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ABSTRACT

This action research project evaluated a program for improving motor skills in kindergartners by incorporating into the core curriculum motor activities, new materials focused on motor skills, and authentic assessments of motor skills. Teacher observations, scores from the DIAL-R (Developmental Indicators for the Assessment of Learning-Revised) test, teacher checklists, parent surveys, and interviews with an occupational therapist provided evidence of underdeveloped motor skills among the kindergartners, with weaknesses in tasks such as handwriting, cutting, tracing, balancing, catching, and hopping. Post-intervention data indicated an increase in motor skills development among the children, an improvement in their attitudes toward the targeted motor skills, and an increase in the ease with which targeted motor skills were accomplished. (Eleven appendices contain survey and checklist materials, photographs of motor activities, and assessment materials. Contains 23 references.) (EV)

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IMPROVING MOTOR SKILLS IN KINDERGARTNERS

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ABSTRACT

This report describes a program for improving motor skills in kindergartners by incorporating motor activities, new materials and authentic assessments into the core curriculum. The students in the targeted kindergarten classes exhibited underdeveloped motor skills. These are displayed through their weaknesses in motor activities, such as, handwriting, cutting, tracing, balancing, catching, and hopping. Evidence for the existence of such a problem includes: teacher observations, DIAL scores, teacher checklists, parent surveys, and an occupational therapist interview.

Probable causes for underdeveloped motor skills were identified through a review of the literature and an analysis of the setting. The causes identified included: the day care setting, home influences and societal factors. A majority of the targeted kindergartners attend day care for a portion of their day. Children appear to lead less active lives. Time for developing motor skills at home is limited with the influx of both parents working outside the home.

The solution strategy involved incorporated motor activities, use of new materials and more closely tracking motor skills. Motor activities were included in cross curricular activities. New materials enhanced motor skill development. Assessment tools helped monitor student progress.

Post intervention data indicated an increase in motor skills development in kindergartners, an improvement in their attitudes towards the targeted motor skills, and an increase in the ease in which the targeted motor skills were accomplished.

TABLE OF CONTENTS

CHAPTER 1 - PROBLEM STATEMENT AND CONTEXT 1
General Statement of the Problem 1
Immediate Problem Context 1
The Surrounding Community 2
National Context of the Problem 3
CHAPTER 2 - PROBLEM DOCUMENTATION 5
Problem Evidence 5
Probable Causes 9
CHAPTER 3 - THE SOLUTION STRATEGY 14
Literature Review 14
Project Objectives and Processes 23
Project Action Plan 23
Methods of Assessment 25
CHAPTER 4 - PROJECT RESULTS 26
Historical Description of the Intervention 26
Presentation and Analysis of Results 28
Conclusions and Recommendations 30
REFERENCES 31

APPENDIX 33

Appendix A DIAL-R Scoresheet 34

Appendix B Interview with Occupational Therapist 36

Appendix C Initial Teacher Checklist 37

Appendix D Unsatisfactory Grasps 38

Appendix E Parent Survey 39

Appendix F Fine Motor Activities 40

Appendix G Gross Motor Activities 41

Appendix H Revised Teacher Checklist 42

Appendix I Weekly Log 43

Appendix J List of Audio Cassettes 44

Appendix K Correct Grasps 45

CHAPTER 1

PROBLEM STATEMENT AND CONTEXT

General Statement of the Problem

The students in the targeted kindergarten classes exhibit underdeveloped motor skills. These are displayed through their weaknesses in motor activities, such as; handwriting, cutting, tracing, catching, hopping and balancing. Evidence for the existence of such a problem includes: teacher observations, Developmental Indicators for the Assessment of Learning - Revised (DIAL - R) scores, teacher checklists, parent surveys and an occupational therapist interview.

Immediate Problem Context

The action research project took place in a rural unit district housing grades K-8. All information is taken from the 1998 school report card. Table 1 describes the racial and ethnic background and total enrollment. The total school enrollment was 795. The majority of the students were white. The average class size was 23.4 students. The kindergarten classrooms ranged in size from 18-22. The enrollments were reported as of September 30, 1997.

Table 1

Racial/Ethnic Background and Total Enrollment of Target School

White	Black	Hispanic	Asian/P. Islander	Native American	Total Enrollment
97.7%	0.3%	1.0%	1.0%	0.0%	795

The district has a small percentage of low-income families. Low-income students are from families receiving public aid, living in institutions for neglected or delinquent children, being supported in foster homes with public funds, or eligible to receive free or reduced-price lunches. Only 2.6% of the student population falls into this category. Limited English Proficient students are those found to be eligible for bilingual education. Limited English Proficient students comprise 0.1% of the target school population.

The target school has an attendance rate of 95.7%. The student mobility rate is based on the number of students who enroll in or leave a school during the school year. The mobility rate of the target school is 7.9%. Chronic truants are students who were absent from school without valid cause for 10% or more of the 180 school days. The target school has a 0% rate of chronic truancy, with zero number of chronic truants. Student attendance is not a concern.

The school program includes: language arts, mathematics, social studies, science, handwriting, physical education, health, technology, learning resource center, and fine arts. Kindergartners also receive 30 minutes per week of language and motor instruction. Support programs at the target school include Reading Recovery, Title I, Gifted and Talented, and Special Education services. Kindergartners are not eligible for Reading Recovery services. These programs were developed to meet the needs of the surrounding community.

The Surrounding Community

The site is located in a small, rural community, known for its many antique shops. There is very little industry in this community. The majority of families attending the target school fall into the middle or upper-middle class category. Median income, according to the 1990 census is $47,799.

The teachers at this site are 100% white. Teachers include all school personnel categorized by the district as classroom teachers. The teacher population is made up of 17.8% male and 82.2% female. The average teaching experience at the target school is 7.8 years. Teachers with a

Bachelor's degree comprise 82.2% of the teacher population, while 17.8% have a Master's degree or beyond. The average teacher salary for this site is $30,059. Working directly under the School Board is the district Superintendent. There are two principals at the site. One overseeing grades K-5 and the other working with grades 6-8. The support staff at this site include a full time: nurse, social worker, librarian, and three secretaries. The kindergarten classrooms are assisted by one full time teaching assistant.

There is an active Parent/Teacher organization at this site. They coordinate many different fund raisers and activities. The funds are used to support the educational programs within the district. They provide financial support for special projects and assemblies.

Enrollment is growing due to new construction sites of single family homes. New teachers are being hired to maintain reasonable class sizes. A referendum was passed in 1994 to add a middle school wing, a kindergarten wing, and a learning material center. This building was unable to accommodate the rapid growth within this community. Nine regular education classrooms and seven support classrooms are located in mobile classrooms adjacent to the main building. This district is considering a combination with a nearby school district to help alleviate the overcrowding issue.

This community has two main feeder preschool programs. Both programs are located within five miles of the school site. They offer three and four year old programs as well as before and after school daycare. The preschools are not affiliated with the target school, therefore, the motor skills development is not aligned with the target school curriculum.

National Context of the Problem

For the past several years there is a growing body of literature supporting the need for motor skill development (Gallahue, 1989). "Competency in movement is important for children now and in the future, since the ability to move affects children socially, emotionally, and physically" (Poest, Williams, Witt, & Attwood, 1990, p.5). Both large muscle and small muscle

development play a part in physical growth. Motor skills are broken into two areas, fine and gross. Fine motor skills include: handwriting, cutting, painting, drawing, and tracing. "Despite the influence of new technologies, the computer and the word processor have not replaced the need to learn how to print or write" (Koenke, 1986, p.1). Gross motor skills include: running, walking, jumping, hopping, catching, throwing, kicking and balancing. Patterson (1997) reported these bodily-kinesthetic activities serve many functions.

