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Physical Education Program For Autistic Children

Karen Sue Moss Smith

Eastern Illinois University

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PHYSICAL EDUCATION PROGRAM FOR AUTISTIC CHILDREN

KAREN SUE MOSS SMITH

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PHYSICAL EDUCATION PROGRAM

FOR AUTISTIC CHILDREN

(TITLE)

BY

Karen Sue Moss Smith

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

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IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

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YEAR

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PHYSICAL EDUCATION PROGRAM
FOR AUTISTIC CHILDREN

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1981

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ABSTRACT

The purpose of the study was to develop a physical education program that may benefit autistic children. Through physical education they would have additional opportunity to socialize, communicate, and have fun while learning and developing their physical skills.

A survey was sent to forty-two state and private agencies who work with autistic children. Thirty-nine agencies responded to the survey. The questions on the survey covered five areas: program, equipment, curriculum, classes and general information. The responses to the survey were transferred to computer forms. The forms were run through a computer and the number and the percent determined for each question.

Other sources of information included personal interviews, expert opinion and related literature. Although very little has been written on physical education programs for autistic children, there was enough information on which to base a program that would benefit these children. Autistic children need every opportunity to improve their skills through programs offered. Through physical education, autistic children may develop their social and language skills as well as their physical skills.

The physical education program presented was general and it should be adapted to each child's individual needs through the use of Individual Education Programs (IEP). The program included the following areas: exercises, perceptual-motor development, rhythms, gymnastics, sports and recreational activities.

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Chapter 1

INTRODUCTION

Autistic children are special people with special problems. These children are beautiful in appearance but have many hidden problems. They are unable to socialize and communicate with other people. This study is directed at developing a physical education program that may benefit autistic children. Through physical education they would have additional opportunity to socialize, communicate and have fun while learning and developing their physical skills.

Statement of Problem

The purpose of this study was to develop a physical education program for autistic children based upon a survey of state and private institutions, interviews, expert opinion, and related literature.

Importance of Program

Educators agree that every child is entitled to a good education including a well planned physical education experience. An autistic child is also entitled to programs that may help him break out of his shell. There are programs currently available for self-help skills, music, pre-vocational

training and other areas, but physical education is relatively weak or nonexistent and needs development.

Limitations

The following were concerns that emerged after analyzing the returns of the questionnaire. Question number twenty-four on the questionnaire did not elicit very many responses. The question asked the person filling out the questionnaire if they had any pertinent information or suggestions that would contribute to the development of a physical education program for autistic children, ie. curriculum guide, bibliography or list of sources, list of special materials and aids, other. One agency sent a list of sources, eight agencies wrote information on working with autistic children and the remaining did not give any information.

Many of the agencies surveyed did not have large numbers of autistic children. These agencies had autistic children in the same program with other handicapped children. They possibly did not have a specialized physical education program for autistic children.

The information on existing physical education programs was very limited. There are very few programs for the autistic so physical education programs for handicapped children were used to give the proposed program support. These programs were adapted to meet the autistic child's need.

Definition of Terms

The definition of terms which follow were offered to clarify the basic terminology as it was employed throughout the study as stated by Webster (17).

Agility

Agility is the ability to move quickly and controlled.

Apathy

Apathy is when there is an absence or a lack of feeling or emotion in a person.

Aphasic

An aphasic person is one who has a loss or impairment of the power to use words resulting from a brain lesion.

Cortical Level

The cortical level involves or results from the action or condition of the cerebral cortex.

Echolalic Speech

A person who uses echolalic speech is one who repeats words and phrases.

Empathy

Empathy is the capacity for participating in another person's feelings or ideas and sometimes another person's movements to the point of executing similar bodily movements without being sympathetic or emotional.

Finger Dexterity

Finger dexterity is a readiness and grace in physical activity and skill coupled with ease in using the hands.

Manipulation

Manipulation is the ability to treat or operate with the hands or by mechanical means in a skillful manner.

Manual Communication

Manual Communication is the act of using the hands to communicate as in sign language.

Mutism

Mutism is the inability to speak whether from a physical or functional cause.

Psychogenic

Psychogenic is a condition that originates in the mind or in an emotional conflict.

Psychotic

Psychotic is the condition where there is a profound disorganization of the mind, personality or behavior that results from an individual's inability to tolerate the demands of his social environment.

Schizophrenia

Schizophrenia is a psychotic disorder of unknown complex etiology that occurs as simple paranoia or a catatonic state.

Thalamus

The thalamus is the center of the brain for crude perception of pain.

Total Communication

Total Communication is the act of using both manual and verbal communication when speaking.

Chapter 2

REVIEW OF RELATED LITERATURE

Autism has been described as being related to a number of disorders such as mental retardation, psychosis and others. Most of the literature written on autism was about the description, causes, characteristics, diagnosis, and therapies. Very little has been written concerning physical education programs. Following is a review of related literature on autism concerning the above areas :

Description

Autistic children have often been labeled as emotionally disturbed, psychotic, schizophrenic, mentally retarded, deaf, blind, or aphasic. Rimland (15) stated that autism is a rare condition that affects about five out of 10,000 children. Boys are affected about four times more than girls.

The National Society for Autistic Children in the AAHPER (13) noted that:

The autistic child appears to suffer primarily from profound central processing disorders, i.e. a selective impairment of his cognitive and/or perceptual functioning, the consequences of which are manifested by sensory-motor, cognitive, social and language development impediments which reduce the ability to understand, communicate, learn, and participate in social relationships.

The most common syndromes of autism are normal, infantile, and childhood and the following description of each would be typical of those supported by Kugelmass (8):

Normal Autism

The newborn is unresponsive to people and things. He has no distinction between inner and outer reality - between himself and the inanimate surroundings. He is an immature biological organism with instinctual responses to stimuli on a reflex and thalamic level rather than a cortical level.

Infantile Autism

Kugelmass (8) indicated that parents report the onset of psychotic behavior at varying times from birth to eighteen months. Although, the parent-child relationship had been disturbed long before the clinical signs appeared. Some parents report a gradual onset with apathy, withdrawal and failure to thrive from birth. This type of autism usually becomes manifest after the third month but is not recognized until after the second year. The reason being an erroneous diagnosis of mental retardation or congenital deafness.

Childhood Autism

A socially perceptible deviation in interpersonal relations is characterized by persuasive withdrawal, language disturbance, obsessive behavior, bizarre rhythmic activity

and wrathful indignation with complete emotional indifference. The child has no awareness of his identity, his language is marred by mutism. An unchanging routine keeps him occupied with a particular object. Other obvious signs appear at this time.

