Increasing the motor portion of the activity may aid in facilitating the attainment of such cognitive constructs as color, shapes, and numbers (Duthie and Innerd 1981).

Project C.A.M.P., a Cognitive And Motor Program, combines the findings and recommendations of social research with child development principles and theories of movement education. C.A.M.P. is a series of lessons designed to assist children with cognitive and motor skills.

The importance of physical activity in the acquisition of cognitive skills was central to the development of C.A.M.P.

This theme has been dealt with by a number of developmental theorists. It is the belief that children must be allowed the freedom to physically move about and explore their environment. In this way, they can gain a greater awareness and understanding of the world in which they live.

Kephart approaches the connection between the physical and cognitive development of a child from a perceptual-motor perspective. His theory assumes that perception and cognition are dependent on motor activity; thus both perceptual and cognitive development arise from a completed motor base (Kephart 1969, Ball 1971).

Essential to Kephart's thesis is the necessity of the child to attain what he refers to as the initial datum, an individual attainment. Failure of the child to attain competency in a basic motor skill such as balance (the initial datum) will hinder the child's elaboration of this skill into a more complex movement pattern such as skipping. Experiencing difficulty in the motor area has an effect on the perceptual domain which, in turn, may adversely effect the child's ability to develop the generalizations required for more advanced levels of cognitive processing.

Cratty (1972) also emphasizes the importance of early perceptual-motor programs. A child who is unable to perform a fundamental motor pattern such as running may be experiencing difficulty in perception. Perception is considered to be the process of receiving information as well as processing it; therefore, it is linked closely to cognition. A

program comprised of specific perceptual-motor tasks will assist the child in attaining competency in these skills.

Interaction with the environment or the 'hands on' experiences described by Bruner (1966) and Piaget (1976) are viewed as essential components in the attainment of cognitive constructs. The enactive stage of Bruner's and Piaget's sensorimotor components points to the importance of the child's early motor experiences. Providing children with the opportunities to explore their environment aids the children in their cognitive development. Bruner believes that it is through this interaction that children are able to bridge the gap between concrete experiences and abstract thought (Bruner 1976).

A wide range of perceptual-motor and cognitive-motor programs has evolved during the past decade. Many have recognized that cognitive experiences and motor activities should not be kept separate; however, perceptual-motor programs have long been used exclusively in remedial work (Zaichowsky 1980). Those children identified in their first few years of education as being 'clumsy', 'slow', 'disturbed', or 'perceptually handicapped' have received remedial care in the form of a perceptual-motor program. For many children this has proved to be quite successful and should be continued.

But what of all those children who do not have a recognized 'handicap' which would entitle them to receive special programs? Or what of those children who, as a consequence

of their background, have not had the opportunity to attain those skills necessary for school? These children will remain behind their peers unless provided with a chance to catch up.

Movement educators appear to have the answer to this dilemma. Movement programs tend to encompass the capabilities of a wide range of children. Programs are open and flexible enough to encourage children of an advanced skill level while at the same time to assist those who may be having difficulty (Stanley 1977).

Since the approach used in presenting movement material is one of problem solving by the children rather than one of direction by the teachers, individual children are afforded opportunities to work at their own level of skill. All children differ in their motor and cognitive abilities though not all programs take these differences into consideration. A problem solving approach may prove to be the most effective in accounting for individual differences in skill.

Movement programs such as those outlined by Stanley (1977), Kirchner (1978), Jackson (1980), and Hoffman (1981) contain some common threads. All are directed toward the development of each child's potential skill. Children are encouraged to explore many ways of moving their bodies in space or of manipulating objects. The task, whether it be crossing to the other side of the room or putting a ball through a hoop, allows each child to solve the problem using his own resources. This type of program, which encourages



and supports individual abilities while being firmly planted in sound cognitive and motor skill development, appears to be one which could successfully be used with children from disadvantaged background since these children lack many cognitive skills which may be attributed to poor motor patterning (Kephart 1969, Cratty 1972).

There is, unfortunately, little empirical evidence to support the claims which movement educators have made. Humphrey (1980) made an attempt at providing some solid evidence in support of a movement approach. Methodology in Humphrey's study involved the recording of observations made by teachers of the children participating in a movement program. In justifying this method, Humphrey supports that the movement approach is new and therefore any method, however open ended, provides some support. His conclusions point to the need for more research in this area.

Both Kagan (1969) and Levenstein (1976) emphasize the importance of the mother-child relationship. A sound relationship seemed to improve the child's ability to perform cognitive and communicative skills; consequently, mother's presence and active participation was encouraged throughout this project.

Project C.A.M.P., a Cognitive And Motor Program, was another attempt at a solution to the social problem of assisting children from disadvantaged backgrounds. The project's target population were preschool children and their mothers from poor socioeconomic areas of Windsor,

Ontario. Recommendations from the Duthie and Innerd Starting Blocks Study (1981) particularly emphasized the need for early intervention programs. It is hoped that children who would otherwise be labeled as high risk in kindergarten may attain cognitive, motor, social and self-help skills prior to entry into kindergarten by participating in such a program.

Project C.A.M.P., therefore, was an early intervention program designed to equip those children most likely to be labeled as high risk, those children from poor socioeconomic backgrounds, with tools necessary for success in school. These tools were cognitive and motor skills presented through a series of movement based lessons which involved the active participation of the mothers. It is hoped that such a program may assist in alleviating some of those problems which plague children from disadvantaged backgrounds throughout their schooling.

## CHAPTER III

### INSTRUMENTS

#### I. SELECTION AND CONSTRUCTION

The Developmental Profile developed by Alpern, Boll, and Shearer (1980) was initially selected as the measuring instrument for Project C.A.M.P. It was to be used in both the pre and post testing. The Developmental Profile was chosen for two reasons.

First, the Developmental Profile provided an assessment of the total child. Each child would be assessed on cognitive, motor, social, communication, and self-help skills. This seemed to provide a more complete picture of the child. Many evaluations of a child's abilities are based solely on cognitive test scores with little attention paid to other areas of a child's development. The success or failure of a given program may be due in part to the limited areas in which testing occurred (Gay 1981). It was anticipated that the wide range of areas covered by the Developmental Profile would provide information regarding which areas of a child's development would be most effected by the treatment program.

The complete picture of the child was to be expressed as a developmental age. Each question on the Profile was assigned a developmental age, usually of 3 months. The child's developmental age would be the sum of the questions

to which a positive response was given. This type of assessment was said to be unbiased by age, sex, race, or socioeconomic status (Powell 1980). This tool would, therefore, be of particular value in this study.

Secondly, and of equal importance, the Developmental Profile was easy to administer. An assessment of each child could be attained by means of a thirty minute interview with each child's mother. The questions were straight forward requiring a yes or no response from the mothers. This helped to control the bias of the interviewer leading the mothers in their answers. All of the interviewers received a forty minute training session covering interviewing techniques, as well as, reviewing the questions on the profile.

The Developmental Profile was also considered easy to administer as the children did not have to be removed from the Play/Gym in order to be assessed. There was no interference with the performance of the child. Nash (1981) suggests that removing a child from the situation in which he is to be assessed may cause undue anxiety. This will bias the child's performance of the desired skills rendering a false representation of the child's skill level. She strongly recommends natural observation as an alternative.

The Developmental Profile seemed to be the ideal form of assessment for this study. However, difficulties did arise which resulted in it being eliminated in its original form from use in Project C.A.M.P. The profile was administered to the mothers prior to the start of the program. Pre-test

score results indicated that mothers greatly exaggerated their child's skill level. Many of the children were rated at functioning 50% - 100% above their actual age. This overestimation, was not constant and, therefore, could not statistically be removed from the data. The overestimation was also considered large enough to disguise any treatment effect which may have occurred.

The play/gyms had been in operation for one month when the pre-test outcomes were recognized. This eliminated the possibility of a pre to post evaluation. Programs would now require to be evaluated using only post testing data with between group comparisons. Since the Developmental Profile proved to be insufficient for the purposes of this study, a new evaluation tool was evolved.

## II. SKILL ITEM CHECKLIST

The tool which was devised was a Skill Item Checklist. The checklist was comprised of 30 selected skill items covering the areas of motor, cognitive, social, and self-help skills. Those items included on the checklist were supplied by a number of sources, though many of the items were taken directly from the Developmental Profile of Alpern, Boll, and Shearer (1981). This ensured that the items were developmentally appropriate to the age group (3-5 years). Other skill items were selected from the motor skill charts of

Cratty (1972) and Craig (1976). The majority of the social skills items were taken from the Behavior Assessment chart of Houlihan (1978). The skills selected were determined to be skills which a five year old should possess prior to entrance into kindergarten.

Each child was assessed on each of the 30 selected skill items and scored as being capable of performing the skill on a 5 point Likert scale (Always, Most of the Time, Some of the Time, Seldom, Never, and Don't Know) (Likert 1932). The statements of the skills were ranked such that an Always response would be considered the high score. The children were rated by their mothers and by the instructors of the programs (see Appendix D for the Skill Item Checklist).

### III. TELEPHONE INTERVIEWS

A second form of data collection for this study involved telephone interviews. The objective of the interview was to gather data which could otherwise be overlooked using the Skill Item Checklist alone. Data, which were concerned with the mother's attitude to the program, the instructors, and how they perceived the program's effect on their own child, could be used to supplement the data collected on each child.

Bradburn (1979) suggests that telephone interviews are less threatening than personal interviews resulting in less distortion of the responses. The telephone interviews proved

to be quite productive with the mothers responding honestly to the questions.