> They seem to activate the right hemisphere of the brain. The right hemisphere tends to perceive things in their totality rather than as individual components and is relatively free of the "editor" that operates on the left side. Using kinesthetic activities along with traditional left-brain classroom strategies help students see a more complete picture of the subject matter, free themselves from learning inhibitions, and activate a wider range of neural patterns. Some kinesthetic activities help integrate the two hemispheres, allowing the entire cerebrum to work as a unit rather than half at a time. (p.2)

Instruction for motor skills is vital to insure proper motor development. "For the vast majority of children, personalized, developmentally appropriate instruction is essential if they are to attain mature skill levels in a variety of fundamental movement tasks" (Gallahue, p.40). The researchers are concerned that this is not occurring. One article discussed the overall decline of fitness levels in children over a ten year period (Coop & Rotella, 1991). Nationally, there is a growing concern for the need to improve motor skill development in children.

CHAPTER 2

PROBLEM DOCUMENTATION

Problem Evidence

Many types of documentation were utilized to gather evidence that the targeted kindergartners had difficulty with fine motor skills. DIAL-R scores, an interview with the occupational therapist on site, a teacher checklist, and a parent survey were used as evidence in this research project.

DIAL-R Scores

Before the targeted kindergartners entered school they were given the DIAL-R screening instrument (Appendix A). Figure 1 below shows the results of the motor sub-test. Children scoring below 50% were considered below average. Children scoring between 50-80% were considered average. Children scoring above 80% were considered above average.

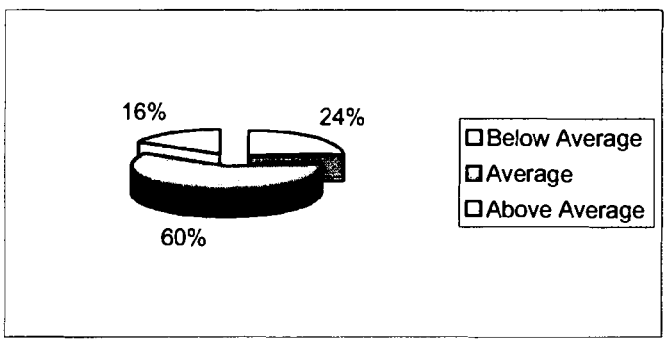

Figure 1. DIAL-R Motor Sub-test

A review of the motor sub-test revealed 24 % of the students exhibiting motor difficulties. Approximately 1/4 of the students showed delays in some or all of the following areas: cutting,

hopping, catching, skipping, copying figures and writing. These delays may cause difficulty relating to academic performance. The large percentage of children scoring below 50% on this sub-test encouraged the researchers to take a more in depth look at ways to incorporate fine and gross motor activities within the kindergarten daily schedule.

Occupational Therapist

An interview with the occupational therapist on site (Appendix B) confirmed these findings. The occupational therapist reported some kindergartners exhibited fine motor difficulties with their pencil and scissors grasp, tracing and cutting on a line, as well as using the opposite hand to support a paper when writing. Gross motor difficulties were observed in the areas of posture, writing posture, catching objects, hopping on one foot, and balancing on one foot. The occupational therapist suggested implementing group activities within the classroom on a weekly basis. Currently, the occupational therapist comes in the classrooms to help implement a variety of motor activities.

Teacher Checklist

A teacher checklist (Appendix C) was developed to record teacher observations concerning fine and gross motor difficulties. The teacher checklist included the following categories: pencil grasp, scissors grasp, writing posture, cutting on a line, balancing on one foot, hopping on one foot, walking on a balance beam, catching a bean bag and bouncing and catching a ball. The checklist was completed three times throughout a four month period. Table 2 describes the criteria used in determining satisfactory performance in each of the skill areas.

Table 2

Satisfactory Explanations

Skill	Satisfactory
Pencil Grasp	uses pincer grasp
Writing Posture	sits straight up and both feet on floor
Catching	catches 2/3 bean bags with hands
Balance	stands on 1 foot for 5 seconds
Hops	hops on 1 foot 5 times without falling
Cutting	cuts on the line
Scissor Grasp	thumb on top, index and middle finger in the bottom hole
Bounce/Catch	bounce ball and catches with hands 4/5 times
Balance Beam	walks 6 feet on balance beam without touching the floor

The initial teacher checklist disclosed varying levels of proficiency in each of the skill areas. The following table reports the number of students that received unsatisfactory results during the initial observations. The results recorded in January gave the researchers a baseline for measuring growth in motor skill development with the targeted kindergartners.

Table 3

Percentages of Students with Unsatisfactory Scores on Teacher Checklist

Skill	*January*
pencil grasp	24%
writing posture	22%
scissor grasp	28%
cuts on line	32%
hops	8%
balance	25%
balance beam	34%
catches	48%
bounce/catch	35%

Difficulties in these areas may make it difficult for the kindergartners to complete a variety of tasks within the school day. Conversations with the occupational therapist on site lead the researchers to incorporate activities to improve these skills. Approximately 1/4 of the targeted

kindergartners exhibited difficulty with pencil and/or scissors grasp. The researchers reported a variety of inappropriate scissors and pencil grasps (Appendix D). A disparity between the kindergartners ability to hop on one foot and an inability to balance on one foot was also noted. Almost 50% of the targeted kindergartners showed a deficiency with the skill of catching. With no opportunity to use the on site gymnasium, it was imperative that the researchers make use of the regular classroom for gross motor activities. For further information pertaining to what motor activities the children had been exposed to, the researchers sent out a parent survey.

Parent Survey

Kindergarten parents were asked to fill out a parent survey (Appendix E). Eighty-one percent of the surveys were returned. The parent survey was designed to inform the researchers what activities the targeted kindergartners were engaged in while at home. Ninety-four percent of the surveys returned reported that children play outside. The researchers question if the outdoor play is structured or free choice. A negative correlation was noted between the motor sub-test on the DIAL-R and the amount of outside play. This negative correlation provided further evidence that the researchers needed to incorporate structured gross motor activities within the kindergarten day, beyond having a daily recess. The survey also showed 87% of the children were using a computer at home. With the broad technological capabilities of computers, children can be exposed to several fine motor activities on a screen; for example, coloring, drawing, painting or writing. Could this put the children at a disadvantage when they are expected to do these same activities with actual materials in the classroom? Table 4 addresses how often materials were used at home.

Table 4

Frequency using materials at home from Parent Survey

	DAILY	WEEKLY	MONTHLY	NEVER
Play-doh	1	16	32	14
Markers	34	25	3	1
Crayons	38	22	1	2
Paints	3	21	30	9
Scissors	13	41	6	3
Glue	7	39	14	3
Pencils/Pens	55	5	3	0

N=63

Table 4 shows a limited number of children are exposed daily to play-doh, paints and glue. The survey reported 14 children, or 22%, of the children never play with play-doh at home. Based on these findings, the researchers inferred that these children may exhibit fine motor delays in kindergarten. The researchers anticipated the targeted kindergartners' use of play-doh/clay during the school day could improve pincer grasp.

The results from Table 4, overall, showed that the targeted students do spend a significant amount of time engaged in activities which utilize fine motor skills. The researchers questioned if just exposure to materials at home is sufficient enough to improve motor development. Through daily teacher observations, the researchers collected data that the targeted kindergartners required more than exposure to various materials.

Probable Causes

The literature cited three major categories that may relate to probable causes for motor delays. The three major categories cited were: day care, home activities, and societal factors. These categories will be examined within this section.