Causes

Autistic children usually are not the first-born according to Kugelmass (8). The second half of the family is usually affected. They are born of intelligent parents from every socio-economic class. Pregnancy and delivery are usually normal but the autistic newborn displays unusual behavior from the moment of birth without any apparent physical or neurological defect. There are two major theories concerning the causes of autism, the psychogenic and biological theory and are described as follows:

Psychogenic Theory

Oppenheim (12) stated that "the psychogenic theory holds that environmental factors was the cause of autism. Psychogenicists report that both mother and father are cold, detached, 'refrigerator-type' parents." Bettelheim (3) supported this view by stating the precipitating factor in infantile autism was the parent's wish that his child should not exist. The only effective treatment indicated by the psychogenist is psychotherapy.

Biological Theory

The second major hypothesis is the biological theory

of causation. Rimland (15) reported that this theory hypothesizes that impairment in the reticular formation was the cause of infantile autism. The reticular formation is a small but highly complex network of nerve cells in the brain stem. The reticular formation has been referred to as the 'communication-center', 'central relay station' or 'master switchboard' of the brain. Malfunction in this part of the brain may be the direct cause of autism. The indicated treatment approach is a teaching program in a highly structured environment.

Charateristics

To a casual observer, autistic children appear to be self contained, essentially uninterested in other human beings in their environment and unreachable in a shell of their own. Hamblin (7) indicated that autistic children have two exclusive syndromes. According to their exchange functions, they are called autistic seclusion and attention-getting behavior and are described as follows:

Autistic Seclusion

The autistic child keeps to himself, apart from others. He is inaccessible or is accessible only under very difficult conditions and then only on his terms.

This seclusion is manifested in several ways. The child avoids eye contact, is preoccupied in the presence of others, avoids the company of others, lacks normal imitation,

lacks functional speech and is negative.

Attention-Getting Behavior

Autistic children use bizarre repetitious performances to get the attention of their parents, teachers, and others. According to Hamblin (7) some of these performances can be characterized as follows:

...ritualized hand motions, stereotyped positions, repetitive noise-making, rocking, stereotyped dancing, indiscriminate mouthing of objects, unusual eye movements, bizarre food preferences, drooling, sniffing, dry-eyed crying, creepy touching, lining up objects, spinning objects, irrelevant laughing or smiling, and such self-injurious practices as hand biting and head banging.

The parents ignore these performances until the child's actions become so bad that they cannot be ignored - then the parent cuddles the child until he stops thus only reinforcing the autistic behavior. Once the parent puts the child down after the autistic behavior has ended, the child is ignored and reinforcement ceases. The whole attention-getting process then begins again.

These bizarre ways of attention-getting devices are considered to be alternatives to normal ways of getting attention. When the child is taught the normal ways of attention-getting then these ways cease according to Hamblin (7).

Diagnosis

The symptoms of autism resemble those of mental retardation, severe reactive disturbances or deafness, so it

may be difficult to make an accurate diagnosis.

According to Randle-Short (14) the following is a checklist of fourteen behavioral signs. If the child exhibits seven or more of these signs then a diagnosis of autism is considered.

1. Difficulty in mixing with other children.
2. Acts as though he is deaf.
3. Resists learning.
4. No fear of real dangers.
5. Resists change in routine.
6. Indicates needs by gesture.
7. Inappropriate laughing and giggling.
8. Does not want to be cuddled.
9. No eye contact.
10. Inappropriate attachments to objects.
11. Marked physical overactivity.
12. Spins objects.
13. Sustained odd play.
14. Standoffish manner.

Normal children may behave in any of these ways but the autistic child's behavior is constant and inappropriate to his age.

Kugelmass (8) observed several children labeled as autistic and each showed the same symptoms. During infancy they resisted cuddling and failed to take up an anticipatory posture prior to being picked up. As a young child, they showed no eye contact and there was an absence of speech

development. They were aggressive and each had temper tantrums, physical withdrawals, and eating and sleeping disturbances. The toddler failed to join group activities, showed ritualistic compulsive behavior and learning difficulties. The older child failed to make friends and lacked in the social know-how in the absence of sympathy or empathy. The adolescent appeared sluggish and failed in all social relationships.

Therapy

Kugelmass (8) suggested several types of therapy that could be used with the autistic child. Home and nursery therapies are described as follows:

Home Therapy

Home therapy could be used to break down the barrier between the parent and the child. Operant conditioning is mainly used to change the child's behavior. Parents should be counseled so they will fully understand the concept of the underlying autistic process.

Nursery Therapy

Kugelmass (8) indicated that a nursery would give the child the opportunity for professional help part of the day and a family life part of the day. He believed the primary goal should be to initiate one's self into the child's awareness as a useful object. Once the child has broken through the barrier that he has built up around himself,

the therapist should then place emphasis on communication and socialization.

Chapter 3

PROCEDURES

To assist with the development of a physical education program that would benefit autistic children a questionnaire was sent to a number of agencies asking about their present program. The information received was used to help develop the program and to show the need for a physical education program specifically for autistic children. The selection of subjects, questionnaire development, data collection, data analysis and program development have been described as follows:

Selection of Subjects

The names and addresses of forty-two agencies were selected from a list of agencies identified in the Illinois Directory of Services for Autistic Persons. The directory presented each agency that offered programs for autistic children. The agencies were sent a physical education questionnaire if they were listed as having a physical education program or a recreation activities program. Eighteen agencies on the chart had existing physical education and recreation programs. The remaining twenty-four agencies who were to receive the physical education questionnaire were

randomly selected from the directory from different areas in Illinois. A questionnaire was also sent to an agency in Texas, Canada and Washington.

Questionnaire Development

The questionnaire was designed to gather information about the agencies, their program, equipment, curriculum, and classes. The agencies were asked to respond to the questions in these five areas as they pertained to their program.

The questions on the program asked about how the children were grouped and the age at which they started physical education.

The section on equipment asked about the type of physical education equipment owned by each agency. A list of small and large equipment items was given and space allowed for additional types of equipment to be listed.

The items under curriculum basically asked about the curriculum guide used by the agency and the year it was published.

The questions on classes sought information about the type of activities presented to the children, the minimum and maximum number of students in each class, and Individual Education Programs (IEP) and who was in charge of the formation of IEP's. The remaining questions in this section pertained to the number of physical education teachers, their degrees, years of experience, special

certification and teacher's aids.

The final section of the questionnaire asked for general information about the agency, whether it was private or public and how it was funded. The final question asked for any pertinent information or suggestions that would contribute to the development of a physical education program for autistic children.

The questionnaire was evaluated by a thesis committee and suggestions were made for clarification organization and grouping of the questions.

Data Collection

A cover letter was sent with each questionnaire which stated the purpose of the study and the date to return the questionnaire. The agencies were asked to answer the questions as they pertained to their program. (The cover letter and questionnaire are included in Appendix A and Appendix B).

The questionnaires were mailed to the agencies on March 11, 1981 and were asked to return the completed questionnaire by March 27, 1981. Over half of the questionnaires were returned by March 27. All of the questionnaires received by May 15 were included in this study. At this time, thirty-nine of the forty-two questionnaires were returned.