Telephone interviews were also easier to administer than scheduling personal interviews. As Gay (1981) states in Educational Research, all interviews should be conducted in essentially the same manner. This was ensured as the experimenter conducted all of the interviews. Each interview lasted from three to five minutes. The questions were semi-structured allowing the mother to respond openly to the question without being limited to a few answers. All answers were categorized as to the type of response following the interviews (see Appendix E for Interview Schedule).

#### IV. SLIDE OBSERVATIONS

Slides of the play/gyms, the children, and the equipment were taken at the beginning and again at the end of Project C.A.M.P. The slides were used to give a visual demonstration of what was occurring in each of the programs. It was also hoped that subtle motor skill changes might be captured on film which may otherwise have gone unnoticed (see Appendix F for Slide Observations).

## CHAPTER IV

### METHODOLOGY AND RESEARCH DESIGN

#### I. SELECTION OF THE SAMPLES

Selection of subjects for the study was solely determined by parental election to participate in each play/gym. Since subjects were not randomly assigned to experimental groups, but rather the experimental conditions were randomly assigned to play/gyms, those present became the subjects for the study.

Efforts were made to ensure that the groups were matched on socioeconomic status and on age. The play/gyms were located in and around Windsor Housing Projects, with the control group, College Day Nursery, located in Windsor West. This drew from the same population as Play/Gym 3 (Donlon Hall).

Evidence of socioeconomic status was not collected as the study was conducted with as little interference from the experimenter as possible; it was felt that having the mothers and children from these areas attend a program was enough without delving into their personal circumstances.

The children were matched as closely as possible on age. All of the children were of preschool age, 3-5 years. As many children in each program as practically possible were used in the study. Factors which eliminated some of the children included age (too young or too old), failure



of the mother to complete the Skill Item Checklist, and inconsistent attendance of the child in the program. These children were not removed from their individual programs; however, the data on them were not considered in the final statistics (see RESULTS, Table A for Demographics).

Every effort was extended to conduct as many interviews as possible with the mothers. Those with whom interviews were not conducted were either not at home during the time periods in which the data were collected or their phone numbers were not available.

## II. RESEARCH DESIGN

The research design for this study was a Post Test Only - Control Group Design as described by Gay (1981). This design is illustrated below.

R	X <sub>1</sub>	O
R	X <sub>2</sub>	O
R	X <sub>3</sub>	O
<hr/>		
R	C	O

The random assignment of treatment to subjects and the presence of a control group, according to Gay, controls all sources of invalidity except subject mortality. (Mortality is

not controlled because of the absence of subject pretest data). However, subjects involved in this study were all reported to have participated in the programs on a regular and consistent basis. As well, all of the mothers interviewed had been in attendance in the program from the beginning on a regular basis.

Subjects were not randomly assigned to experimental conditions as in  $X_1$ ,  $X_2$ ,  $X_3$ . For practical reasons each play/gym had to be treated as a unit. Experimental conditions were, however, randomly assigned to the experimental groups thus provided, (Roseville Center, Scott Hall, Donlon Hall). The control group was selected as being best representative of poor socioeconomic areas as it was located close to the Windsor West Housing Projects. This provided a better test of the treatment effects.

The independent variables for this study involved the control group and three experimental groups. The control group, a City of Windsor Day Nursery, received no treatment or interaction with the experimenter but rather carried on with a traditional Day Nursery program.

The experimental groups included Play/Gym 1 (Roseville Center) which received a 3 day training session, C.A.M.P. lessons, and apparatus. Play/Gym 2 (Scott Hall) received C.A.M.P. lessons and apparatus. Play/Gym 3 (Donlon Hall) received apparatus alone.

The dependent variables for the C.A.M.P. study were selected motor, cognitive, social, and self-help skill items.

### III. COLLECTION OF THE DATA

Data for this study were collected using a number of research techniques. Quantitative data were collected through the use of the Skill Item Checklist which was completed by the mothers and the instructors. Interviews with the mothers provided an additional source of quantitative information. Slides of the children involved in the program were taken at the start of the program and at the end. This was done with the intention of providing a more qualitative measure of the children's progress. As well, slides provided a visible illustration of the equipment and the manner in which it was used by the children (see Appendices D, E, and F for Skill Item Checklist, Interview Schedule, and Slide Observations).

#### A. Skill Item Checklist

The Skill Item Checklist was completed by the mothers and the instructors following the three month period in which the project was run. The checklists were submitted to the mothers who filled them out in the presence of the experimenter or another qualified person. An exception to this were the mothers in the control group. These mothers picked up the forms at the Day Nursery, filled them out at home,

and returned them to the Day Nursery on the following day. (These mothers had been phoned by the experimenter prior to receiving the checklist to inform them of the purpose and to enlist their cooperation). All responded quite positively.

The instructors were allowed to complete their forms at home as they had to complete a checklist on a number of children, not just one as a mother did. So as to avoid prejudicing the data, instructors were asked not to discuss their personal assessment of each child.

#### B. Telephone Interviews

All telephone interviews were conducted by the experimenter during two consecutive weekends following the project's completion. The interview questions were semi-structured, allowing the mothers to respond as openly and freely as possible. Each interview took approximately 3-5 minutes to complete.

#### C. Slide Observations

Slides of the children were taken by the experimenter and others familiar with young children. Pictures were taken throughout the course of one lesson and did not seem

to interfere with the program itself.

#### IV. ANALYSIS OF DATA

##### A. Skill Item Checklist

The Skill Item Checklist data were analyzed using a Chi-square as outlined in Ferguson (1976). The children were scored twice, once by their own mother and once by the instructors of the program. If more than one instructor assessed a child the average score was determined and used to represent the instructor's assessment of the child.

A comparison of the scores of the mothers and the scores of the instructors in each group was made using Chi-square. A comparison between groups was also carried out with the scores of the mothers and the scores of the instructors compared separately.

Percentages were used to present the final statistics as the raw data did not clearly represent the findings. Gay (1981) suggests that the simplest way of representing the results is by indicating the percentage of responders who selected each alternative for each time.

A T-Test was used to further analyze the final percentage data. The data were divided into two groups: one being positive scores, the combined Always and Most of the Time responses; and the other being the negative scores represented by the Seldom and Never responses. A signif-

ificance test was used to analyze differences with average positive and negative scores of experimental group mothers' responses with the positive and negative responses from the mothers in the control group. The same analysis was used in comparing the experimental group instructors responses with the responses of the instructors of the control group.

T-Tests were used to compare the male-female ratio of the experimental groups with those of the control group. The average age of the experimental groups was similarly compared with the average age of the control group.

#### B. Telephone Interviews

Data collected from the interviews were categorized following the interview and the percentage of responses computed. There was no statistical analysis done as interview data were used primarily to support the results of the Skill Item Checklist data.

#### C. Slide Observations

The slides were used as a visual presentation of the equipment and the types of activities in which the children engaged. The slides were not specifically analyzed.

## CHAPTER V

### RESULTS AND DISCUSSION

Social programs are difficult to evaluate. Often the phenomenon being considered is influenced by many outside variables of which the experimenter could not have previously been aware. Times change, situations change, people change. Even the strictest of studies cannot control the countless intervening variables which crop up in the course of meaningful social programs.

The programs themselves are constantly being modified to suit the people for which they were designed. Failure to adapt a program for the sake of evaluating its effectiveness is not only an injustice to those people involved, but may very well alter their perception of the program. If the people involved in an ongoing social program, the clientele of the program, perceive it as only a means to an experimenter's end, the true value of the program itself may never be discovered. Any social program is only as effective as its ability to meet the needs of the population for which it was designed.

Keeping this concern in mind, Deutscher (1976) outlines an alternate method of evaluating social programs. The question which most evaluators of social programs ask is "What happened?" Did the program accomplish what it said it would accomplish? Were the goals of the program met?

This type of evaluation is clear-cut. It leaves no room to account for incidental effects which may have occurred. The program is viewed as successful if the outlined goals were met. It is a failure (and therefore, not implemented) if these goals were not met.

Deutscher suggests changing the question from "What happened?" to "What is happening?" This second question asks how are the people involved relating to the program? How is the program continuing to meet their needs? These are the types of questions which consider the process of social programs and not merely the ends.

The presentation of results in this section will consider both questions, "What happened?" and "What is happening?" In this way the C.A.M.P. project itself can be evaluated as well as looking at the impact such a program had on the people involved.

## I. WHAT HAPPENED?

### A. Demographics

Demographic information collected on each of the Play/Gyms and on the Control Group are presented in Table A. A t-test indicated no significant difference between groups on age and sex variables.



TABLE A

DEMOGRAPHICS

PLAY/GYMS	NO. OF SUBJECTS	SEX		AVERAGE AGE
		MALE	FEMALE	
ROSEVILLE	6	1	5	47.7 months
SCOTT HALL	16	9	7	51.4 months
DONLON HALL	6	5	1	49.3 months
EXPER. $\Sigma \bar{x}$	9	5	4	49.4 months
COLLEGE DAY NURSERY	7	5	2	50.3 months
TOTAL	35	20	15	49.7 months

TABLE B

PERCENT OF AVERAGE POSITIVE AND NEGATIVE RESPONSES  
MOTHERS AND INSTRUCTORS

	POSITIVE PERCENTAGES		NEGATIVE PERCENTAGES	
	EXPERIMENTAL	CONTROL	EXPERIMENTAL	CONTROL
	M	I	M	I
COGNITIVE	78	76	3	8
			2	20
MOTOR	68	62	10	12
			12	23
SOCIAL	66	58	8	14
			2	32
SELF-HELP	64	38	16	15
			12	32
$\bar{X}$	69	58	9	12
			7	27

## B. SKILL ITEM CHECKLIST

## Results

A significant difference at the .05 level was recorded by a Chi-squared test on the scores reported by the mothers and those reported by the instructors. (The mothers, in all instances, recorded a higher percentage of positive responses than did the instructors). The scores, therefore, are presented separately.