Day Care

More and more children are being cared for at day care centers. This can present difficulties for children developing good motor skills in many ways. "Overprotecting caregivers preoccupied with health and safety or the avoidance or legal culpability, who prevent the activity and risk taking essential for normal development, simply retard and prejudice any child's chances for a positive developmental outcome" (Olds, 1994, p.33). These fears are compounded by a lack of appropriate training in early childhood education for many daycare staff. Many employees at day care centers are not aware of the developmental milestones necessary for normal development of motor skills. They do not know how to foster this development within their students. "It is critical that teachers know how to assess and teach this aspect (motor skills) of the curriculum" (Ignico, 1991, p.188). Just providing free choice motor activities is not enough to ensure proper motor development. "Many educators believe that children will automatically develop fundamental movement skills when they are ready" (Poest et al., 1990, p.4). This indicates a lack of understanding by early childhood educators on how to foster proper development of motor skills. Miller (as cited in Poest et al.) found that "without some form of guidance from adults or older children, young children's movement patterns are likely to be underdeveloped and their repertoire of skills lacking in variety" (p.7). Without proper training, day care personnel are unable to effectively incorporate activities which enhance motor development. "Early childhood teachers too often believe that a child's motor skills will develop on their own. Therefore, they do not consciously plan for motor skill development as they do for other areas" (Benelli & Yongue, 1995, p.217). As educators, the researchers believe there must be a balance between free play and structured motor activities. Typically, kindergarten teachers are responsible for the physical education portion of the curriculum. Benelli and Yongue state:

> Many parents and teachers believe that providing children with free play opportunities is all the support children need to grow healthy bodies and develop motor skills. While free play is important it does not guarantee skill development beyond the minimal performance level. (p.217)

Another concern relating to day care is the daily schedule. Only a small amount of time is allotted for physical activity during each day. "Scheduled access to a multi-purpose room is insufficient if this happens only once a day" (Olds, p.35). Most day care centers are housed in facilities which do not have enough space for children to move freely. Olds reported:

> Traditionally, we have relegated children's need for movement to outdoor spaces we call playgrounds. This is unfortunate because children need to move all the time, both indoors and outside, in a multiplicity of ways that neither indoor climbers nor most playground equipment sufficiently address. Movement and action are essential to children's development in general and to intellectual development in particular. Movement is the gateway to sensing, acting upon, and being affected by the world around us. (p.32)

Being confined within a day care facility can be difficult for children because of space limitations. Many day care facilities do not have a room designated specifically for motor activities. Children have an innate need to move. According to Olds:

> Typically, adults intervene with rules, admonitions, the withdrawal of materials, and the confinement of space in order to stop children from moving. In day care, this is most often done by adults controlling access to materials, eliminating gross motor play indoors, and restricting the amount of space available to each group. Thirty five square feet per child of activity space is usually inadequate for a room to support gross motor play; at least 42 square feet is required. (p.33)

Day care facilities may have budget constraints that have effected the amount of space available. These space issues have caused a decrease in motor development opportunities for young children. "Failure to meet childrens' varied needs for movement prevents them from having experiences fundamental to their intellectual, social, and physical development" (Olds, p.33). There is a definite need to educate the whole child in today's society.

Home

Another influence on a child's motor development is their home life. Cooper (as cited in Coop & Rotella, 1991), a prominent physical fitness expert, feels that children are leading less active daily lives. Children are driven to school or ride the bus rather than walking or riding their bikes. Advanced technology seems to be promoting a less active lifestyle. Computers, television remote controls, and video games are all becoming a part of our daily lives. Parents are struggling to help children find a balance between spending time on computers or watching television and motor activities. "Massive amounts of physical inaction that comes from hours spent watching TV or playing computer games like Nintendo are promoting a decline in motor skills" (Cooper, as cited in Coop & Rotella, p.411). Parents are also busier than ever. Parents are not being good role models for their children when it comes to motor skills. Many adults lead inactive lives. "This lack of parental involvement is troublesome, not only because children fail to develop adequate skills and fitness, but also because they do not develop the attitude that physical activity is good and important" (Bunker, 1991, p.469). It is vital that parents set a healthy example when it comes to physical fitness. With the majority of households having both parents working, motor activities seem to be a lesser priority. "There may have been a time when parents could be relied on to play with their children consistently. Unfortunately, mothers and fathers today exercise less than one day per week. In fact, 50% of parents never engage in vigorous exercise" (Bunker, p.469).

Societal Factors

Societal factors play an important role in a child's motor skills development . Many children are involved in structured after school or weekend activities and have less free time.

> The contemporary child of the middle and upper class, however, is increasingly caught in an adult-dominated world. Monday is Little League practice. Tuesday is violin lessons. . . . None of these activities by itself is bad. In fact, properly taught and coached, each is beneficial. However, together they represent a picture of a child living and "playing" in an adult-controlled world. There is little chance for an individual child to learn the social and psychological lessons taught on the old vacant

lot. (Coop & Rotella, 1991, p.411)

The number of children involved in after school programs seems to be on the rise. "The demise of the vacant lot where children played spontaneous, self-regulated, and self-invented games affects the social and psychological development of the child as well as the physical development" (Coop & Rotella, p.411). There is a need for children to have independent play to foster imagination. Urban sprawl leads to the absence of many vacant lots. Many of our children are living in over populated urban settings which makes physical activity difficult. Olds (1994) describes:

> Conditions constraining children's movement are growing worse in our society, aggravated by severe housing shortages, an influx of people to urban areas, few public playgrounds or vest pocket parks, and long hours spent indoors at day care. Furniture and equipment, coupled with adults' verbal constraints to protect costly material possessions -- 'Watch out for that . . . ' 'When you turn around make sure you don't . . . .' 'Lift your hands so that . . .' -- put further restraints on childrens activity. (p.33)

Another change in our society is an influx of two working parent families. With both parents working, time becomes very scarce. It is often easier and faster to tie a child's shoe than sit with them as they struggle to accomplish this task. "The majority of parents are busy with careers and not taking the time to develop fine motor skills such as tracing, cutting, lacing and handwriting" (Wessel, 1988, p.3).

Kindergarten teachers have little control over many of the factors which can lead to poor motor skill development. Forty percent of the targeted kindergartners attended day care. The parent survey reported that students are spending a significant amount of time on computers, and not engaged in a variety of other motor activities. It is necessary to be aware of the possible causes in order to help address parental concerns. As teachers, we need to be aware of all of the elements which may lead to delayed motor skills in children.

CHAPTER 3

THE SOLUTION STRATEGY

Literature Review

While reviewing the literature, the researchers found a lack of research on improving motor skills in kindergartners. The researchers found a limited number of solutions and organized these solutions into four main categories: materials, curriculum, activities, and facilities. The materials section will discuss some effective tools to use for improving motor skills. Another solution to be considered will be curriculum. Incorporating motor skills activities into a curriculum is vital for an improvement in motor skills. The activity section will give an overview of some recommended activities for improving motor skill development. The last solution to be considered in this section will be facilities and facility requirements for fostering motor skill development.