A follow-up letter was sent to fifteen of the agencies asking for further information about their

curriculum. (The follow-up letter has been included in Appendix C).

Data Analysis

The information that was provided in each questionnaire was transferred by hand to IBM survey-questionnaire forms. The percentages were computed by an NCS 7003 scanning machine.

Program Development

Very little has been written concerning physical education programs for autistic children. A physical education program that was written for autistic children, Adventures in Movement for the Handicapped (1) only contained an exercise program and a creative rhythms program.

To give the proposed program support other sources for information about programs for the handicapped were used. Many adaptations were included to modify the program to the autistic child's needs. Sources of information included the survey of state and private institutions, interviews to obtain the opinion of authorities, and the related literature.

Chapter 4

ANALYSIS OF DATA

The purpose of this study was to develop a physical education program for autistic children. To help develop this program a questionnaire was sent to forty-two public and private agencies in Illinois, Canada, Texas and Washington. Thirty-nine of the forty-two questionnaires were received which is a ninety-three percent return.

The questionnaire included general information, programs, equipment, curriculum, activities, number of students, individual education programs and the qualifications of the physical education teachers. A discussion of the results is also included. The above areas are described as follows:

General Information

Twenty-four percent of the agencies surveyed were private institutions and fifty-nine percent were public institutions. Seven percent of the agencies receive private funds and fifty-five percent receive public funds. Twenty-four percent receive both private and public funds.

Program

Seventy-six percent of the agencies surveyed had a physical education program. Fifty-five percent divided their students into elementary and secondary classes.

Table one shows the most frequent age at which the autistic child should be started in physical education to be four to five years old in which thirty-eight percent of the agencies responded. Twenty-four percent started the child at age eight or older, fourteen percent started the child at age two to three and ten percent started the child at age six to seven.

Equipment

The small equipment items listed most frequently on the questionnaire were balls and bean bags. Other items listed on the questionnaire were hoops, rings, jump ropes, and wands. The agencies listed other equipment items of bowling, tennis, roller skates, bats and tires. Table two indicates the number and percent of agencies using each of the above items.

The large equipment items listed most frequently on the questionnaire were mats and the balance beam. Other items listed on the questionnaire were parachutes, climbing frames, balance boards and scooters. The agencies listed other equipment items of bikes, trampoline, swings, slide, jungle gym, rings, barrels and weights. Table three indicates

Table 1

Age at Which Autistic Children
Start Physical Education

Age in years	No.	Percent
2-3	6	14
4-5	13	38
6-7	5	10
8 & older	9	24

Table 2
Small Equipment

Item	No.	Percent
Balls	24	79
Bean Bags	23	76
Jump Ropes	21	69
Hoops	20	65
Rings	17	55
Wands	13	41
Others Stated By Agencies	12	35
Bowling		
Tennis		
Roller Skates		
Bats		
Tires		

Table 3
Large Equipment

Item	No.	Percent
Balance Beam	23	76
Mats	23	76
Climbing Frames	19	62
Parachute	15	48
Balance Boards	18	59
Scooters	18	59
Others Stated By Agencies	14	45
Bikes		
Trampoline		
Swings		
Slide		
Jungle Gym		
Rings		
Barrels		
Weights		

the number and percent of agencies using each of the above items.

Curriculum

Forty-one percent of the agencies surveyed had a curriculum guide. Only fourteen percent used curriculum guides which were published in 1980, ten percent in 1979, seven percent in 1976, three percent in 1978 and three percent in 1977.

Activities

The activities listed most frequently were gross and fine motor development and exercises. Other activities listed in the questionnaire were low organized games, rhythms, stunts and tumbling, and sports activities. Others stated by the agencies were sensory-motor integration and swimming. Table four indicates the number and percent of the agencies using the above activities.

Number of Students

The minimum and maximum number of students in the classes range from one to ten. The most frequently listed number for the minimum and maximum number of students was five to six. Table five indicates the number and percent of each number of students from one to ten.

Table 4
Activities

Activities	No.	Percent
Gross And Fine Motor Development	24	79
Exercises	20	66
Low Organized Games	18	59
Rhythms	15	48
Sport Activities	14	45
Stunts And Tumbling	13	41
Others Stated By Agencies	6	14
Sensory-Motor Integration		
Swimming		

Table 5

Minimum and Maximum Number of Autistic Children
in Physical Education Classes

Number Of Students	Minimum		Maximum	
	No.	Percent	No.	Percent
1-2	6	14	3	4
3-4	7	17	3	4
5-6	13	38	9	28
7-8	4	10	5	10
9-10	0	0	6	14

Individual Education Programs

Seventy-nine percent of the agencies surveyed use Individual Education Programs (IEP). The classroom teacher, physical education teacher and administrator were identified the most frequently as the person in charge of the formation of the IEP. Others identified were special education teachers, occupational therapists, physical therapists, program coordinators, and Director of Educational Services. Table six indicates the number and percent of agencies responding to this question.

Physical Education Teacher Qualifications

Thirty-five percent of the agencies required special certification for their physical education teachers. Seventy-two percent use teacher's aids or para-professionals.

Tables seven, eight and nine indicate the number of physical education teachers employed by each agency, the degrees held and the number of years experience in working with autistic children. The number and percent of agencies for each item have been included in the tables.

Discussion

A discussion of the results of the questionnaire is included in order to show there are discrepancies between the results of the questionnaire and the opinion of experts on the subject.

Table 6
 Person in Charge of the Formation
 of the IEP

Person In Charge	No.	Percent
Classroom Teacher	12	35
Administrator	6	14
Physical Education Teacher	6	14
Speech Pathologist	0	0
Para-Professional	0	0
Teacher's Aid	0	0
Others Stated By Agencies	9	24
Special Education Teacher		
Occupational Therapist		
Physical Therapist		
Program Coordinator		
Director Of Educational Services		

Table 7
Number of Physical Education
Teachers Employed

Number Of Teachers	No. Of Agencies	Percent
1	6	14
2	4	7
3	3	4
4	3	4

Table 8
Degrees Held by Physical Education Teachers

Degree	No. Of Teachers	Percent
BS	6	14
BS + 15	4	7
MS	9	24
MS + 15	5	10
Specialist	0	0
Doctorate	0	0

Table 9
Years of Experience in Working With
Autistic Children

Years Of Experience	No. Of Teachers	Percent
1-2	5	10
3-4	6	14
5-6	4	7
7-8	3	4
9-10	5	10
11-12	0	0

Oppenheim (12) stated that it may be more effective to divide the students into similar skill levels or into elementary and secondary classes. The survey indicated that fifty-five percent of the agencies agreed with Oppenheim.