Table B represents a summary of the responses from both groups. It is to be noted that the greatest number of negative responses were recorded by the instructors in the control group (20%, 23%, 32%, 32%) as compared with the experimental group instructor's responses (8%, 12%, 14%, 15%).

## Mothers

The data recorded by the mothers is presented on Table 1 and graphically illustrated by Graph 1.

A Chi-squared revealed no significant difference between Play/Gym groups and the Control group at the .05 level of significance. However, when the dependent variables were considered separately there was support for the effect of treatment (training, lesson plans, and apparatus).

TABLE I

PERCENT OF POSITIVE RESPONSES

MOTHERS

SKILL ITEMS	Play/Gym 1 (ROSEVILLE)	Play/Gym 2 (SCOTT HALL)	Play/Gym 3 (DONLON HALL)	Control Group (COLLEGE DAY NURSERY)
COGNITIVE	85	80	69	80
MOTOR	60	73	71	64
SOCIAL	64	60	75	87
SELF-HELP	77	55	60	65

$\bar{X}$

71

67

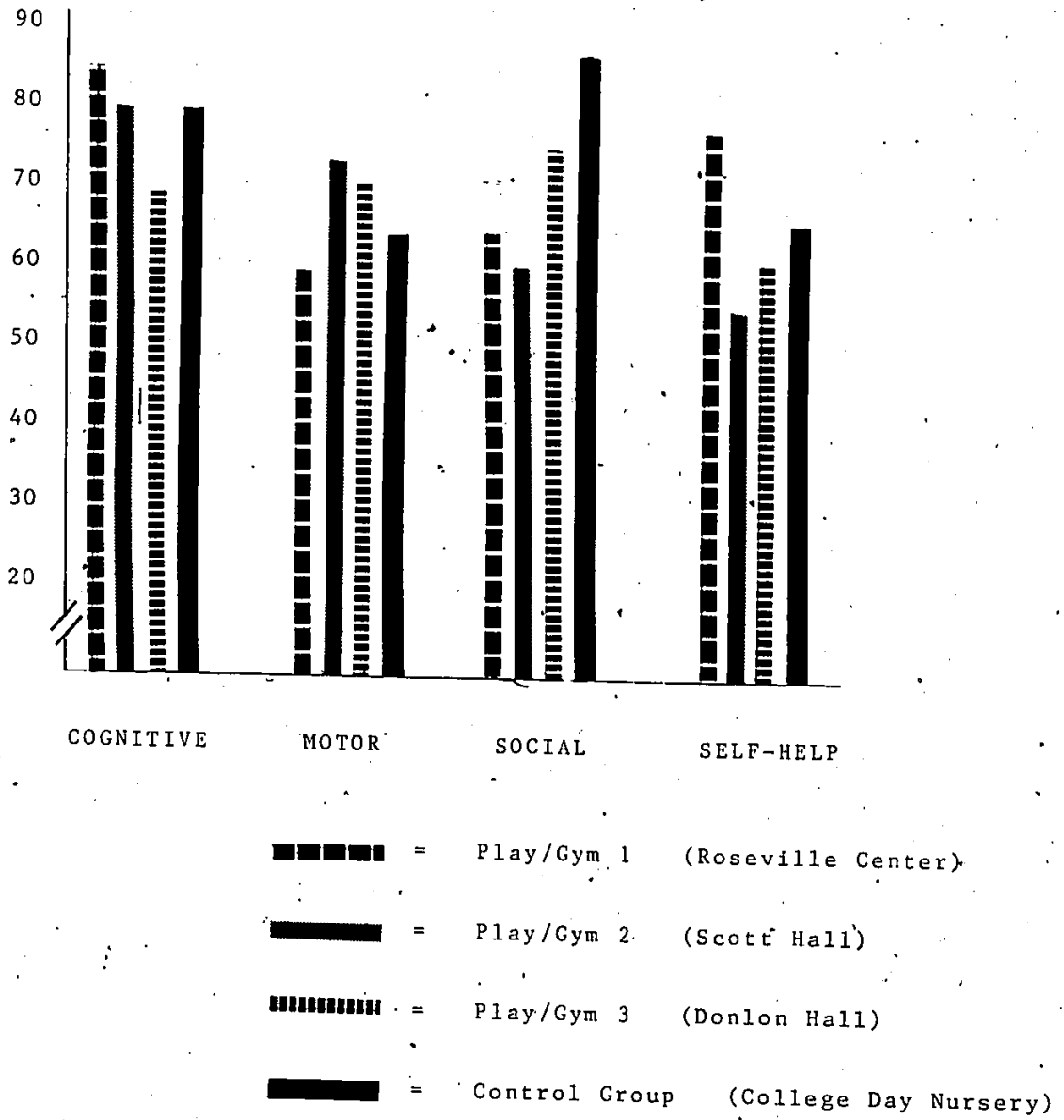
69

74

3  
8

GRAPH 1

POSITIVE RESPONSES ABOVE 20 PERCENT  
MOTHERS



Cognitive:	Play/Gym 1 - 85%	>	Play/Gym 2 - 80%
	Play/Gym 2 - 80%	>	Play/Gym 3 - 69%
Motor:	Play/Gym 2 - 73%	>	Play/Gym 3 - 71%
	Play/Gym 3 - 71%	>	Control Group - 64%
Social:	Play/Gym 1 - 64%	>	Play/Gym 2 - 60%
Self-help:	Play/Gym 1 - 77%	>	Play/Gym 2 - 55%
Total:	Play/Gym 1 - 71%	>	Play/Gym 2 - 67%

This data indicates that differences arose as a result of children being exposed to apparatus and C.A.M.P. lessons as opposed to Play/Gym experiences with apparatus only (Hypothesis B). As well, the comparison between Play/Gym 1 and Play/Gym 2 is supportive of Hypothesis C which stated that the effect of apparatus, C.A.M.P. lessons, and training would be greater than apparatus and C.A.M.P. lessons. Trained instructors in the desired program seem to be a key to the child's attainment of various skills.

#### Instructors

The data recorded by the instructors is presented on Table 2 and graphically illustrated on Graph 2.

As with the scores recorded by the mothers, a chi-squared indicated no significant difference between groups at .05 level of significance. However, some supportive trends were observed.

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Cognitive:	Play/Gym 1 - 76%	>	Play/Gym 2 - 64%
	Play/Gym 3 - 87%	>	Control Group - 64%
Motor:	Play/Gym 1 - 69%	>	Play/Gym 2 - 44%
	Play/Gym 3 - 73%	>	Control Group - 43%
Social:	Play/Gym 1 - 60%	>	Play/Gym 2 - 45%
	Play/Gym 3 - 70%	>	Control Group - 57%
Self-Help:	Play/Gym 1 - 47%	>	Play/Gym 2 - 30%
Total:	Play/Gym 1 - 63%	>	Play/Gym 2 - 46%
	Play/Gym 3 - 67%	>	Control Group - 55%

The scores reported by the instructors highly favored the positive effects of training, lesson plans, and apparatus (Hypothesis C). As well, favorable evidence was offered in support of providing children with some apparatus, regardless of other program provisions as opposed to providing no apparatus (Hypothesis A). These scores indicate no support for the positive effect of C.A.M.P. lessons without the training of the instructors.

#### Discussion

The data presented is at best inconclusive. Though no significant differences were discovered, there were some positive trends worth noting: On nine of the ten conditions considered, (four variables and a total for mothers and instructors), Play/Gym 1 scored higher than Play/Gym 2. In

TABLE 2

PERCENT OF POSITIVE RESPONSES

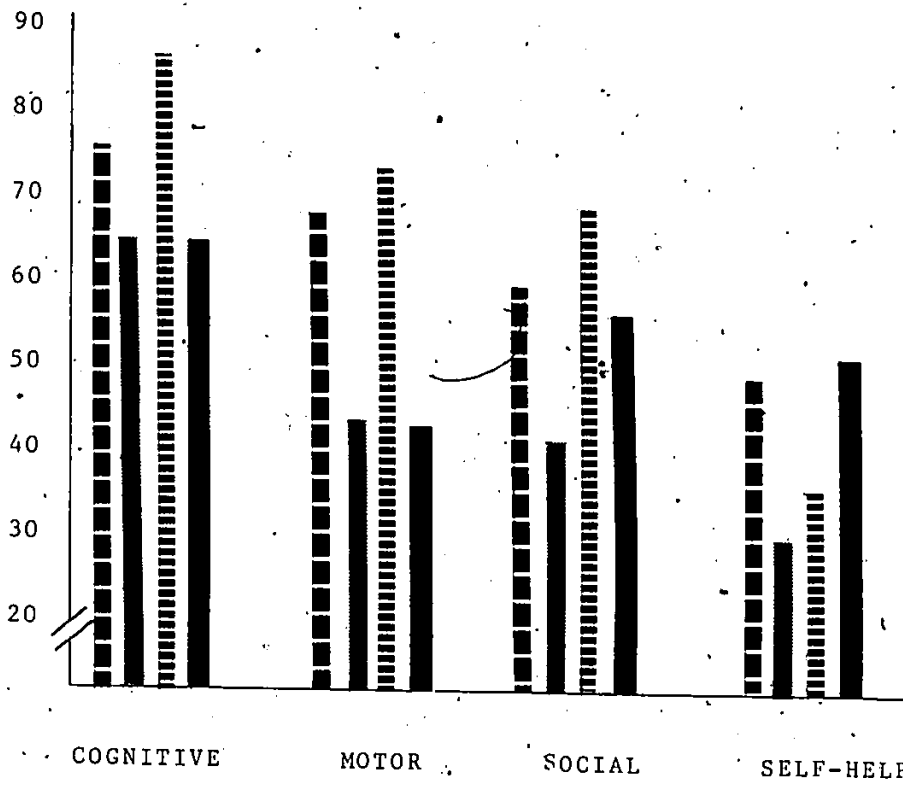
INSTRUCTORS





SKILL ITEM	Play/Gym 1 (ROSEVILLE)	Play/Gym 2 (SCOTT HALL)	Play/Gym 3 (DONLON HALL)	Control Group (COLLEGE DAY NURSERY)
COGNITIVE	76	64	87	64
MOTOR	69	44	73	43
SOCIAL	60	45	70	57
SELF-HELP	47	30	37	57
$\Sigma$	63	46	67	55