Materials

When striving to improve motor skills a variety of materials are useful. These tools should be used during different times each day. One solution for improving motor skills is to have a variety of materials available during free play time for the children to explore. Pehoski, Henderson, and Tickle-Degnen (1997a) conducted a study to analyze varying abilities in the area of in-hand manipulation using pegs. Subjects in the study ranged from three year olds through young adults. According to Pehoski, et al., (1997a):

> The results of the study showed that in-hand manipulation skills appear to have a long developmental course. This study shows the importance of observing how children

> perform tasks, not just whether they complete the tasks. Differences in the methods used help to determine efficiency. Observation of these skills in children may expand a therapist's understanding of children's fine motor abilities. (p.544)

Sakemiller and Nelson (1997), conducted a study on two children with hypotonic cerebral palsy. In their study, Eliciting Functional Extension in Prone Through the Use of a Game, they found that in play, a child is not focused on specific motor demands and is motivated to use movements that will improve head and trunk control. "The addition of the game to the occupational form provided added purpose to encourage each subject into neck and back extension"(Sakemiller & Nelson, p.155). The results of this study demonstrate that the addition of a meaningful and favorite game to the occupational form elicited a higher degree of functional vertical neck and back extension in two children with hypotonic cerebral palsy(Sakemiller & Nelson). The researchers transferred the idea of using games to improve motor development into the kindergarten setting. A kitchen area with dishes and a workbench with screws and pegs allows children to use their motor skills in new and fun ways. Legos, pegboards, and blocks help to build creativity while increasing fine motor development. A lacing board is an effective tool for teaching children how to tie their shoes while improving their motor development. Dolls, vehicles, and puzzles also offer young children a fun way to improve their fine motor development. While dressing dolls, pushing a car, or putting together a puzzle children are using the small muscles in their fingers and hands. "They need experiences in putting things together, taking them apart, throwing things, catching things, and just moving themselves" (Bunker, 1991, p. 467). Lessons should also incorporate materials which improve motor skills. Teaching a lesson on shapes can become much more interesting when children are asked to make the shape out of clay or a wax stick. Using these materials will help the children build up their muscles and improve their motor skills. It is also important to plan a variety of lessons which require students to use their motor skills. A similar study, In-Hand Manipulation in Young Children: Translation Movements, was conducted. Pehoski et al., (1997b) reported:

> It has been the first author's experience that many of these children avoid fine motor activities and, therefore, have fewer opportunities to practice these skills than do their peers. The therapist's role is to design programs that engage the child, create a sense of pleasure in accomplishment, and fuel a drive to further explore and practice. (p.728)

Children need to see the importance of motor skills. Having the children write, draw, paint and color offers the children a chance to use their motor skills in a meaningful situation. Ferguson and Trombly (1996) conducted a study on the effects of both added-purpose and meaningful occupation on motor learning. Twenty university students were randomly assigned to either an added-purpose or rote exercise condition. After skill acquisition, retention and transfer scores were obtained. This study was the first to demonstrate how added-purpose can enhance a more permanent aspect of performance: motor learning. "Added-purpose occupation would emphasize the benefits of focusing the performer on the multi-dimensional outcomes or goals of the task rather than on the internal aspects of his or her performance" (Ferguson &Trombly, p.510). Linking motor activities to an existing curriculum can become quite natural . These activities require only a minimum of materials: pencils, paper, crayons, scissors, and paint. When children have difficulty holding a pencil correctly a pencil grip can be useful in training a child's fingers into forming the correct pincher grasp. Paper and pencil activities become even more inviting when a variety of pencils and paper are used. Paper and pencil activities should not be the only activities in a student's day. Children need to complete a variety of tasks which incorporate fine motor skills. "Added-purpose occupation is designed to focus the learner on the multi-dimensional outcomes of his or her performance, whereas rote exercise focuses the learner on individual movements" (Ferguson &Trombly, p.513). Children enjoy making crafts and projects. Having the students make a craft or an art project can be a fun way to incorporate motor skills into a curriculum. Children will not be focusing on improving their motor skills when cutting out pieces for a project, but rather on the creativity of the project. Scissors should

be used on a regular basis as a part of the curriculum. All of the above activities use a variety of materials to improve fine motor development.

There are many materials which improve gross motor skills. Young children have a need to move. This needs to be taken into account when working with young children. Having materials available for gross motor activities is a necessity. "Using a bright, colorful ball will help a child track its flight. Yarn balls, balloons, scarves and beach balls are ideal for beginning catching activities because they are soft and easily caught" (Benelli & Yongue, 1995, p. 218). Foam balls and movement tapes are great materials for every kindergarten classroom. Playing catch improves hand eye coordination, and using a foam ball takes away the concern of something getting broken or someone getting hurt. There are many commercial movement tapes available on the market which offer children a chance to move in a variety of ways with music. A foam hop scotch game is also an effective tool in helping children improve their balance and hopping skills. When a kindergarten teacher is teaching physical education class, it is helpful to introduce materials to the children prior to any lesson.

> One way for physical educators to begin this process is to visit the children's classroom with a bag full of small equipment used in the gym. After letting the children see and touch these items, the next step is to leave a few objects for use in the classroom. It's especially helpful to leave the more unusual things such as ball chairs and stretchy tactile/spatial bags. (Wenos & Harris 1998, p.22)

When considering materials for an activity it is important to consider the space they will be used in. "As often as possible, use balls on strings that need no retrieving, deflated balls that slow the pace, or targets that return the ball to the player" (Wenos & Harris, p. 24). Playgrounds also need to be created with the idea of improving motor skills. Swings, slides, and jungle gyms are necessary materials for children to have available. An effective program for improving fine and gross motor skills needs to include a wide variety of materials.

Curriculum

One possible solution for improving motor skills cited in the literature was in the area of curriculum. Many preschool and kindergarten educators are responsible for teaching their own physical education.

> Designing and implementing a developmentally appropriate movement curriculum will take time and effort. But it is worth it. If we are concerned with the whole child, we need to plan and implement appropriate activities that will facilitate the development of young children's motor skills. (Poest et al., 1990, p.9)

Educators must make physical education an important part of the daily curriculum. According to Bouchre and Doescher (1991) there is a need to develop a curriculum which enhances normal motor development in children. In Bouchre and Doescher's study, Influencing Preschool Children's Motor Development: A Comparison of Two Groups, the authors compared the effects of using a sensory-motor curriculum with one group of children and providing a non-curriculum condition for another group of children. The results showed that the preschoolers' motor development in both groups improved significantly. The use of a specific curriculum did not speed up or greatly improve the motor skills. Bouchre and Doescher explained that one main factor that influenced the study's findings involved the children having a larger amount of time together than apart. The study only incorporated 20 minutes of each day. The preschool facility in this study encouraged motor development in the normal daily program. The researchers believe that adding motor opportunities to the kindergarten curriculum may assist fine and gross motor development.

The researchers found preparation for motor activities to be significantly less than other curriculum areas (Benelli & Yongue,1995). Many early childhood educators believe that children will develop the necessary motor skills naturally. Seefeldt's study found, "maturation provides a young child with the ability to perform a specific movement skill at a very low level of performance. It is only with continuous practice and instruction that a child's level of performance will increase" (as cited in Poest et al., 1990, p. 4). Many gross motor activities in

preschools are relegated to outdoor free choice play. Ignico (1991) completed a study to determine the effects of competency-based instruction on kindergarten children's gross motor development. The study involved 30 kindergarten students and three upper-level physical education majors. The children were assessed on their motor skills using the Test of Gross Motor Development (TGMD). The students were given gross motor instruction for approximately 28 minutes each day during the intervention period. The children receiving a 10-week instructional program showed considerable improvement in gross motor skills as measured by the TGMD. The results of this study would indicate that instruction on gross motor skills would help students make improvements in this area. Little outdoor time is spent on teacher directed gross motor instruction. The belief that children will develop appropriate motor skills just by being given outdoor motor play opportunities is inaccurate. Insufficient teacher training in the area of early childhood motor development may have initiated this belief. Boucher and Doescher (1991) suggest that it is more effective to incorporate structured activities which are changed weekly. While proper training for early childhood staff is of great importance, so too is appropriate assessment strategies to insure proper motor development. According to Ignico:

> Pre-service training, therefore, must include practical experiences in both assessing children's fundamental motor skills and designing appropriate instructional activities. Because several motor development tests are available for use with elementary school children, teachers must have a knowledge of which test is most appropriate for their particular program. (p.188)

With early childhood staff lacking the proper assessment strategies, it is vital that educators have access to a support staff that is trained in the area of motor skill development and assessments. "Since many schools do not have regularly scheduled quality physical education for the young child, the physical educator can be of significant assistance by providing important information and activity suggestions to parents and teachers" (Gabbard, 1998, p.58). This support staff can

include the district physical education teachers, physical therapists and occupational therapists. "It is imperative that children be identified at an early age so that remedial programs may be developed to assist motorically delayed children in overcoming any inherent motor deficits" (Wood, 1990, p.137). Incorporating motor activities into the curriculum is an important part of early motor skill acquisition. "Future programs to educate young children will almost certainly include movement experiences as part of the core curriculum" (Gabbard, p.54). To determine whether the curriculum has been effective in reaching the desired levels of motor competency, appropriate assessment tools must be made available to educators. An effective kindergarten curriculum should include a variety of activities which incorporate fine and gross motor activities.