The age at which the child should start physical education should be as early as possible. Rimland (15) suggested that any educational program for autistic children should be started as soon as the child is diagnosed as being autistic. The survey indicated that thirty-eight percent of the agencies start the children in a physical education program between the ages of four and five.

Walsh (16) suggested that "for the autistic child, less than great is as good as useless because they cannot learn from their environment." A mediocre unorganized program is worse than nothing. A well organized physical education program should include exercises, gross and fine motor development, low organized games, rhythms, stunts and tumbling and sports activities. (See Table 3).

Oppenheim (12) stated that a one to one ratio is best at the onset when working with an autistic child. This may not always be possible because of a high number of students or a low number of qualified teachers and volunteers. Thirty-eight percent of the agencies have a minimum of five to six students in the classes.

Individual Education Programs (IEP) are essential in making the program work for each child. Autistic children are so individual that the program would have to

be adapted to meet every child's needs. Seventy-nine percent of the agencies surveyed use IEP's.

Chapter 5

ABILITIES AND TEACHING TECHNIQUES

Autistic children have the ability to perform certain skills in physical education. The problem is getting them to perform the skills. A number of teaching techniques are described to help overcome the problems of working with autistic children. The abilities, teaching techniques and program-planning considerations are described as follows:

Abilities

Autistic children have outstanding motor abilities and generally display excellent grace and agility while moving. Rimland (15) indicated that "fine finger movements and gross motor coordination in autistic children are superior and finger dexterity is described as 'uncanny', 'fascinating', and 'amazing'."

Rimland (15) indicated that autistic children need perceptual-motor training emphasizing auditory and visual perceptual skills. Verbalizing activities will help the child with language usage. Some autistic children are hyperactive but those who are not usually do not get enough exercise. These children should be encouraged to use their bodies. Younger children and maybe some of the older ones

may need help with body awareness.

Rimland (15) hypothesized that reticular formation impairment is a cause of infantile autism. However, the reticular interchange with the cortex is primarily for the facilitation of cognitive aspects of behavior and relates more to the purpose than to the motor quality of the activity. Rimland's hypothesis is difficult to reconcile because of the excellent motor performance autistic children display. The problem is making the child understand what it is the teacher wants him to perform and how she wants it done.

Teaching Techniques

Teaching techniques include the areas of control, behavior, communication, performance and Individual Education Programs and are described as follows:

Control

The establishment of control is the crucial first step in any educational program for autistic children whether it's verbal or non-verbal. How is this control established?

Oppenheim (12) suggested that first, the child should be contained in the teaching situation. Start with an activity that the child can perform while sitting, then gradually proceed. Second, the teacher should follow through on any command given to the child. He must be required to perform and if he cannot or will not, then take his hands

and physically put him through the activity.

The duration of the activity should be limited to no more than 5 or 10 minutes and then the child should be given an equal amount of time for free play. After free play, bring him back for another activity. Gradually increase the activity time and decrease the free time.

A one to one ratio is recommended at the onset of teaching an autistic child. This ratio must remain for a long time afterward and it will be necessary to re-establish control at the beginning of each lesson for a considerable period of time. Autistic children generally are resistant to new learning situations, especially in the initial stages of their training as Oppenheim (12) stated. This creates an obstacle which must be met and overcome repeatedly.

The child should become accustomed to working with a variety of teachers from the very beginning, each of whom must establish control. This will prevent the child from responding to only his teacher.

According to Lettick (9) there are two types of control, physical and verbal. Which ever type is used, the total control should remain with the teacher. Physical and verbal control are described as follows:

Physical Control. The position in which the teacher has the greatest control is sitting directly to the right or left of the child. The teacher can almost totally immobilize the child by using her arms and legs to hold him. The next position in which the teacher has some control is sitting

at a forty-five degree angle to the child. Sitting directly in front of the child is the least effective method.

If the child cannot sit still, Lettick (9) recommended a rope could be loosely tied around his waist and to the chair to show him how to sit quietly. This is meant to be a reminder not punishment.

Verbal Control. Never assume that an autistic child will understand what the teacher says. The teacher may have to physically move the child through the activity until he understands it.

The teacher's tone of voice should be relaxed, firm, and pleasant and she should never yell at an autistic child. Speak softly so the child has to listen in order to hear the teacher and use simple, concrete language. Do not use a long string of words that has no meaning to the child.

Behavior

When a child enters a school, his disturbed behavior is the immediate problem with which the teacher must contend. He must never be allowed to escape an activity because of a tantrum or violent or self-destructive behavior. It may be necessary to stop the task until the tantrum has ceased by isolating the child with adult supervision. After he is calm he should be brought back to the task that triggered the tantrum. If the child tries to bite, pinch, kick or scratch his way out of an activity, he may need to be restrained. This must not be a way for the child to avoid a task. The

teacher should enforce completion of the task and should not allow the child to engage in any autistic mannerisms and/or any bizarre behaviors during an activity period.

When teaching an autistic child a more complex skill than he already has learned, resistant behavior may recur. Autistic children become too comfortable with what they already know so they resist when anything new is introduced. These behaviors must be consistently unsuccessful. It is important for the teacher to win these battles of will if learning is going to occur. The child will soon build up a background of successes, his self image improves, his self-confidence increases and there is a gradual decline in his negativism.

Communication

Many autistic children remain mute or use echolalic speech. When teaching an autistic child it is essential to stimulate motor activities with visual cues through sign language. Manual communication signs should be taught that mean the following:

Look at me
name turn
stand-up
sit-down
turn around
finished
stop
go

By using total communication, the autistic child should understand what the teacher is trying to teach him.

Performance

Oppenheim (12) stated that the autistic child is deficient, not only in the ability to imitate, but also in his ability to initiate new motor patterns. The child's inability to perform does not always stem from negativism. Some of the time it is due to his difficulty in initiating a new activity.

Teaching an autistic child through all three simultaneous sensory modalities is necessary if learning is to occur. The three sensory modalities as Oppenheim (12) noted are:

1. Kinesthetically-through motor manipulation.
2. Visually-requires the child to look at what he is doing or at the teacher.
3. Auditorially-the teacher giving an oral description of what the child is doing.

The child must be given a chance to perform an activity independently. The teacher should develop an intuition about when or whether to intervene and physically move the child through the activity. After intervention, the teacher needs to gradually withdraw herself from the activity at the earliest possible moment. This can be done in two ways. First, the teacher abruptly withdraws direct manipulation of the child's limbs. Second, the teacher slowly fades her assistance from actual manipulation of the child's limbs as Oppenheim (12) suggested.

The child must also attend during the activity. This

means that he must look at what he is doing; see his hands doing the activity; watch himself doing the activity through the use of a mirror; and observe the end result. He must also be made to listen to the instructions being explained. These instructions must be brief. If the child starts to drift the teacher should slam her hand on the table to startle the child out of the pattern his brain is setting.