GRAPH 2

POSITIVE RESPONSES ABOVE 20 PERCENT  
INSTRUCTORS



-  = Play/Gym 1 (Roseville Center)
-  = Play/Gym 2 (Scott Hall)
-  = Play/Gym 3 (Donlon Hall)
-  = Control Group (College Day Nursery)

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addition, Play/Gym 1 outscored the Control Group on six of the ten conditions. This points, again, to the positive effect of training instructors in the desired program.

The non-significant difference in scores of Play/Gym 1 with Play/Gym 2 and the Control Group may be accounted for by considering other factors. First, Play/Gym 1 (Roseville) met for only two one hour periods a week for 12 weeks. Play/Gym 2 (Scott Hall), on the other hand, held classes three hours a week: 1½ hours were set aside for gym and 1½ hours for arts and crafts. The children in the program had been attending regularly for 22 weeks prior to the introduction of Project C.A.M.P. They were then evaluated 12 weeks later. Thus the comparison was between a group which had met for a total of 24 hours over 12 weeks and a group which had met for 102 hours over 34 weeks.

With far less previous exposure to a structured environment, Play/Gym 1 was able to surpass Play/Gym 2 in every area tested. This lends definite support for training instructors to run specific programs. Play/Gym 2 which had lesson plans and apparatus was unable to demonstrate a positive effect for the lesson plans alone. Instructor training is required.

The children in the Control Group attended the program 3-5 days a week, 6-8 hours a day. Yet, Play/Gym 1 was still able to outscore the Control Group on six of the ten variables. This would seem to indicate that it is not the amount of time spent in a program which is important, but

rather the quality of the program and its instructors which makes the difference.

If moving purposively for two hours a week can have as much influence on a child's cognitive, motor, social, and self-help skills as participation in a full day Nursery School program, then perhaps a closer look must be taken as to the types of programs presently offered in the Day Nursery Programs. Movement under skilled supervision is obviously the key element needed.

The hypothesis that a program which engages the children in various physical activities using selected apparatus produces a greater increase in skills than one which does not, was supported six times. This favors the notion that children need and require physical activity, but directed physical activity, not merely free play during recess. Care in selecting play equipment must be taken in order to facilitate this process.

## II. WHAT IS HAPPENING?

Of major concern to this study was the effect(s) which C.A.M.P. had on the mothers involved. Did the mothers enjoy the program? Were they finding it beneficial for their children? After all, Project C.A.M.P. was a social program. It was hoped that the program would continue and remain in operation past the time allocated to evaluation. As the

mothers had voluntarily brought their children to the program, it was important to discover if they perceived and continued to perceive the program, the Play/Gym experience, as something worthwhile:

#### A. Telephone Interviews

##### Results

The concerns mentioned were examined through interviews with the mothers. The results are recorded on Tables 3a and 3b.

Overall, the mothers seemed quite pleased with the programs. Of the mothers in the experimental groups 47% reported that there was nothing which they would like to see changed in the programs.

The most outstanding response, however, was that the mothers felt that the children being allowed to interact with other children and adults was the most significant aspect of the program. In the experimental groups 43% of the mothers reported this while 75% of the Control Group mothers reported the same reason for enjoying the program.

When asked as to the types of changes which had been observed in their children which they felt could be attributed to the child's participation in the program, 64% of the experimental groups' mothers answered that they had observed changes in their children's social skills. The

TABLE 3a  
 PERCENT RESPONSES OF MOTHER INTERVIEWS

	ROSEVILLE SS=6 I=5	SCOTT HALL SS=16 I=10	DONLON HALL SS=6 I=5	COLLEGE DAY NURSERY SS=7 I=4	$\Sigma \bar{X}$
<b>QUESTION 4</b>					
Cognitive	20	10	—	50	10
Motor	—	20	20	—	13
Social	80	70	40	50	64
Self-help	—	—	40	—	13
<b>QUESTION 5</b>					
Program	20	30	20	—	23
Instructors	20	—	—	—	7
Social aspect for children	40	50	40	75	43
Excuse for getting out of house	—	20	20	25	13
Mother's active participation in program	20	30	—	—	17

TABLE 3a (continued)

	ROSEVILLE	SCOTT HALL	DONLON HALL	COLLEGE DAY NURSERY
	$\frac{SS=6}{I=5}$	$\frac{SS=16}{I=10}$	$\frac{SS=6}{I=5}$	$\frac{SS=7}{I=4}$
			$\sum \bar{X}$	
QUESTION 6				
Time (longer)	40	—	40	27
Structure of program	40	—	—	13
Better instructors	—	20	20	13
Nothing	20	80	40	47
				100

TABLE 3b

## TELEPHONE INTERVIEW

## Questions'

1. You have been involved in a (pláy/gym/preschool) program at (program) from (time). . . Could you tell me how you first heard of this program?

Response: 100% Flyers

2. How long were you and your child (child's name) involved in the program at (program)?

Response: 100% Entire length of program

3. How often would you say that you and your child (child's name) attended the program?

Response: 100% Regularly

4. Have you observed any changes in your child since bringing him/her to (program) that you would say was due to his/her participation in the program?

Response: See Table 3

5. What did you enjoy most about the program at (program)?

Response: See Table 3

6. Is there anything about the program that you would like to see changed?

Response: See Table 3

7. Would you recommend this program to another mother?

Response: 100% Yes

mothers in the Control Group reported changes in cognitive skills and social skills equally. Observed changes in cognitive skills were reported by only 10% of the experimental mothers.

### Discussion

While some of the results derived from the Skill Item Checklist were inconclusive, the data collected through the interviews does lend a favorable report of Project C.A.M.P. The mothers not only enjoyed the program, but they were also able to observe some positive changes in their own children. Though these changes may be considered non-significant when compared statistically to a control group, they were, none the less, significant to the mothers. The mothers as well as their children were the active participants in the programs; therefore, their observations and positive concerns gives the program its credibility.

#### B. Slide Observations

Reproductions of some of the slides taken are presented in Appendix F. While changes in motor skills were not apparent in the slides observed, the slides did provide a helpful visual demonstration of the apparatus and the activities in which the children participated.



## CHAPTER VI

### CONCLUSIONS AND RECOMMENDATIONS

In a report entitled Social Experimentation, Henry Riecken argues that experiments should take place in more realistic settings even if that forces them to be less neat and precise (Riecken 1976). What Riecken points out is quite relevant to Project C.A.M.P. The study was conducted in a realistic setting, in a natural environment. However, as a consequence, the results tended to be less neat and precise than what may have occurred had the study been conducted in an experimental setting. The benefits of this outweighed the loss of experimental rigidity.

Though the results were not neat and clear-cut, the research goals provided the outline for those conclusions most significant to this study. The first of these considers the effectiveness of the project. Project effectiveness was determined largely by the Skill Item Checklist. While this quantitative measurement provided less than a convincing argument in favor of the proposed hypotheses, some significant trends were observed. The data supported the effect of training instructors in the administration of the desired program.

Play/Gym 1 instructors had been involved in a 3 day training session prior to the administration of C.A.M.P. During this time the instructors reviewed the lessons and the manner in which the lessons were to be conducted. In

②  
this way, the instructors became aware of the problem-solving, child-centered approach attributable to movement based lessons. Observation of the classes conducted in Play/Gym 1 and 2 by the experimenter revealed a marked difference in approach to the same C.A.M.P. lessons. Unfortunately, no data was collected on this aspect of the study.

A recommendation for future studies would be to develop a system for measuring the manner in which an instructor conducts the class. As movement education is based on an approach which is both child-centered and directed towards problem solving, movement tasks need to be posed to the children. The children, in turn, must be provided with ample time in which to solve the problem. A checklist which recorded the number of times an instructor presented the children with a problem and the number of times the instructor directed the children may provide some insight into why movement education often fails to produce a significant difference in the skill items evaluated. Part of the answer may lie in the approach which instructors use to present the movement material rather than the content of the lessons being insufficient.

Training instructors in the manner in which a lesson should be conducted and not merely reviewing the content of the lesson would aid in the quality of movement programs. However, continuous observation and evaluation of instructors is, of course, the key to ensuring that a program is administered in the manner in which it was intended.

A movement-based program such as C.A.M.P. allows the children the opportunity to learn and perform within the range of their own abilities. The same consideration must be given to the instructors. Therefore, it is recommended that training, observation, and evaluation of the instructors also be tempered with consideration for the wide range of instructors' personalities and abilities.