Activities

It is important to include motor activities in the curriculum, but these activities must be appropriate, specific activities. These activities can also occur at home or in other settings. The literature reviewed cited the need for appropriate motor activities as another possible solution for helping kindergartners with underdeveloped motor skills. "Fundamental skills need to be taught in creative, fun yet demanding ways" (Zaichkowsky & Larson, 1995, p. 69). Free choice activities are an important part of any early childhood curriculum; incorporating fine and gross motor activities into this portion of the daily curriculum is crucial . "The key is to have everyone active (no long lines for relay races) and to provide developmentally appropriate activities" (Bunker, 1991, p. 470). There is a definite need for teacher directed instruction when incorporating motor activities. "Instruction needs to be followed by many opportunities for practice" (Benelli & Yongue, 1995, p. 217). A wide range of motor activities were cited in the fine motor area.

Learning to use fine motor skills is an integral part of the lives of children in any early childhood classroom. Children develop fine motor skills when they engage in such activities as: putting together simple puzzles, painting with a small brush, finger-

painting, using pegboards, tracing objects, engaging in finger-play activities and songs. (I can do it!, 1985, p. 7)

Activities to improve pincher grasp included: stringing beads, using finger cymbals, playing with finger puppets, turning pages and working with clay. In an interview, an occupational therapist suggested games such as tiddlywinks and pinching clothespins may help children develop their fine motor skills. Activities such as tracing letters in sand and shaving cream also help children improve their motor skills (D. McAuliff, personal communication, January, 2000). Henry (1998) cited hand games and finger push-ups as activities to help with writing and cutting. Henry also cited a list of pre-handwriting exercises as follows: Mickey Mouse Ears, desk push-ups, door knob turns, finger opposition, and butterflies. Exposing children to these types of activities is the start. Many of these activities can be done at home and they require only a short amount of time for each. Proper direct instruction of similar activities within the classroom is of great importance. "Activities can include drawing, tracing, cutting with scissors, pasting, modeling with clay, various games, lacing, weaving, and handwriting" (Wessel, 1988, p. 1). Collaboration between parents, teachers and the occupational therapist is the key.

Gross motor activities can be an important part of home activities. "Beginning at an early age, children need to be involved daily in a variety of fun physical activities aimed at developing their large muscles" (Poest, et al., 1990, p. 7). Activities that can help improve gross motor development include: practicing skipping, jumping with both feet over a line, walking on a line, hopping on each foot, and balancing on one foot. Ulrich and Ulrich (1985) investigated the relationship between ability, age, and gender and the role of balancing in performance of gross motor tasks. A battery of 15 items was administered to 72 preschoolers. The tasks were from the Bruininks-Oseretsky Test of Motor Proficiency. The collected data suggested that age had a significant linear relationship to balancing ability and that balancing ability was related to level of performance of gross motor tasks. The researchers recognize that balancing ability is developmental and that kindergartners need to have repeated exposure to balancing activities.

By sharpening kindergartners balance skills, the researchers conclude that other gross motor skills will be strengthened. Occupational therapist, Deb McAuliff, suggested creating an obstacle course or playing follow the leader on the playground to improve gross motor skills in kindergartners. "Kids learn best when moving" (D. McAuliff, personal communication, January, 2000). While some activities may require use of a large, open area, many activities can be done in the classroom. Madsen (1987) suggested the following games for enhancing motor skills: Whistle Stop, Musical Hoops, Simon Says, Fish Gobbler, Sticky Popcorn Ball, Animal Tag, Big Snake, Bozo Beanbags, and Balloon Volleyball. Only a short amount of time is required and many of the activities listed below can be done as energizers Henry (1998) cited the following activities: the seat walk, the popcorn maker, and shakes and wiggles. Some of the activities Henry cited for upper body control for writing were: the wheelbarrow walk, belly on the ball, and chair push-ups. It is important that motor skill activities be taught at home and in school, and that they are continually reinforced. Kindergarten instructors need to incorporate motor activities into daily lesson plans and provide parents with resources for activities at home to ensure that the skills are being properly developed.

Facilities

Facilities that house young children need to provide space for them to be able to move freely. Children are naturally in constant motion. Through motor experiences they are able to physically grow and develop. Buildings designed for small children should foster their growth by having specific areas for movement activities to take place. "The active area is best located within each group room, near the major pathways, and not in a corner. Equipment to support climbing, crawling, hanging, swinging, and sliding is most desirable" (Olds, 1994, p. 35). Sections or rooms of a facility can be designated for gross or fine motor activities which enhance overall physical development. Also, when large groups of children attend one building, they can be divided into smaller groups and spread out around an establishment.

When groups are small, instead of restricting each age group to a single cramped space

> where gross motor play might be intolerable, combining groups and having them share a number of small rooms, one of which might be devoted to gross motor play, is a far more effective strategy. (Olds, p. 33)

It is critical to utilize space effectively in order to benefit children's movement opportunities. In addition to spatial issues , facilities need to have age appropriate, durable equipment for young children to use on a daily basis.

> Play equipment not only needs to be safe, indestructible, maintenance-free, operable without adult supervision, and cheap -- it also needs to be based on a range of movements children engage in spontaneously, and on a refined set of developmentally sound assumptions. (Olds, p.34)

Children need to explore and manipulate equipment that assists them in building strength and muscle tone. Adults should not prohibit or deny the use of this essential equipment. "The ideal child care environment provides unending opportunities for children to learn to move and to learn by moving because it conceives of all surfaces, and the entire ambiance, as an invitation to use their bodies and their senses in meaningful and challenging ways" (Olds, p. 36). Overall, it seems logical to design facilities that create environments which encourage children to exhibit movement patterns.

Exposing children to a wide variety of materials can enhance motor development. Integrating motor activities within the curriculum will provide meaningful experiences for children that fosters developmentally appropriate motor skills. The educational facility must provide children with adequate space and equipment to ensure ample motor opportunities.

Projects Objectives and Processes

> As a result of using various materials, fine and gross motor assessments, and incorporating fine and gross motor activities, during the period of January 2000 to April 2000, the targeted kindergartners will improve their fine and gross motor skills, as measured by anecdotal records, a teacher checklist, and student work.

In order to accomplish the project objective, the following processes are necessary:

1. Incorporate motor activities into the daily schedule.
2. Assess motor development periodically.
3. Incorporate materials which foster motor development.

Project Action Plan

I. Incorporate motor activities into the daily schedule.

A. Implement direct instruction of motor skills.

1. Art projects that include cutting, coloring, and tracing.
2. Explain and practice correct writing posture and pencil grasp.
3. Model appropriate writing pressure.
4. Monitor and prompt for correct balance during gross motor activities.
5. Encourage active participation in hopping exercises.
6. Model age appropriate catching behaviors.

B. Twice a week activities will be conducted.

C. Activities will occur in the classroom, the shared space, and outdoors.

D. Direct instruction will improve the development of motor skills in kindergartners.

E. Interventions will be twenty minutes in length.

1. Activities will be conducted in a whole group and small groups.
2. Interventions will be done in several curriculum areas.