Drilling a child in the same way day after day should be avoided as this only reinforces the concept of resistance to change that the teacher is trying to subdue or eliminate. Redundancy is much more effective and this form of teaching involves teaching the same concept in various different ways.

Before starting any activity the teacher must get and maintain eye contact. Activities should be initiated in a confined area with no outside distractions.

Autistic children love music and it can be used as a means of communication and relaxation. Any activity that can be set to music may help the child learn that activity at a faster rate.

Autistic children do not know how to play. They must learn social skills as well as the rules. They may have problems with team games at first so individual sports such as swimming, golf and tennis should be introduced first. Above all, the teacher should progress from simple to complex.

Each autistic child has the physical ability to do as much as normal children but getting them to do it is a

problem. They must be directed through each activity using little or no imitation. The teacher must use her imagination to develop ways to get the child to perform the skills required of him. For instance, at the Belleville Area Special Education District there is a boy who absolutely could not stay on the balance beam. One day they put the teacher's shoes (both of them) on the beam. They told him to walk the beam and that he must not step on her shoes. He got on the beam and walked it like a cat-with precision.

Individual Education Programs

Individual Education Programs (IEP) should be kept for each child so that the program can be individualized to meet each child's needs. It can be very satisfying to the child when he sees on the chart the completion of each activity. If the next activity is too difficult for the child and he is becoming frustrated then regress so that he will feel successful.

Program-Planning Considerations

In order for a program to be successful, it must be well planned to meet the needs of every child. The characteristics of the autistic child and the leadership considerations are necessary in order to plan a well organized program. The characteristics of the autistic child and the program-planning and leadership considerations are explained as follows as suggested by the AAHPER (13).

Autistic children are resistant to any type of change in their routine. The teacher should keep the format of the program the same and assign the same leaders to the child or groups of children for each activity.

Lack of eye contact with others and no indication or understanding of spoken words is a characteristic of the autistic child. The teacher should include activities that can be explained by demonstration or in a few words and she should get the child's attention before attempting to demonstrate or explain an activity.

Autistic children are insensitive to pain and have apparent unconcern for personal safety. The program should be conducted in a relatively confined area, free from hazards and the child should be watched carefully.

Repetitive non-goal directed body motions or behaviors are characteristic of autistic children. The program and environment should be structured so the child does not have opportunity to engage in undesirable behaviors. If these behaviors occur, they should not be reinforced.

Autistic children display retardation in some areas often accompanied by superior abilities in other areas. The teacher should include initial assessment and periodic re-evaluation of abilities as part of the program. Individualized programs should be developed for each child's needs based on his strengths and weaknesses.

Autistic children are often preoccupied with certain objects. The teacher should be flexible in planning the

program to allow for varied interests of the children. She should use the preoccupations as jumping off points for future activities.

Autistic children have perceptual-motor difficulties. A variety of perceptual-motor activities should be included in the program. If the child has difficulty imitating movements, the teacher should physically move his body through the desired motion.

Chapter 6

PHYSICAL EDUCATION PROGRAM

A good physical education program can help autistic children develop social skills and language skills. The program takes into consideration the many problems autistic children have and tries to overcome these problems. A reward system may be helpful when teaching an autistic child an activity. Candy as an example could be a good motivational tool to encourage the child to perform the various activities offered in the program.

The physical education program presented is general so it may be adapted to each child's individual needs through the use of Individual Education Programs (IEP). The recommended program which includes exercises, perceptual-motor development, rhythms, gymnastics, sports, and recreational activities is described as follows:

Exercise Program

Exercise is a very important part of physical education. Some autistic children may be hyperactive but others may be sluggish or inactive. Due to this variance, an exercise program may be beneficial to autistic children.

A basic program of exercises and rhythms was presented in Adventures in Movement (1) which emphasized the

value of playing background music to help the child establish rhythm. The following exercise program along with selected modifications was recommended for autistic children:

Warm-up Exercises

The following are various warm-up activities that could precede any activity to reduce the risk of injury to the child:

1. Singing, relaxing, loosening, establishing rhythm by clapping.
2. Stretches - touch toes.
3. Waist bends - front, side, back, side.
4. Leg kicks - front, back, side.
5. Circles - arm, shoulder, head, wrist, ankle.
6. Finger spurts.
7. Sit stretches - legs spread, head to knee, emphasize good posture.
8. Foot movement - point toes, relax.

Large Muscle Exercises

The following are large muscle type activities directed at motivating the child to be active:

1. Walks - forward and backward.
2. Jumps - forward and backward.
3. Hops - forward.
4. Alternating hops (slow skip).
5. Normal skip.
6. Slides - forward, backward and sideways.

Body Awareness Exercises

The following are body awareness exercises directed at helping the child become aware of his body and its relation to space:

1. Identify body parts in rhythm to the music.
2. Directions - point up, down, front, back, right, left.
3. Shoulders - up, down.
4. Touch each finger to thumb.
5. Push and pull feet by using the hands.
6. Sway body and arms.

Many other exercises may be adapted to the autistic child's needs and the teacher should use her imagination to give the children what they need.

Perceptual-Motor Development

Perceptual-motor development may help the child perceive how his body is moving through a variety of mediums such as on scooters, through tunnels or others. Perceptual-motor development also helps the child develop his large and small muscles, and perceptual abilities.

The following is a list of materials and activities as suggested by Williams (18) with selected modifications that may help the autistic child develop self-awareness, large muscle development, fine muscle development, eye hand coordination, visual tracking, form perception, body awareness, and rope and hoop activities.

Self-Awareness

Objective - To develop a self-awareness as to where the body is in space: moving upside down, sideways or any other type of movement. The following describes the materials and activities used for self-awareness development:

<u>Materials</u>	<u>Activities</u>
1. dangling toys, mobiles squeeze toys blocks clay	1. <u>grasping</u> -reaching, carrying, building, Pick up sequentially smaller objects; manipulation
2. mats carpeted areas	2. <u>rolling</u> from back to stomach and stomach to back half roll inclined roll, log roll controlled roll
3. toys, candy, food large box or improvised tunnel	3. <u>creeping</u> -toward motiva- tional object. Pattern shaped creeping through tunnel or obstacle course
4. scooter or skateboard	4. <u>crawling</u> -using scooter board on stomach using all fours with patterning
5. scooter board chair	5. <u>sitting</u> -in assigned area and scooting on vehicle. In chair for increased periods of time for hyper- active children
6. taped lines on floor balance beam record player and records	6. <u>walking</u> -between lines, on balance beam aided and unaided to music marching

Large Muscle Development

Objective - To develop the large muscles and to develop a sense as to where the body is in relation to space. The following describes the materials and activities recommended

for large muscle development:

Materials	Activities
1. open space taped lines boxes or indian clubs	1. <u>running</u> -imitating teacher to music, in games, between lines, around obstacles
2. stairs boxes of varying sizes wooden construction horses climbing frames	2. <u>climbing</u> -steps, in & out ladder to slide, over & under barriers, into & through boxes or tunnels
3. newspaper facial tissue balloons punch balls inflatable toys string	3. <u>punching</u> -with fist at toys through tissue or newspaper with balloon or ball tied to wrist
4. chair spring board small boxes	4. <u>jumping</u> -in place, from chair to floor, over small obstacles, to grasp object out of reach
5. eating utensils discs and dowel rod musical instruments	5. <u>lifting</u> -instruments, utensils for eating, discs onto dowel rod, marching & lifting extremities
6. pull toys finger paints wagon shovel	6. <u>pushing-pulling</u> pushing and pulling toys finger painting action songs - Row your Boat", digging
7. balls trampoline inflatable toys spring board	7. <u>bouncing</u> -observe teacher bounce sitting on trampoline, sit on inflated toy and bounce, jump on spring board up & down, bounce ball
8. monkey bars fire ladder rope ladder horizontal bar tire swing swing set	8. <u>Swinging or hanging</u> -supporting own body weight and hang or swing from rung to rung

(continued)

Materials	Activities
9. balls chair	9. <u>kicking-sitting</u> and swinging legs; at object, at ball on ground kick games
10. balls, balloons bean bags rolled up socks ball on string	10. <u>throwing-catching</u> bean bag target throw into waste basket or hoop ball activities stationary ball hit with open hand with bat or paddle (on ground or floor) kick hit with different body parts swinging ball hit with open hand alternate right and left hands hit with various body parts hit with various im- plements moving from shorter to longer lever such as spoon, ping pong paddle, tennis racquet, baseball bat catch swinging ball with both hands catch swinging balls with one hand
11. clay toy hammer, pegs	11. <u>pounding-flatten</u> clay with fist, pound on blocks with hammer
12. rocking chair balance board rocking horse	12. <u>rocking-in</u> chair, on balance board

Fine Muscle Development

Objective - To develop the fine muscles through manipulation of materials. The following describes the materials and activities for fine muscle development:

<u>Materials</u>	<u>Activities</u>
1. telephones form boards mixing bowls rhythm instruments puzzles	1. Use of play equipment; can dial telephones; uses form boards selects objects from pile; uses rhythm instruments
2. glasses spoons knife napkins plates	2. Use of eating utensils; grasps glass; holds spoon; attempts use of knife; cuts with knife; passes out napkins, etc.
3. scissors crayons jumbo pencils clay puzzles	3. Use of classroom materials; opens and shuts scissors (first with two hands then with fingers); is able to hold crayon; manipulates jumbo pencil; manipulates clay in a sophisticated manner; uses art media for additional activities
4. large paper crayons	4. Outline body of child on paper 1. cut out of paper 2. color body 3. dress body 4. hang up on wall
5. clothing dressing frames	5. Dressing; buttoning; lacing shoes; pulling on boots; hanging up coat

Eye-Hand Coordination

Objective - To develop eye-hand coordination. The following describes the materials and activities used to develop eye-hand coordination:

Materials	Activities
1. pegboards and pegs puzzles snap toys leggos American bricks beads lite brite lincoln logs	1. sorting; matching; manipulative toys; put together toys; bead stringing

Visual Tracking

Objective - To develop adequate visual tracking. The following describes materials and activities used to improve visual tracking:

Materials	Activities
1. flashlight metronomes ball on string streamers on wand	1. have eyes focus and follow moving target

Form Perception

Objective - To develop form perception. The following describes materials and activities needed to develop form perception:

Materials	Activities
1. form shapes stencils of basic shapes puzzles shape sorter	1. discuss basic shapes; trace basic shapes

Body Awareness

Objective - To develop an awareness of the parts of the body and their relation to space. The following describes materials and activities recommended for developing body awareness:

Materials	Activities
1. large mirror	1. identify body parts; ears, eyes, nose, arms, knees, elbows, toes, legs, etc. and have the child name the parts
2. bright colored ribbon jingle bell	2. place colored ribbon or jingle bell on body part that the teacher wants to draw attention to during movement
3. mat	3. have the child stand and follow the teachers as she moves her body parts; have the child lie on his back on a mat and move the body part that the teacher points to without touching the part to be moved
4. sitting or standing on floor or mat	4. place body part against a wall, toward a chair, on a mat; have the child use one body part to touch another body part, ie, "Touch your foot to your chin"
5. records, record player	5. songs for enhancing body awareness: Caterpillar Hands You're a tree Jack-in-the-box Monkey on a string Snowman
6. records, record player	6. finger plays for enhancing body awareness: Eensy weensy spider Where is thumbkin? Two little firemen Three blue pigeons In a cabin Five little squirrels

Rope Activities

Objective - To develop the ability to work with a rope. The following describes materials and activities to develop the ability to work with a rope:

Materials	Activities
1. rope	1. child place rope in a straight line and walks on it as if it were a tight rope. Child makes different designs with rope such as numbers, squares, triangles, etc

Hoop Activities

Objective - To develop the ability to work with a hoop. The following describes materials and activities used to develop the ability to work with a hoop:

Materials	Activities
1. hoop	1. spin hoop on arm, leg, ankle, wrist, elbow spin on floor; scatter on floor, walk on rim, jump in and out; jump through while holding hoop in hands

Rhythms

Autistic children love music and it should be played for as many activities as possible. The teacher should help the child establish rhythm by taking hold of his wrists and clapping to the beat. Moran (10) indicated that the rhythms program should include locomotor rhythms, nonlocomotor rhythms, manipulative rhythms, and action songs. These are

described as follows with some modifications:

Locomotor Rhythms

The teacher should use a drum or tamborine to help the child establish the rhythm while performing locomotor skills. The walk, run, hop, and leap are even in rhythm. The skip, slide, and gallop are uneven in rhythm.

Non-Locomotor Rhythms

Non-locomotor rhythms involve those activities that can be done while the feet are in place. This involves movements of the head, torso, arms and legs. This also includes bending, stretching, swinging, twisting, swaying, raising, lowering, circling, and rotating the various parts of the body.

When beginning work with non-locomotor rhythms, the child should be lying on his back. As the child progresses he should move to a sitting position, then to a kneeling position and finally to a standing position.

Manipulative Rhythms

Manipulative rhythmic activities include skills that utilize equipment such as ropes, balls, wands, hoops, scarves and other objects in time with the music. These skills can be performed with or without locomotion. The manipulative rhythms activities using scarves, ropes, and hoops are described as follows:

Scarves. Colorful scarves can be used to help the child with rhythms. While standing still have the child

move the scarf up, down, sideways and in circles to the beat of the music. Progress to the different locomotor skills while moving the scarf making sure everything is in rhythm to the music.