Another trend made apparent in the data was the effect of using selected apparatus in a program as opposed to not using selected apparatus. Again, observation by the experimenter (with no written record) indicates that it was not the apparatus alone which produced an effect, but rather the instructors' directed use of the apparatus. Though Play/Gym 3 (Donlon Hall) did not follow the C.A.M.P. lessons, the activities during the class were guided by the instructors. The children were seldom left to free play with the available apparatus. This was not the case with the Day Nursery which not only allowed the children to free play during recess, but did not have available the types of apparatus available to the children in Play/Gym 3.

While it appears to be the directed use of apparatus which is most significant, serious consideration must also be given to the type of apparatus used in a program. Fundamental motor skills are deemed to be an important part of a child's development (Kephart 1969, Cratty 1972). Therefore, care must be taken to select apparatus which will encourage and strengthen the development of these skills. Both the

small and large apparatus selected for use in Project C.A.M.P. appear to have answered this need.

Neither the instructors nor the children seemed to have experienced much difficulty with the actual lessons. Further use of the C.A.M.P. lessons, however, should take into consideration the length of the lessons. Some of the material presented could have been covered in one lesson rather than the two that were planned. This, at times, made it difficult for the instructors and somewhat boring for the children. This observation points to the need of providing instructors with the skills necessary for them to develop their own movement lessons. Instructors need to rely on their own creativity and skill rather than on one set of lesson plans. This helps to ensure the continued implementation and growth of the desired program.

Interviews with the mothers of the children involved in the play/gyms method constituted a second form of assessing the effectiveness of the project. The interviews indicated an overwhelming response to Project C.A.M.P. The mothers enjoyed the program, enjoyed the opportunity to interact with other mothers, and found the activities beneficial and enjoyable for their children. Appreciation of the program by the mothers does give the project some credibility for if the program was of little value the mothers (with their children) would have dropped out. This did not occur. However, there may be other reasons, besides the value of the program, which elicited such a positive response.

First of all, novelty, a factor difficult to control in most research, may have played a significant role in this study. Often just the fact that an activity or program is new will render a positive response. Allowing the program to continue for an additional period of time may help to eliminate novelty as an intervening variable.

For the mothers and children in Play/Gyms 1 and 3 (Roseville and Donlon Hall), not only was this a novel program, but it was also a new opportunity for them to become involved in a community program. A non-profit organization provided rides for the mothers and their children to and from the play/gyms with no cost to the mothers. The mothers chose to come to the play/gyms and were in no way obligated to stay. The fact that a group of people were interested enough in them to provide them with free transportation and a program (the cost was \$1.00 for 3 months) may have had an effect on their attitude. Therefore, the mothers perceived the program as positive, not necessarily because it provided the children with many opportunities for skill development, but rather because it showed that others were concerned with their needs.

Both the Smith and Sydall study (1978) and the Christie report (1982) point to the positive effects of adult interaction. Just having adults interact with these disadvantaged children may have produced positive outcomes. However, one of the considerations of this study was the quality of instructor interaction or how effective was the instructor

in administering the lessons. Results indicate that instructors do need some training in this area. Therefore, if an increase in the quality of children's play is desired, consideration must be given to improving the quality of adult interaction, not to eliminate adults from the scene. The effects of play (play training) must be viewed as a total process. This includes the effects of adult interaction.

While program novelty seemed to enhance the quality of skill development of the children in Play/Gyms 1 and 3 (Roseville and Donlon Halls), it may have had a negative effect on Play/Gym 2 (Scott Hall). Play/Gym 2 (Scott Hall) had already been in operation for 6 months prior to the introduction of Project C.A.M.P. The children, therefore, were used to a less structured gym period. Play/Gym 2 (Scott Hall) instructors would set up the apparatus during 'gym time' and allow the children to play freely. The subsequent use of the C.A.M.P. lessons limited the activities of the children. Three months may not have been enough time for the children to become accustomed to a structured gym period and to respond accordingly; thereby negating any effects which the program may have otherwise produced.

Regardless of these possible intervening variables, Project C.A.M.P. was received well by the mothers and the children involved in the study. During the interviews 27% of the mothers indicated that they would recommend that the program be held for a longer period of time. This

lends some support for the effectiveness of the program. As well, the instructors at College Day Nursery (the control group) were impressed by the activities made available to the children through the C.A.M.P. lessons. Following the completion of this study, the instructors and children at College Day Nursery became involved in a similiar movement program throughout the summer. Whether movement lessons, or trained instructors, or selected apparatus effects the attainment of skills of preschool children has not clearly been determined. What has been determined, however, is that something positive and enjoyable did occur. This fact must not be lost in the shuffle to find substantiating data.

The second research objective considered the effectiveness of the assessment tools chosen for this study. It was concerned with the development of a method for evaluating the skills of the children without removing the children from the environment in which they were to be assessed. The Skill Item Checklist, and the Interview Schedule, were designed to meet this objective.

Though the Skill Item Checklist was found to be quite useful to this study there were some difficulties encountered. The Skill Item Checklist was not piloted prior to the study. If it had, some of the specific items may have been changed or eliminated. In particular the self-help skills seemed to be somewhat inappropriate for the age group considered. These skills were also quite difficult to evaluate by the instructors as the mothers often dressed and undressed their own children.

The self-help items were not addressed during the course of the C.A.M.P. lessons either and so proved to be irrelevant items of consideration.

As far as the structure of the checklist was concerned, it did seem to serve the purpose for which it was intended. That is, a fairly straightforward check of skill items. However, consideration must be given to the breakdown of questions such as colors. An awareness of specific colors, shapes, or numbers are best considered when a child is removed from a class and given specific directions for identification (such as the method used in the Windsor Early Identification Project 1980). A checklist should be simple to use. The addition of specific colors, shapes, etc. added a complexity which made the Skill Item Checklist difficult to complete, especially by the mothers.

Another difficulty encountered with the Skill Item Checklist was that of the instructors and the mothers having to rely on memory recall to complete the assessment. Though the checklists were administered and completed within two weeks following the completion of C.A.M.P., memory fades over time and details cannot be recalled with total accuracy. As there were no pre-test data with which to compare the post test scores, the mothers and instructors could have easily recalled only that information which was most salient; the information which occurred last (Marteniuk 1976).

Relying solely on recall information may have had an effect on the reliability of the reports. However, the



benefit of using this type of evaluation was to eliminate the bias encountered when a child is removed from the classroom. Nash (1981) regards this as an important issue when considering the reliability of most educational assessments. The anxiety which a child experiences may have a biased effect on the data.

A more complete method may have been to employ the use of a trained observer before, during, and after the administration of the program to compliment the evaluations of the instructors and mothers. This, however, could be difficult considering the length of the checklist and the number of children in the class. The cost of supplying enough trained observers to carry out this task without interfering with the class itself would be tremendous. The use of videotape may also be an alternative, though this too can be costly.

It was felt that by using the scores of both the mothers and the instructors on the same child, a more consistent and accurate report could be obtained. This did prove to be the case for although there was a significant difference between the scores reported by the mothers and those reported by the instructors, the scores were reported by both in the same rank order; cognitive scores rating highest, followed by motor, social, and self-help.

The Skill Item Checklist served additional, unexpected purposes in this study. Many of the mothers (and instructors) were quite unaware as to the types of skills a child of pre-

school age should have attained. The Skill Item Checklist provided them with a simple list of those skills which are important to a child's development. With some changes this checklist may prove to be a helpful tool to parents who are interested in working on skill development with their children at home.

Another interesting, incidental effect which the Skill Item Checklist produced was that of making apparent what may be occurring in Day Nurseries. The instructors in the control group recorded a much higher percentage of negative scores than did the instructors of the experimental groups. This may indicate that either the children in Day Nurseries are further behind their peers than previously thought or (which is more likely the case) Day Nursery instructors are not as aware of the capabilities of the children in their program.

If the former is true, that Day Nursery children are behind their peers in skill development, then the implementation of a program such as C.A.M.P. can only be viewed as a positive occurrence. In the same way, if the latter is actually the case and Day Nursery instructors are simply not as aware as Play/Gym instructors, then, again, a program such as C.A.M.P. could prove to be quite beneficial.

Referring, once again, to Riecken's suggestion that research be conducted in a more realistic setting, it is important to consider the positive effect a program can have if it allows those who are participating to have some input

into its operation. Allowing both the mothers and the instructors the opportunity to assess the children added this dimension to the project. Interviewing the mothers gave them the opportunity to give some suggestions for improving the program. Some of these suggestions proved to be quite beneficial.

While the interview schedule proved to be helpful, there are some suggestions for improvement. The first question on the schedule was concerned with how the mothers first became involved in the program. This question was quite irrelevant as it added no new information. It was of little importance as to how the mothers and their children came to be there, it was only of concern that they were indeed present. This concern was addressed in the second question which asked how long they had been involved in their program.

Telephone interviews, as Bradburn (1979) suggests, seemed to allow for a more honest and direct answer to the questions posed. While much in terms of the interviewer's impressions of the interviewee were missed, the telephone seemed to provide a positive distance. One of the difficulties which had arisen during the initial pretest using the Developmental Profile II Interview Schedule (Alpern, Boll, and Shearer 1980) was that the mothers tended to overestimate the skill level of their children. Whether or not this occurred because of the physical presence of an interviewer cannot be determined. However, possibility does exist.

In addition to the interviews, a group discussion with all of the mothers present may have brought out concerns which the individual mothers were not able to consider in such a brief interview. This process may have also benefited the continued use of Project C.A.M.P. and is recommended in further research of this nature.