II. Assess motor development.

A. Various assessment tools will be utilized.

1. Teacher checklist
2. Student work
3. Weekly Log

B. Assessments tools will be used periodically.

C. Assessments are utilized to determine if our interventions are successful.

D. Assessments will be recorded based on teacher observations.

III. Incorporate materials to enhance motor development.

A. Various materials will be used during motor activities.

1. **Fine motor materials**: pencil grips, clothes pins, pennies, scissors, paper, chalkboard, pencils, pens, crayons.
2. **Gross motor materials**: tunnels, balance beams, balance board, balls, beanbags

B. Materials will be used during various times.

1. Free play time
2. Worksheets
3. Art Projects
4. Gross motor activities

C. Materials will encourage motor development.

Methods of Assessment

In order to assess the effects of the intervention, teacher checklists covering fine and gross motor skills will be developed. In addition, teacher observations will be kept in a weekly log during the intervention period.

CHAPTER 4

PROJECT RESULTS

Historical Description of the Intervention

The objective of this project was to improve the fine and gross motor skills of the targeted kindergartners. To bring about these improvements the following processes were initiated: motor activities were incorporated into the daily schedule, motor development was assessed periodically, and materials were incorporated which foster motor development.

Motor activities were incorporated into the daily schedule. Activities were conducted twice a week. Interventions were approximately twenty minutes in length. All of the following activities occurred within the classroom, the kindergarten shared space, or outdoors. The activities were conducted by the classroom teacher as well as the on site occupational therapist. Several weeks into the intervention the researchers focused on modeling the appropriate scissors grasp. Direct instruction of motor skills was implemented through developing art projects that included cutting, coloring, and tracing. Cutting projects included: making snowmen and snowflakes, hearts, groundhogs and grass, as well as leprechauns. Correct writing posture and pencil grasp were explained and practiced daily. Activities used to improve pincer grasp included: tear paper projects, clay forming activities, painting projects, writing on the chalkboard, clothespin pinching activity, flipping and sliding pennies, drawing figures, dot-to-dot pages, and handwriting workbook pages. Children were active participants throughout many of the motor activities (Appendix F).

The researchers noted little concern with writing pressure based on the initial teacher checklist. The researchers did not develop activities to enhance this skill. Gross motor activities involved balancing, catching, hopping, and using a balance beam. Balancing activities included: body positions, balancing on one foot and/or two feet, "surfing" on a balance board, balancing on heels and/or toes and country line dancing. The researchers modeled appropriate catching behaviors prior to the activities. Catching activities included bouncing mini-basketballs and catching various items. Playing hopscotch, hopping to different areas in the room, hopping along to various musical movement tapes, and hopping in place were the activities used during the intervention period to improve hopping skills. Balance beam intervention consisted of walking both forwards and backwards, using both a thick and thin balance beam. Some of the gross motor activities did take place in the regular classroom setting (Appendix G).

All of these activities showed the children actively involved in gross motor developmental skills. The researchers found a great comfort level with integrating these activities into the daily curriculum. This wide variety of activities allowed for a multitude of assessment opportunities.

Assessment tools were used periodically. Assessment tools were made to determine if the interventions were successful. Motor development was assessed in mainly two ways. An extensive teacher checklist was used. The initial checklist assessment, conducted in January, presented the researchers with some concerns. The layout of the checklist was difficult for the researchers to complete while observing the students, because similar skills were scattered on the checklist. The researchers choose to revise the original checklist (Appendix H). Similar skills were grouped together. The column for pencil pressure was deleted because the targeted students did not exhibit concerns in this area. The section which included coloring, tracing, and cutting on a line was reduced to just cutting on a line. There was too much information in that column to accurately assess. The researchers chose to keep cutting on a line as that was noted as the most problematic area for the students. The revised checklist was utilized again in March and April. Researchers assessed student work throughout the intervention period. Upon reflection in the weekly journals in the audit trail (Appendix I), the researchers decided to eliminate the anecdotal

records due to a redundancy between the two. The researchers felt confident that the teacher checklist and evaluation of student work were effective assessment tools.

A multitude of materials were incorporated to enhance motor development. These materials were used at various times during the intervention period. The following materials were used to enhance fine motor skills: pencil grips, clay, clothespins, paper, scissors, pennies, paint and paintbrushes, and chalk and chalkboards. Materials for gross motor activities included: balance beams, balance boards, musical movement audio cassettes, mini-basketballs, rubber balls, bean bags, foam balls, footballs, hopscotch boards, tunnels, and plastic hoops. This plethora of materials provided for a wide variety of motor experiences.

Presentation and Analysis of Results

The researchers compiled the data from two assessment sources. The teacher checklist provided a wealth of information concerning student growth in the targeted motor areas. These motor skills were monitored for growth three times during the intervention period. The following table shows the percentage of targeted kindergartners that exhibited ***unsatisfactory*** motor skill development within each area. The table allows the researchers to assess what progress the kindergartners made during the intervention period of January to April.

Table 5

Unsatisfactory Results on the Teacher Checklist

Skill	*January*	*March*	*April*
pencil grasp	24%	10%	7%
writing posture	22%	6%	8%
scissor grasp	28%	14%	8%
cuts on line	32%	19%	12%
hops	8%	10%	7%
balance	25%	15%	8%
balance beam	34%	19%	10%
catches	48%	23%	17%
bounce/catch	35%	15%	10%

Based on the results in table 5, the intervention appears to have been effective on many of the targeted motor skills. In January, one fourth of the targeted kindergartners displayed unsatisfactory motor skill development, in both areas of pencil grasp and writing posture. At the end of the intervention period, less than one tenth of the targeted population exhibited deficiencies in these areas. In the areas of balance and catching, the students showed a significant improvement. These results show the intervention to be successful in these areas.

Based on teacher observations, recorded in the researcher's weekly journals, many positive changes were noted throughout the intervention period. The researchers discussed the importance of using small group activities to provide multiple opportunities for students in many areas. These small group activities were very manageable for the teachers considering the limited space available and the individual instruction needed. In addition, partner activities helped to provide ample opportunities for the students to practice the specific motor skills. The teachers were then free to interact with each group to meet a variety of individual needs.

The use of music during motor activities was another positive aspect noted by the researchers. The music motivated the students and kept them on task. Movement was facilitated through the various rhythms and lyrics on the audio cassettes (Appendix J). Researchers felt this was an effective tool used during the intervention period.

Incorporating motor activities into the daily schedule allowed the students to practice correct motor skills. The researchers noted appropriate transfer of these skills into students daily habits. The most significant change was noted in the kindergartners' pencil and scissors grasp (Appendix K). The kindergartners automatically demonstrated the correct grasp for pencils and scissors.

The comfort level the students displayed while engaged in motor activities was also noted. There was a decline in the number of negative student comments concerning the motor activities and projects. The researchers were pleased by the positive comments made by children during the latter part of the intervention period. Students exhibited a greater degree of confidence when tackling the wide variety of motor activities during the interventions.

Conclusions and Recommendations

The researchers felt that the motor interventions were successful. The students' underdeveloped motor skills showed growth during the four month period. During the interventions, the researchers noticed many important skills which were not previously stressed in the kindergarten curriculum. The researchers discovered that many of these motor skills do not occur naturally, they need to be taught. The incorporation of a variety of materials gave students a wealth of daily activities to promote success. The use of music and small group motor activities provided students with many experiences which allowed them to attain self confidence and a comfort level when completing motor activities.

The results of the motor interventions, described in this project, show the importance of incorporating motor activities to improve motor skill development. The researchers would recommend physical education classes for kindergarten students. The targeted kindergartners did not have physical education classes. The results of this intervention could be used to support a change in the current scheduling of kindergarten physical education. Incorporating motor activities into the daily curriculum did not require many changes to the existing program. The integration of these activities became quite natural for the researchers. Most of the materials used were readily available to classroom teachers. Incorporating fine and gross motor activities to improve motor skill development is beneficial for the overall education of kindergartners.