Ropes. Ropes can be used as jump ropes for jumping to the beat or can be used to walk on to the beat. Many more variations can be employed.

Hoops. Hoops can be used to jump through while on the floor, to walk on and many other variations.

Action Songs

When teaching an autistic child an action song it is important to encourage the child to sing along as soon as possible. Start with simple songs or songs the child may already be familiar with then proceed. A list of action songs are given as follows:

1. I'm a little Teapot
2. Heads and Shoulders, Knees and Toes Victor 20806
3. One Finger, One Thumb
4. Twinkle, Twinkle, Little Star Childcraft EP-C4
5. Baa Baa Black Sheep
6. Farmer in the Dell Victor 22760 Folkraft 1182
7. The Thread Follows the Needle Victor 22760
8. Oats, Peas, Beans and Barley Grow Victor 20214
9. Jolly is the Miller Victor 20214 Folkraft 1192
Columbia A3078
10. Looby Lou Folkraft F1102 Victor 20214

11. Did You Ever See a Lassie Folkraft 1183
Victor 21618
12. Here We Go Round the Mulberry Bush Victor 20806
Columbia A-3149
13. Hokey Pokey Capitol 1496
14. Bluebird Folkraft 1180

Gymnastics

Gymnastics may help the autistic child learn where his body is in relation to space. Moran (10) indicated that "developmental gymnastics refers to a phase of the child's physical education and recreation experience which centers around activities of an acrobatic and self-testing nature." Moran (10) suggested the following program but some modifications have been added. The gymnastics program is divided into three areas, mat and floor activities, light equipment activities and heavy equipment activities and are as follows:

Mat And Floor Activities

Mat and floor activities include preparatory activities, stunts, and tumbling and are described as follows:

Preparatory activities. Basic body positions include the tuck, pike (jackknife), layout (swan) and straddle (spread eagle). The following are preparatory activities which use these basic body positions:

1. Perform basic body positions while standing.
2. Perform basic body positions while lying down.

3. Perform basic body positions while jumping.
4. From a standing position: jump to half turn; jump to full turn; jump to face a colored disc placed on the floor by the teacher. Be sure the child lands on the balls of his feet with hips and knees slightly flexed to assure a cushioned landing.

Stunts. The following stunts are recommended:

1. Bridge position, front and back. Can someone go under the bridge?
2. Airplane position. Bank to the left and right as if turning an airplane.
3. Rocking horse position. Rock back and forth.
4. 'Angry cat' and 'swayback horse' positions. Alternate.
5. Rabbit hop. Different directions.
6. Mule kick. Different directions..
7. Stork stand. Arms out to side and hands on hips.
8. Swan.

Tumbling. The following tumbling activities may be helpful when working with autistic children:

1. Layout position. Roll to left then to right.
2. Tuck position. Rock back and forth.
3. Forward roll to sitting position.
4. Perform a complete forward roll.
5. Perform a backward roll.

Light Equipment Activities

The following items of light equipment and activities are effective with autistic children. These items include ropes, wands, and balls and are described as follows:

Ropes. The following are effective rope activities:

1. Stand beside rope and grasp it.
2. Hang from rope without touching the ground and assume the basic body positions.
3. Grasp rope and jump to inverted hang position and return to the floor.
4. Swing forward and backward, turning loose of the rope at the top of the backswing.
5. Swing back and forth, kick ball off a box, swing back and dismount.

Wands. Wand activities are described as follows:

1. The child should place one end of the wand on the floor and cup his hand over the other end. Walk forward and backward in a circle using the wand as a pivot point.
2. Holding the wand in front of the body, step over it one leg at a time.
3. Holding the wand in back of the body, step over it one leg at a time.
4. Hold the wand over head and do a back bend until the wand touches the ground.
5. Stand the wand on end and release it. Perform a full circle to the right and catch the wand

before it falls. Repeat for a circle to the left.

6. Hold the wand in front of the body and jump over it with both feet and land with the wand behind the body.

Balls. Ball activities which may be used are described as follows:

1. Get the feel of the ball.
2. Pass the ball back and forth while standing.
3. Roll the ball back and forth while sitting in the straddle position.
4. Bounce the ball toward the teacher.
5. Have the child bounce the ball to himself with his right hand then his left hand.
6. Pass the ball overhead from one hand to the other.
7. Pass the ball around the body about waist high. Reverse the direction.
8. V-sit position. Pass the ball around the legs. Reverse the direction.
9. Bounce the ball and perform a full turn before the ball bounces again. Reverse direction.
10. Toss the ball with feet while sitting and catch it with the hands.

Heavy Apparatus

The following items of heavy equipment and activities are effective when working with autistic children. These

items include the trampoline, mini-tramp, horizontal bars, and balance beam and are described as follows:

Trampoline. The following are appropriate trampoline activities:

1. Stairway mount.
2. Mount the trampoline and assume the following positions: hands and knees, layout on back; layout on stomach; tuck.
3. Low controlled bounce on balls of feet.
4. Bounce to basic positions.
5. Bounce with half and full turn.
6. Hands and knees drop.
7. Seat drop.

Mini-Tramp. The following are recommended mini-tramp activities:

1. Bounce on tramp with the weight on the balls of the feet.
2. Bounce three times, dismount forward.
3. Run to mini-tramp, jump mount, forward jump dismount.
4. Run to mini-tramp, jump mount, forward jump dismount, forward roll.
5. Jump mount, forward jump, half turn dismount.
6. Jump mount, forward jump, dismount using one of the basic positions.

Horizontal bar. The following are horizontal bar activities:

1. Hang with feet not touching the floor.
2. Climb over the bar.
3. Swing back and forth, dismount at the end of the backswing.
4. Hang by knees.
5. Skin the cat position.
6. Bird nest position.

Rings. The following are ring activities which may be used:

1. Hang. Release.
2. Pull to bent arm hang. Release.
3. Swing on rings. Release at end of backswing.
4. Inverted hang. Feet may be wrapped around the ropes for stability. Return to starting position and release.
5. Skin the cat.
6. Skin the cat following with a full turn.

Parallel bars. The following are effective parallel bar activities:

1. Walk forward between the bars without touching them with the shoulders.
2. Walk backward.
3. Walk sideways first with right foot leading then with left foot leading.
4. Jump to support at the end of the bars, keep the arms straight.
5. Jump to support and swing back and forth, release at the end of the backswing.

6. Jump to support, walk forward with the hands. .
Dismount.
7. Bird nest position at the middle of the bars.
8. Swing back and forth, forward dismount.
9. Swing back and forth, rear dismount.
10. Hands and knees position.
11. Standing position.

Balance beam. The following balance beam activities are effective with autistic children:

1. Face forward on the beam.
2. Stand facing sideways on the beam.
3. Walk forward on the beam.
4. Walk sideways on the beam.
5. Tuck sit position; V-sit position.
6. Walk backward on the beam.
7. Walk forward on the beam and step over the wand and continue walking. Repeat except duck under the wand.