The slides were to be used initially as a form of assessment. However, this did not occur. If the slides were to be used successfully as an indication of the skill development of the children, slides would have had to have been taken at more frequent intervals, perhaps once a week. In this way a sequential illustration of the children's progress may have been observable. The slides were useful, none the less, in providing a visual illustration of the apparatus and some of the ways in which the apparatus was used by the children.

Though difficulties did arise in the use of the assessment tools, the children were not interfered with for the sake of the evaluation. Rather than go back to removing the children from the classroom to get a more accurate record of skill levels, efforts must be made to improve the quality of observation and interview skills. In this way, it will be possible to conduct more accurate research in the natural environment.

The third research objective was that of encouraging the mothers to become aware of the capabilities of their children and to provide them with the opportunity to learn skills.

which may be used at home. While this was not a measurable objective, many opportunities did exist for the mothers to learn along with their children. The mothers actively participated in the program, receiving encouragement from the instructors to play and learn. (At times the mothers at Play/Gym 2 (Donlon Hall) seemed to be having more fun than the children!)

There were children participating in the program from a variety of national backgrounds. These children and their mothers were able to learn some of the mores of their society through their active participation with the play/gyms. Robinson (1978) discusses the importance of exposing children from different cultural backgrounds to the play patterns of the culture in which they now find themselves. This process can offer assistance to the culturally deprived children in their adjustment as was found to be the case with the play/gyms.

Whether or not the skills learned or the games played have been carried over into the home has not been determined. However, in some way the mother's level of awareness of their children's capabilities has been heightened. It is hoped that such an awareness will result in an increase in the quality of the mother-child relationship. As Levenstein (1976) points out, it is the quality of the mother's relationship to the child which is an important determinant of the child's total development.

This observation of Levenstein's cannot be underesti-

mated. It is of particular importance to mothers from disadvantaged; poor socioeconomic areas who may not have the time to spend playing with their children. John Bowlby (1951) says that it is essential for mental health that the infant and young child experience a warm, intimate, and continuous relationship with his mother. These mothers need opportunities to develop those skills which will enhance the quality of their interaction with their children. Playing with simple, brightly colored shapes, singing body songs, counting steps are all activities which may be learned in the gym, but which may also be taken into the home. If this can occur, without undue pressure on the mothers, then perhaps disadvantaged children can be assisted before entering school.

Project C.A.M.P., a Cognitive and Motor Program, was an attempt at changing the environment from within. Though the results indicated non-significant differences between groups and various recommendations were put forth for changes, something did happen. Was it the C.A.M.P. lessons? The trained instructors? The apparatus? What allowed Project C.A.M.P. to continue even after the research was completed? Perhaps it is simply that it was done. Disadvantaged children can be assisted in learning. They need to be provided with opportunities to work under skilled direction. Additional research is not required. What is required is the implementation of programs known to be sound. Then wait and watch the process unfold.

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APPENDIX A  
APPARATUS

## APPARATUS

## Small Apparatus

1. bean bags
2. skipping ropes
3. tennis balls
4. 9" playground balls
5. wooden scooters
6. 10" pylons
7. hula hoops

## Large Apparatus

1. 36" "A" frame climbing apparatus
2. 4' x 8' x 1½" foam mats
3. wooden balance beam
4. parachute

APPENDIX B  
TRAINING SCHEDULE

## TRAINING SCHEDULE

### DAY ONE (3 hours)

- A. Introduction to Project C.A.M.P.
  - purpose
  - goals
- B. Film Child's Play
- C. Introduce developmental motor skills and self-help charts for children age 3-5 years
- D. Review lessons BODY AWARENESS
- E. Question and answer period

### DAY TWO (3 hours)

- A. Introduce developmental cognitive and communicative skills charts for children age 3-5 years
- B. Film Introduction to Movement Education
- C. Introduce small apparatus
- D. Review lessons FUNDAMENTAL MOTOR SKILLS
- E. Question and answer period

### DAY THREE (3 hours)

- A. Introduce developmental social skills of children age 3-5 years
- B. Film Movement Education Safety
- C. Introduce large apparatus
- D. Review lessons LARGE APPARATUS
- E. Question and answer period

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APPENDIX C  
C.A.M.P. LESSONS



C.A.M.P. LESSONS

The lessons are arranged in a developmental sequence ranging from body awareness tasks to fundamental motor skills to large apparatus. This arrangement is based on the developmental theme approach of Hoffman, Young, and Klesuis (1980), the cognitive motor approach of Jackson (1981), and the movement orientation of Stanley (1977). Introduced into the lesson sequence were general cognitive lessons on color, counting, geometric shapes, and the alphabet.

Appropriateness of material presented though theoretically sound was, out of necessity, determined largely by the instructors. The lessons were observed by the researcher so that any questions which arose could be handled directly. This also helped to ensure the proper administration of the program as well as ensuring that the children were given the highest priority.

PROJECT C.A.M.P.

"For the children and the flowers  
Are my sisters and my brothers  
Their laughter and their loveliness  
Will clear a cloudy day  
And the song that I am singing  
Is a prayer for nonbelievers  
Come and stand beside us  
We will find a better way"

- John Denver

Project C.A.M.P. is designed as a cognitive and motor program to be used with preschool children and their parents. Keep in mind when using this program that numbers, letters, or shapes may be used as substitutes for colours. It is up to the instructor to vary this cognitive stimuli.

Each lesson will consist of:

- A) Opening Time - song and introduction
- B) Lesson - Project C.A.M.P.
- C) Closing Time - review and good-bye

At all times the children are the focus of attention. Allow the children time and space to explore and discover at their own unique rate. Though this is structured, the children (and the parents) should have fun. Enjoy the program. It is for you.

BODY AWARENESSWeek One  
Lesson A,

## Body Parts

- Objectives: 1) to identify and recognize body parts.  
2) to improve competency in locomotor skills.

Equipment: Bean bags  
Hoops

- A) Place the bean bag on different parts of the body

Head	Hand	Hip	Nose	Toes	Neck
Shoulder	Arm	"Bum"	Ears	Heel	
Knee	Elbow	Back	Eyes	Fingers	
Foot	Leg	Stomach	Mouth	Wrist	

- B) With bean bag placed on different body parts - move around the room

- crab walk with bean bag on stomach
- balance bean bag on head
- crawl with bean bag on back

- C) Divide children into groups (4/group). Place a hoop at one end of the room. Have the children carry the bean bag with different body parts and place in hoop.

BODY AWARENESSWeek One  
Lesson B

## Body Parts

- Objectives:
- 1) to identify and recognize body parts.
  - 2) to identify and recognize shapes.
  - 3) to improve competency in locomotor skills.

Equipment: coloured shapes (numbers, letters)  
bean bags

- A) Review - move around room with bean bag on different body parts  
- vary locomotor task, i.e. jump with bean bag between legs
- B) Spread shapes out on floor. Have children place different parts of body on shape.  
- can everyone put one hand on a triangle?  
- can everyone put their knee and elbow on a square?
- C) Musical shapes - before music starts indicate a body part and a shape (number, letter)  
- children move around as the music plays, and when the music stops children place that body part on that shape (number, letter)

BODY AWARENESS

Space

Week Two  
Lesson A

- Objectives: 1) to explore large and small general space  
2) to increase competency in locomotor skills

Equipment: Pylons  
Bean bags  
Drum

- A) Run as far from everyone as possible without running into each other. Get as close to each other as possible while still moving without touching each other.

Spread out  
Clap (Drum)  
Stop

Get as close as possible; Stop

Vary locomotor tasks

- B) Set out pylons and hula hoops

Run around the pylons and hoops without running into any of the objects

Stop

- change directions
- change locomotor task

Bring the objects closer together

- C) Musical hoops - must move around hoops - when music stops find a hoop to stand in. Remove hoops until all are standing in one or two hoops.

BODY AWARENESSWeek Two  
Lesson B

## Space

- Objectives:
- 1) to explore personal space
  - 2) to identify and recognize shapes (colours, numbers, letters)
  - 3) to introduce the concepts of over and under

Equipment: Coloured shapes (numbers, letters)  
Hoops

- A) Review - Place the shapes on the walls - run and touch all shapes - come back in close together  
Vary locomotor task
- B) Explore level changes in space inside hoop  
How long can you get?  
How high can you get?  
How small can you get?  
How big can you get?
- C) Explore level changes while moving - move high; move low; move while small, or small steps; move while big, or big steps
- D) Arrange hula hoops in sequence so children can move over (high) or under (low)

BODY AWARENESSWeek Three  
Lesson A

## Space

Objectives: 1) to increase child's static balance

Equipment: Bean bags  
Hoops  
Coloured shapes

A) Find a partner

- be like a rock - now have the partner try to push the rock over
- be like a starfish - have the partner try to push the starfish over

B) What parts of the body can you balance on?

Feet	Head
Feet and hands	Side
Knees	Shoulder
"Bum"	

Balance on four body parts - move to three - move to two

C) Obstacle course - arrange shapes around the floor close together

Children may only step on the shapes to arrive at the hoop

BODY AWARENESSWeek Three  
Lesson B

## Space

- Objectives: 1) to increase child's dynamic balance  
2) to identify and recognize colours and shapes

Equipment: Coloured shapes  
Pylons  
Jump ropes

- A) Review 4-3-2 balances.