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APPENDICES

DIAL-R SCORESHEET

Child's Name _____ (LAST / FIRST / NICKNAME)

Address _____ (NUMBER / STREET / CITY/STATE/ZIP)

Phone Number ( ) _____ (AREA CODE) Language _____

Parents' Names _____ (MOTHER / FATHER)

1 2 3

School _____ Today's Date _____ (YEAR / MONTH / DAY)

Class _____ Birth Date _____

Hearing + − C.A. _____

Vision + − Boy _____ Girl _____

MOTOR (red)	SCALED SCORE 0 under 2 yrs.	1 2-3 yrs.	2 3-4 yrs.	3 4-5 yrs.	4 5-6 yrs.
1. Catching	0	—	1	2	3
2. Jumping, Hopping, and Skipping jumps: 0 1 + hops: (right) 0 1 2 3 4 5 6 (left) 0 1 2 3 4 5 6 + skip: 0-any 1-slide 2-step/hop 3-skip	0	1-2	3-8	9-12	13-16
3. Building	0	1	2	3	4
4. Touching Fingers	0	1	2	3	4
5. Cutting	0-1	2	3	4	
6. Matching I O + □ △ ◊ E N D S // ⅊	0	1-7	8-9	10-11	12
7. Copying I 0 1 2 E 0 1 2 O 0 1 2 N 0 1 2 + 0 1 2 D 0 1 2 □ 0 1 2 S 0 1 2 △ 0 1 2 // 0 1 2 ◊ 0 1 2 ⅊ 0 1 2	0	1-7	8-11	12-18	19-24
8. Writing Name	0	—	—	1	2
TOTAL (Max.= 31)	OBSERVATIONS 1 2 3 4 5 6 7 8				

CONCEPTS (green)	SCALED SCORE 0 under 2 yrs.	1 2-3 yrs	2 3-4 yrs.	3 4-5 yrs.	4 5-6 yrs.
1. Naming Colors R O W G BL Y B BR P	0	1-7	8-15	16-18	
2. Identifying Body Parts nose nock chin ankle hair stomach shoulder hip ear knee chest waist teeth thumb heel tongue elbow wrist	0	1-9	10-12	13-15	16-18
3. Counting (Rote)	0-2	3-4	5-8	9-10	11
4. Counting (Meaningful) 1 3 5 7 9	0	1	3	5-7	9
5. Positioning on under corner between middle	0	1-2	3	4	5
6. Identifying Concepts biggest big hot empty night longest long most more fastest fast littlest little cold full day shortest short least less slowest slow	0	1-14	15-20	21-26	27-28
7. Naming Letters O B P E R W Y G	0	—	—	1-10	11-16
8. Sorting Chips by color: R B Y by size: big little by shape: O □ △	0	—	—	1-4	5-8
TOTAL (Max.= 31)	OBSERVATIONS 1 2 3 4 5 6 7 8				

LANGUAGE (purple)	SCALED SCORE 0 under 2 yrs.	1 2-3 yrs.	2 3-4 yrs	3 4-5 yrs.	4 5-6 yrs.
1. Articulating pin rabbit truck bed chair dress cup knife sandwich towel leg thumb hand fish mouth/tooth	0	1-14	15-26	27-29	
2. Giving Personal Data first name sex phone # last name street age city/state	0	1-3	4	5	6-7
3. Remembering clapping A B C numbers A B C sentences A B C	0	1-3	4-5	6-7	8-9
4. Naming Nouns cat phone comb plane TV pencil car clock ambulance	0	1-15	16	17	18
5. Naming Verbs sleep call comb fly watch write drive time go to hospital	0	1-9	10-14	15-16	17-18
6. Classifying Foods Tally _____	0	1-2	3-4	5-6	7-8
7. Problem Solving hungry 0 1 2 dark room 0 1 2 rain 0 1 2 broken 0 1 2	0	1	2-3	4-5	6-8
8. Sentence Length _____ _____ _____	0	1-2	3	4	5-8
TOTAL (Max.= 31)	OBSERVATIONS 1 2 3 4 5 6 7 8				

Motor score _____
Concepts score _____ (see page 58 for Cut-off Points by Area Scores)
Language score _____
Total score _____ (see page 15 for Cut-off Points by Total Score)
# of Observations _____ (see page 50 for Cut-off Points by Observations)

DECISION _____

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DIAL - R Scoresheet

(child)

figure	figure	s	d
n	e	diamond	triangle
square	cross	circle	line

Name

O B P E R W Y G

42

O B P E R W Y G

43

Appendix B
Interview With Occupational Therapist

Interview Questions

for Ocupational Therapist

1. Please mark the areas of motor difficulties you observed at preschool screening?

___pencil grasp

___scissor grasp

___tracing on line

___cutting on line

___posture

___supporting paper

___catching objects

___balancing on foot

___writing posture

___pencil pressure

___hops on one foot

2. Please list any activities that you would use to improve motor skills in kindergartners.

Key

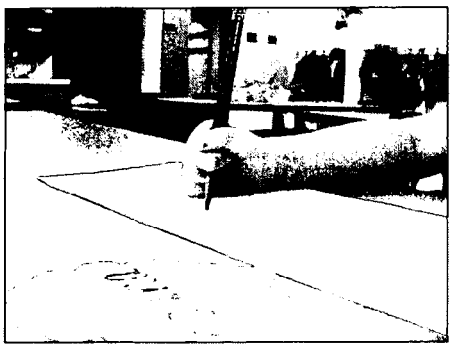
1 - Satisfactory
2 - Improving
3 - Unsatisfactory

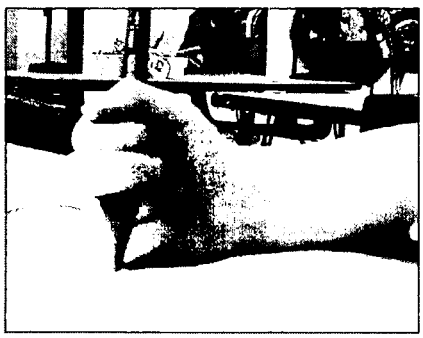
Motor Skills Checklist

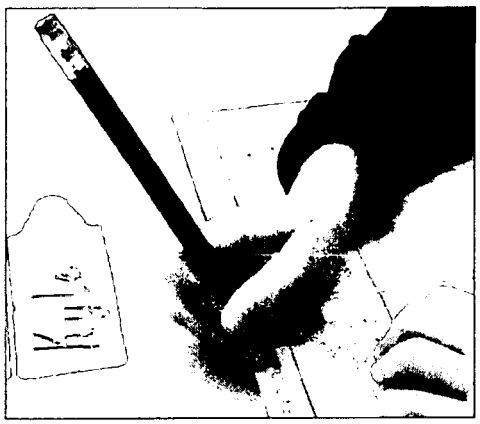
Child	Pencil Grasp	Scissor Grasp	Writing Posture	Color/ Cut/ Trace/ Line	Pencil Pressure	Balance	Hops	Catches	Balance Beam	Bounce / Catch

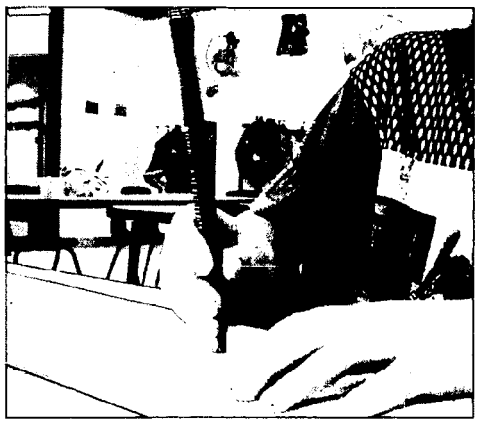
Appendix C
Initial Teacher Checklist

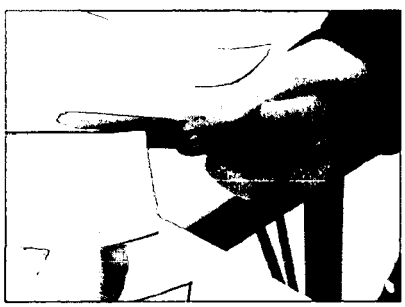
Appendix D
Unsatisfactory Grasps











Appendix E
Parent Survey

Parent Survey

Please fill out this survey and return it to your child's teacher as soon as possible. Thank you in advance for your cooperation!

1. Please check any of the following activities your child enjoys doing at home, then circle the three you feel your child does the most.

____ Computer
____ Video Games
____ Play Outside
____ Cars
____ Board Games
____ Legos
____ Dolls
____ Puzzles
____ Other _____

2. Please circle the frequency your child uses the following materials:

Playdough	DAILY	WEEKLY	MONTHLY	NEVER
Markers	DAILY	WEEKLY	MONTHLY	NEVER
Crayons	DAILY	WEEKLY	MONTHLY	NEVER
Paints	DAILY	WEEKLY	MONTHLY	NEVER
Scissors	DAILY	WEEKLY	MONTHLY	NEVER
Glue	DAILY	WEEKLY	MONTHLY	NEVER
Pencils /Pens	DAILY	WEEKLY	MONTHLY	NEVER

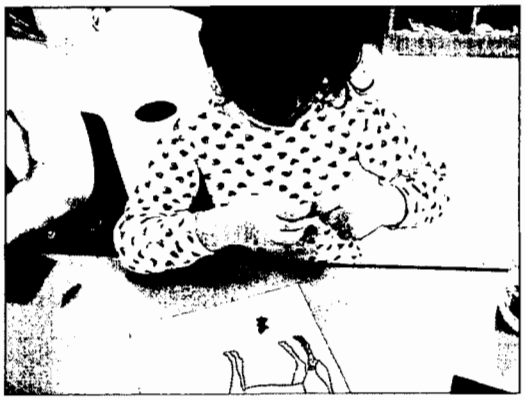
Please list your childs three favorite outdoor activities: (For Example - riding bikes, rollerblading, playing on swingset, baseball, soccer, etc.)

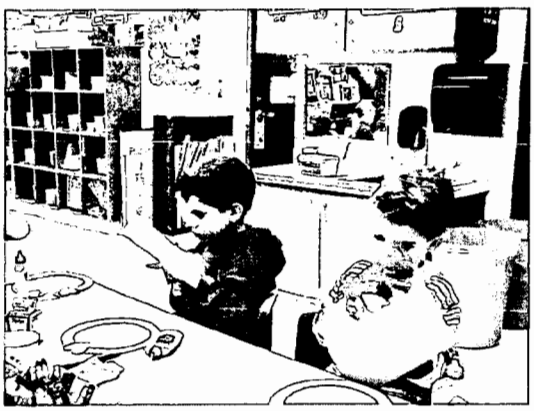
1. _____

2. _____

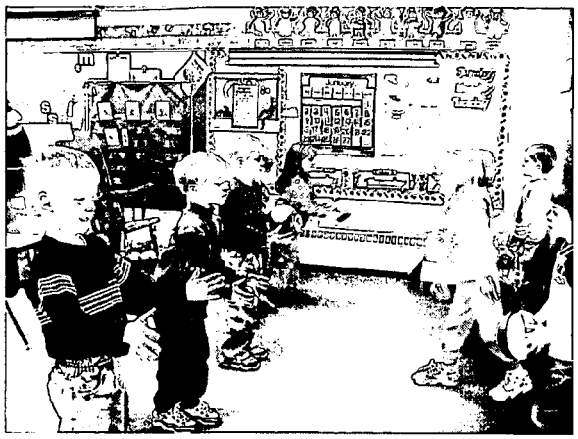
3. _____

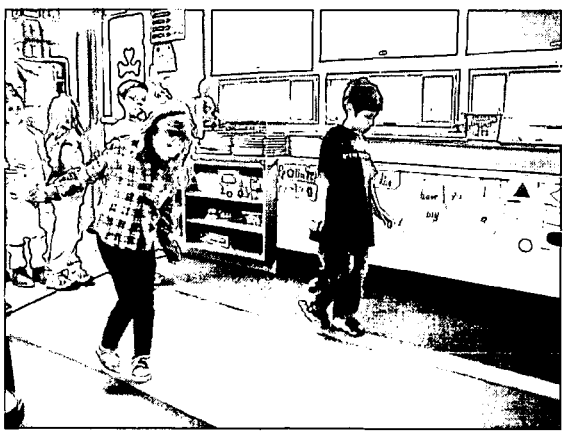
Appendix F
Fine Motor Activities





Appendix G
Gross Motor Activities





Key
1 - Satisfactory
2 - Improving
3 - Unsatisfactory

Motor Skills Checklist

Child	Pencil Grasp	Writing Posture	Scissor Grasp	Cuts on Line	Balance	Hops	Balance Beam	Catches	Bounce / Catch

Appendix I
Weekly Log

Week of _____

Actions Taken:

Reflection:

PLUSES (+)	MINUSES (-)	INTERESTING (?)

Appendix J
List of Audio Cassettes

Kindergarten Carnival by Carla Lindsey

Amazing Musical Moments by Kathy Poelker

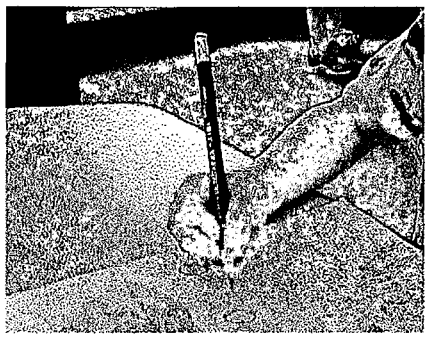
Look at My World by Kathy Poelker

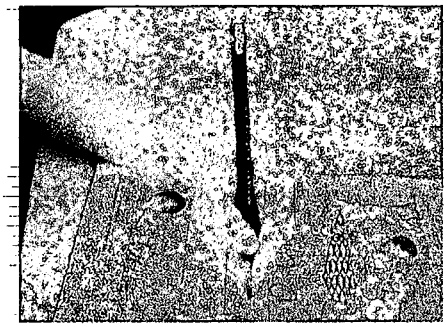
Dance in Your Pants by David Jack

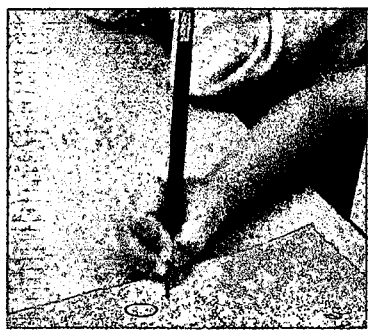
Gotta Hop by David Jack

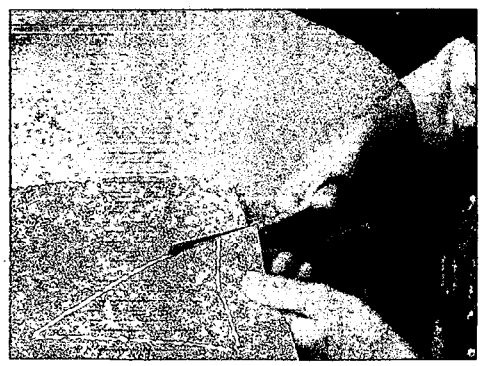
Mr. Al Sings and Moves by Melody House

Appendix K
Correct Grasps









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