Balance on four body parts, three body parts, two body parts

- B) Find a line on the floor and follow it - can use straight lines or circles

Change directions forwards, backwards, sideways

- C) Arrange pylons and jump ropes so children can follow jump ropes around, in and out of pylons

- D) Musical balance shapes

Arrange shapes around the room on the floor. Call out a shape or a colour, plus a body part. When music stops, child must find the shape or colour and balance on the body part called



BODY AWARENESSWeek Four  
Lesson A

## Shapes

- Objectives: 1) to identify and recognize shapes  
2) to identify and recognize letters

Equipment: Coloured shapes and letters

- A) Make the shapes circle, triangle, square using fingers, hands, arms, legs, body

Walk in a circle, square, triangle

Jump in a circle, square, triangle

- B) Frozen Shapes

Make a circle and freeze - on signal, melt into a triangle and freeze; on a signal, melt into a square - freeze

REPEAT

- C) Make different letters using hands, fingers, arms, legs, body

Letter "A" - similar to triangle

Letter "C" - similar to circle

Letter "L" - similar to square

- D) Frozen letters

Make an "A" - on signal, melt into a "C" - freeze; on signal, melt into an "L" - freeze; on signal, melt

REPEAT

BODY AWARENESSWeek Four  
Lesson B

## Shapes

- Objectives:
- 1) to identify and recognize shapes
  - 2) to identify and recognize colours
  - 3) to introduce fundamental throwing skills

Equipment: Coloured shapes  
Bean bags

- A) Review shapes and letters with body - walk in a circle, square, triangle
- B) Divide children into groups - place a circle, square and triangle in front of each line

Children toss bean bag onto the called shape - vary shapes keeping colour constant. Use colour keeping shape constant

- C) Musical shapes and colour - call out a shape or a colour; when music stops, children must stand on the shape and make that shape

Vary locomotion

BODY AWARENESSWeek Five  
Lesson A

## Directions

- Objectives: 1) to introduce the directions left and right  
2) to identify and recognize colours

Equipment: Coloured shapes  
Footprints  
Handprints  
Coloured ribbons

- A) Tie ribbon on right wrist. The ribbon is on your right hand - raise your right hand - left hand - right foot - left foot.

Simon says (must be slow - no elimination) - put right hand on head

- B) Twister

Arrange shapes (same) in a circle for groups of four children

Instructor calls out, "place your right hand on the green square" etc. (If child falls he/she starts over)

- C) Arrange footprints and handprints in a line

Child must follow the prints - right - left...

BODY AWARENESSWeek Five  
Lesson B

## Directions

Objectives: 1) to identify the directions of up, down, forward, backward

Equipment: Directional arrow  
Hoops  
Pylon

A) Using arrow instruct children to point (with hand) in the direction the arrow points. Call out the direction.

Do the same with children moving - using various means of locomotion

B) In groups - set up a line obstacle course using hoops and pylons

C) Statues

Move forward - freeze - get down - move backwards - freeze - jump up - move forward - freeze

REPEAT using various means of locomotion

BODY AWARENESSWeek Six  
Lesson A

## Rolls

Objectives: 1) to increase ability to roll - log roll and curled roll.

Equipment: Mats (if preferred)  
Drum  
Hoops

- A) Curl up like a ball and roll (careful to keep elbows in)  
Keep straight as a log and roll (be aware of each other)
- B) Races with a partner  
- roll the partner to the end line  
- use both curled and log rolls
- C) Arrange hoops in a line - jump through hoop - roll - run to the next hoop; climb under - roll, etc.
- D) Run and Roll  
- run - on signal (drum), fall and roll; signal, jump up and run.  
- use various locomotor tasks and curled and log rolls

BODY AWARENESSWeek Six  
Lesson B

## Rolls

- Objectives: 1) to increase the child's ability to roll -  
log and curled
- 2) to introduce the forward roll

Equipment: Mats  
Bean bags  
Drum

## A) Review Rolls - run and roll

Run when drum signals - fall and roll - signal, jump up  
and run

B) Forward Rolls - on the mats - introduce the forward roll  
(backward roll if ready)

## C) Musical Rolls

Spread out bean bags and coloured shapes

When music stops - roll - pick up a bean bag and put on a  
coloured shape - repeat until all bean bags are on  
coloured shapes

FUNDAMENTAL MOTOR SKILLSWeek Seven  
Lesson A

## Throwing and Catching

- Objectives: 1) to introduce the underhand throw  
2) to introduce catching skills

Equipment: Hoops  
Bean Bags  
Coloured shapes

- A) While sitting toss bean bags into air and catch

toss two hands - catch two hands  
toss one hand - catch two hands  
toss one hand - catch one hand

While standing...

- B) Partners

- sitting facing partner - slide bean bags back and forth  
- stand - toss bean bag to partner

- C) Hoop Toss

In lines - each child with a bean bag. Throw the bean bag through the hoop (use under, over).

- D) Colour Toss

Arrange Coloured shapes in front of each line. Toss bean bags onto specific colour - shape.

FUNDAMENTAL MOTOR SKILLSWeek Seven  
Lesson B

## Throwing and Catching

- Objectives: 1) to increase accuracy in throwing  
2) to increase competency in catching

Equipment: Large balls  
Bean bags  
Hoops

- A) Review tossing and catching bean bag

toss two hands - catch two hands  
toss one hand - catch two hands  
toss one hand - catch one hand

Sitting and standing...

- B) Alone - large ball

toss large ball and catch it  
bounce large ball and catch it (two hands)

Partner - roll ball to partner and catch it. (Bounce to partner if able)

- C) In lines

Roll the ball through other children's legs. Last person in line catches the ball and runs with it to the front of the line.



FUNDAMENTAL MOTOR SKILLSWeek Eight  
Lesson A

## Kicking

- Objectives: 1) to increase child's ability to kick a stationary object
- 2) to increase child's ability to kick accurately

Equipment: Pylons  
Bean bags  
Coloured shapes

- A) With no objects introduce kicking  
1 - 2 - 3 - kick (May want to use footprints)  
STEP-STEP-STEP
- B) Using the bean bags - practise kicking  
Set up pylons to kick bean bag around (pylons should be spread out)
- C) Use pylons as goal post near a wall - place a coloured shape in between the pylons on the wall. Children must kick the bean bag in between the pylons and attempt to hit the coloured shape.

FUNDAMENTAL MOTOR SKILLSWeek Eight  
Lesson B

## Striking

Objectives: 1) to increase child's ability to strike a moving object with accuracy

Equipment: Balloons  
Hoops

- A) Strike (hit) balloon in the air as high as possible  
Strike (hit) the balloon as far as possible
- B) Move from one end of the room to the other striking the balloon (gently) with the hand. Balloon must stay with the child (may send children by colour - e.g. all red balloons)
- C) Partners  
Strike the balloon to the partner. Partner catches the balloon and strikes it back.
- D) Hold hoops vertically  
In lines, children strike the balloon through the hoop (children must be close to the hoop)

FUNDAMENTAL MOTOR SKILLSWeek Nine  
Lesson A

## Jumping and Hopping

- Objectives: 1) to increase child's jumping ability in accuracy and control (take-off and landing)
- 2) to increase child's hopping ability in accuracy and control

Equipment: Coloured shapes  
Bean bags

- A) In place, have children jump up and down (Emphasize arm use and knee bent on landing)

Move around the room jumping (like rabbits) - may want to use bouncy, lively music

Jump (hop) on right foot  
Jump (hop) on left foot

- B) Spread bean bags around in a circle and have children jump around the bean bags

Variations: jump sideways  
jump over  
jump around

- C) Change

Spread shapes on the floor - children stand on a shape. Call out a shape and children must jump from one shape to another.

FUNDAMENTAL MOTOR SKILLSWeek Nine  
Lesson B

## Jumping and Hopping

- Objectives: 1) to increase child's ability to jump with accuracy and control
- 2) to increase child's ability to hop with accuracy and control

Equipment: Mats  
Coloured shapes

- A) Review jumping - jump and hop around the room. Jump/hop from one line to another across the room. Jump/hop around a circle.
- B) Hopscotch
- Set up a small hopscotch game using colours, numbers, letters
- Jump from one block to another - child must name the colour, letter or number (may use bean bags as markers depending on level)
- C) Using two mats piled on top of each other - have children run and jump onto the mats (spotter should be on the mat).

LARGE APPARTUSWeek Ten  
Lesson A

## Balance Beam

Objectives: 1) to increase child's large muscle control and balance from height

Equipment: Balance beam  
Mats  
Jump ropes  
Hoops  
Pylons

- A) Review balancing - stand on one foot - freeze - other foot - freeze  
Walk along a line - straight line and circle  
Walk forward - backwards - sideways  
Crawl - slide along a straight line
- B) On the beam - crawl forward on the beam (all go through once)  
Crawl backwards  
Slide on belly forward - backward. Walk forward, backward, sideways  
Children off the beam can walk along rope or hoop  
- what other ways can you find to get across the beam?
- C) Obstacle Course  
Set up bean bags, ropes, hoops, and beam. Children must hop over bean bags, walk along the rope, walk around the hoop, and move along the beam (vary locomotor task).

LARGE APPARATUSC Week Ten  
Lesson B

## Balancé Beam

- Objectives: 1) to increase child's large muscle control and balance from a height
- 2) to increase child's ability to jump and land safely from a height

Equipment: Balance beam  
Mats  
Chairs  
Hoops  
Ropes

A) Walk across beam, jump, roll on mat (while some children are on the beam, others can practise forward rolls on the mats).

B) Pile the mats up - run - jump - roll (may need spotter).

C) Maze

Set up a maze using mats on ends, chairs, hoops, ropes, pylons, and beam

Walk through maze of mats, under chairs, around hoops and ropes, across beam - jump - roll.



LARGE APPARATUSWeek Eleven  
Lesson B

## Climbing Apparatus

Objectives: 1) to increase child's ability to climb under and over

Equipment: Mats  
Balance beam  
Climbing apparatus  
Chairs  
Pylons  
Coloured shapes  
Beanbags

## A) Stations

Set up stations of mats, balance beam, and climbing apparatus

To music - move around to all three stations finding as many ways as possible to climb over the apparatus

## B) In three groups - obstacle course

Set up chairs, pylons, hoops in front of climbing apparatus. Climb over, under, around, through to the large apparatus. Pick up a bean bag at the end and put it on a coloured shape.



LARGE APPARATUSWeek Twelve  
Lesson A

## Parachute

- Objectives: 1) to introduce the child to up, down, around, in, out, through
- 2) to increase child's social skills

Equipment: Parachute  
Tennis Balls  
Bean bags

- A) Children around the parachute - play with it - up - down - around
- B) Exchange places under parachute - colours - vary locomotor patterns  
Run around the outside of the parachute
- C) Mushroom - tell stories inside
- C) Popcorn - use tennis balls and/or bean bags - bounce them up and down

LARGE APPARATUS

## Parachute

Week Twelve  
Lesson B

- Objectives: 1) to increase child's awareness of in, out, around  
2) to increase child's social skills

Equipment: Parachute  
Tennis balls  
Bean bags

- A) Play with parachute up, down, around to music
- change directions
  - raise high - lower
  - in and out
- B) Mushroom - tell stories
- C) Popcorn - try to get bean bags or tennis balls into center hole  
- try to keep all the bean bags or tennis balls on the parachute
- D) Games
- Clouds - make waves - one person under - one child on top - try to find the person underneath
- Sharks - same as clouds only person under parachute tags other players who join them under the parachute.

APPENDIX D  
SKILL ITEM CHECKLIST

Project C.A.M.P. Skill Item Checklist

Child's Name \_\_\_\_\_ Birthdate \_\_\_\_\_ Program \_\_\_\_\_  
 Address \_\_\_\_\_ Age \_\_\_\_\_ Days in Program \_\_\_\_\_  
 Evaluator \_\_\_\_\_ Brothers and Sisters \_\_\_\_\_ Date \_\_\_\_\_

Please check only one response for each statement. When a series of abbreviations is used, please place the abbreviations, not a check in the appropriate space: i.e. Identifies shapes, Triangle (T), Square (S), Circle (C)  
 Always Most. Some Seldom Never  
 C T S

- |  | <u>Always</u> | <u>Most of the time</u> | <u>Some of the time</u> | <u>Seldom</u> | <u>Never</u> | <u>Don't Know</u> |
|--|---------------|-------------------------|-------------------------|---------------|--------------|-------------------|
| 1. Undoes large buttons(B), snaps(S), shoelaces(Sh), zippers(Z)  | _____         | _____                   | _____                   | _____         | _____        | _____             |
| 2. Says first and last name when asked by an adult   | _____         | _____                   | _____                   | _____         | _____        | _____             |
| 3. Shows by sign or verbally correct age   | _____         | _____                   | _____                   | _____         | _____        | _____             |
| 4. Identifies the shapes Triangle(T), Square(S), Circle(C)   | _____         | _____                   | _____                   | _____         | _____        | _____             |
| 5. Identifies the colours Yellow(Y), Blue(B), Red (R), Green(G), Orange(O), Purple(P), Black(BI), White(W) | _____         | _____                   | _____                   | _____         | _____        | _____             |

Project C.A.M.P. Skill Item Checklist (continued)

	<u>Always</u>	<u>Most of the time</u>	<u>Some of the time</u>	<u>Seldom</u>	<u>Never</u>	<u>Don't Know</u>
6. Counts to six(6), ten (10), fifteen(15)	_____	_____	_____	_____	_____	_____
7. Identifies body parts Head(H), Arm(A), Hand (Hd), Foot(F), Shoulder (S), Toes(T), Leg(L), Back(B), Stomach(St)	_____	_____	_____	_____	_____	_____
8. Identifies own right hand(RH), left hand(LH)	_____	_____	_____	_____	_____	_____
9. Moves using time words correctly Fast(F), Slow(S).	_____	_____	_____	_____	_____	_____
10. Moves using size and direction words cor- rectly Big(B), Small (S), Up(U), Down(D), Close(C), Far(F)	_____	_____	_____	_____	_____	_____
11. Balances on one foot on floor for three seconds	_____	_____	_____	_____	_____	_____
12. Tosses or throws an object a distance of 3 feet in desired direction	_____	_____	_____	_____	_____	_____
13. Kicks a stationary ball(SB) and slow rolling ball(RB) in desired direction	_____	_____	_____	_____	_____	_____





APPENDIX E  
INTERVIEW SCHEDULE



## PROJECT C.A.M.P.

Telephone Interview Schedule

Child's Name \_\_\_\_\_ Program \_\_\_\_\_

Mother's Name \_\_\_\_\_ Age \_\_\_\_\_

1. You have been involved in a (<sup>play/gym</sup>preschool) program at (Program) from (Time). Could you tell me how you first heard of this program?
  - a. flyers
  - b. friends
  - c. others
2. How long were you and your child (Child's name) involved in the program at (Program)?
  - a. Record number of weeks \_\_\_\_\_
    - Roseville = 12 weeks
    - Scott Hall = 32 weeks
    - Donlon Hall = 12 weeks
3. How often would you say that you and your child (Child's name) attended the program?
  - a. Regularly 2 times a week
  - b. once a week
  - c. on occasion \_\_\_\_\_
4. Have you observed any changes in your child since bringing him/her to (Program) that you would say was due to his/her participation in the program?
  - a. physical changes - motor skills - running, jumping, throwing
  - b. cognitive changes - ability to think and reason - number, colours, letters, shapes
  - c. social changes - playing with others, getting along with teacher
  - d. self-help changes - putting toys away, put on/take off clothes
  - e. mood changes (behavior) - happy
5. What did you enjoy most about the program at (Program)?
  - a. program is fun for the children
  - b. program is educationally good for the children
  - c. the instructors are good
  - d. social aspect - enjoy being with other mothers
  - e. good excuse for getting out of the house
  - f. other \_\_\_\_\_

## PROJECT C.A.M.P. (continued)

6. Is there anything about the program that you would like to see changed?
- a. time
  - b. structure of program
  - c. equipment
  - d. other \_\_\_\_\_
7. Would you recommend this program to another mother?
- a. yes
  - b. no
  - c. other \_\_\_\_\_

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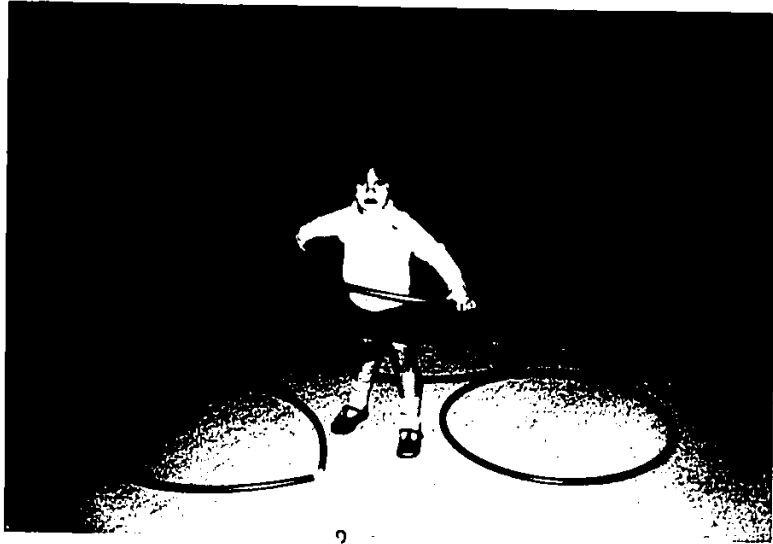
APPENDIX F  
SLIDE OBSERVATIONS



Small Apparatus

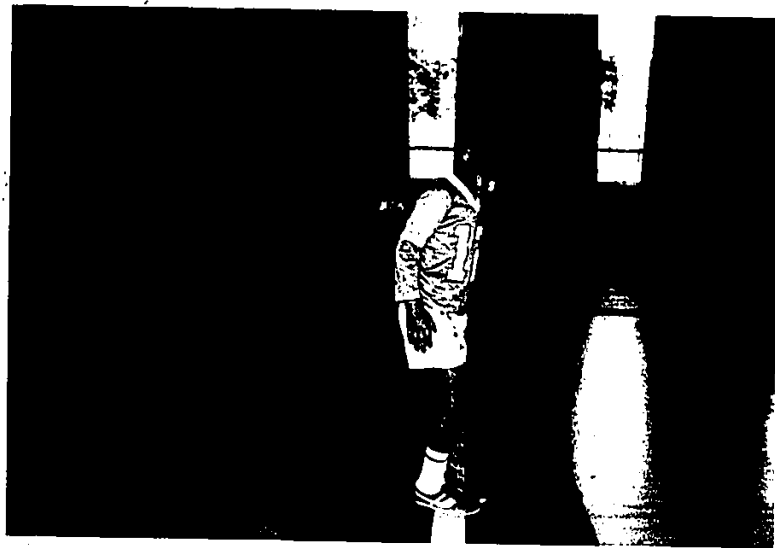


Large Apparatus



"WATCH ME!"

Hula hoops used to explore 'round'



"CAREFUL NOW"

Practicing balancing skills

8



Quiet Time

Learning language skills



"SO BIG"

Mothers helping their children

VITA AUCTORIS

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