Sport Activities

Sports which call for a quick decision are not recommended for autistic children. According to Dewey (5), "A child may be able to block, throw, kick or run, but an inability to make a split second judgement in a changing situation gives him a continuing handicap." Following is a description of swimming, badminton, tennis, golf and softball for the autistic child:

Swimming

Dewey (5) suggested some steps to follow with the autistic child to help him overcome the fear of water.

They are as follows :

1. Sitting in shallow water and pouring water from pails.
2. Splashing body and face.
3. Ducking the face voluntarily, blowing bubbles through nose.
4. Moving into deeper water with a flotation device.
5. Playing in deeper water voluntarily.
6. Swimming lessons at the depth the child feels safe.

The American Red Cross (2) suggested some general skills that may be taught with some modifications added to benefit autistic children. The general skills in adjusting to the water, bouyancy and body position, propulsion and coordinated stroking and entries are described as follows:

Adjustment to the water. The following skills described will help the autistic child adjust to the water and may help overcome the fear:

1. Entering - wading and submerging. The teacher should hold the child's hand and gradually wade into the water. They should practice walking in chest deep water.

2. Mouth breathing - in chest deep water, practice bobbing up and down; inhale above water; exhale under water.
3. Breath-holding beneath the surface. Gradually increase the amount of time the child holds his breath under water.
4. Bobbing and rhythmic breathing. Bob in chest deep water, then exhale under water.
5. Kick on front and back.
6. Regain balance and footing in water; practice with partner.

Bouyancy and body position. The following are bouyancy and body position skills that are a pre-requisite to learning how to swim:

1. Prone float (floating on the stomach).
2. Back float.
3. Rhythmic breathing: exhale under water through the mouth and nose; inhale above water.
4. Kicking on front and back.

Propulsion and coordinated stroking. The following are propulsation and coordinated stroking skills for autistic children:

1. Prone glide.
2. Prone glide with kick.
3. Back glide.
4. Back glide with kick.
5. Arm stroke on front.

6. Crawl stroke.
7. Arm stroke on back.
8. Combined stroke on back.

Entries. The following are entry skills which reinforce what the child has previously learned:

1. Leveling off from a vertical position and swimming.
2. Jumping into shallow water.
3. Jumping into deep water.
4. Diving, head first.
5. Changing direction.
6. Turning over.
7. Treading water.

Badminton

Autistic children can learn the basic badminton strokes and simplified rules. Some modifications may have to be made such as using a balloon instead of a bird, decrease the size of the court, paint a bird a bright color, and others to help the child build up a background of successes from the beginning.

Some skills that may be taught are the forehand grip, ready position, foot work, serve, underhand clear and overhead clear. It may take the autistic child longer to learn these skills but the extra time may be well worth it to see a child enjoy an activity he spent time learning.

Tennis

Modifications can also be made for tennis in order for the child to gain a feeling of success. Some modifications that may be helpful are to decrease the court size, use a larger ball, and choke up on the racquet. To help the child learn the timing of the ball as it bounces have him hit the ball with the palm of his hand, then hold the racquet at the throat and hit the ball to himself. Gradually have the child move his hand down the racquet until he is holding it with the proper grip. After he can do this with success then have him walk then jog while bouncing the ball with his racquet. The action of hitting the ball on the ground with the racquet is the same as the forehand drive. So the next step would be to have the child hit the ball against a board or a wall.

Some tennis skills that may be taught are the forehand drive, backhand drive, and the serve. Again extra time and patience is needed to teach an autistic child how to play tennis.

Golf

Autistic children may be able to learn how to play golf with relative ease. Putting should be introduced first so the child can build up some successes. Short putts are the easiest and as the child becomes proficient at the short distance gradually move the ball further from the hole.

Using plastic balls and clubs made specifically for

children, an autistic child could learn how to play golf with few modifications. For instance, a larger ball can be used and the height of the tee could be raised.

Softball

Hamblin (7) suggested that when teaching softball, it should be kept in mind that autistic children usually cannot hit or catch a ball. Start with a large beachball to insure success as the child learns to pitch, bat and catch. As the child gains experience and develops his skills, the size of the ball should be decreased. When a group of children have developed their skills, bring them together to learn the game and to learn to cooperate as a team.

Recreational Activities

Swings, slides and rocking horses are popular. Wing (19) suggested that the more anxious autistic children may refuse to use them but it is worthwhile to encourage them to overcome their fear because of the pleasure to be found in these activities.

According to Wing (19) if the child is taken to a local park or playground he must be watched carefully. He may run into a swing not being aware of the danger that exists. He must learn to take his turn and if he throws a temper tantrum he should be taken away from the playground. Once he learns that this behavior means leaving the playground, he will begin to accept waiting his turn.

Wing (19) noted that when teaching an autistic child how to ride a tricycle, the help of two adults is needed. One adult should hold his hands on the handle bars while the other guides the child's feet on the pedals. The child will begin to do this on his own when he experiences the necessary movements. Learning to ride a bicycle is harder because it involves balance as well as muscular effort. Some autistic children may learn this skill with surprising ease and some may never succeed.

Rollerskating may be an enjoyable activity for autistic children. It requires balance but the use of hand rails can help the child learn the activity without repeated failures.

Chapter 7

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Summary

The purpose of this study was to develop a physical education program for autistic children. A survey was sent to forty-two agencies who work with autistic children asking questions pertaining to their physical education program. Thirty-nine of the forty-two agencies responded. A general physical education program was presented in this study. The program should be adapted to each child's individual needs through the use of Individual Education Programs (IEP).

Conclusion

Autistic children need every opportunity to improve their skills through programs offered. Through physical education autistic children are presented an opportunity to develop their social, language, and physical skills.

Agencies working with autistic children usually include physical activities as part of their program for the child's development. There are very few complete physical education programs in existence and the program developed in this study is designed to provide a guide to agencies for establishing better physical education for the autistic child.

Recommendations

The following are suggestions that pertain to the area of autistic children and may be worthwhile studying:

1. A study is needed to determine whether autistic children make better gains in physical education in segregated or integrated classes.
2. Studies should be designed that will determine the success rate of autistic children being mainstreamed into regular physical education classes and the problems associated with mainstreaming for the teacher, the autistic child and the other children.
3. College or university programs should emphasize techniques for teaching autistic children in physical education.

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APPENDIX A

March 11, 1981

Dear

My name is Karen Moss and I am currently a graduate student at Eastern Illinois University. I am writing a thesis on, "Developing a Physical Education Program for Autistic Children." I would appreciate your cooperation in filling out the enclosed survey and any suggestions you may have in developing the physical education program.

Would you please return the survey by March 27, 1981.

Thank you for your cooperation.

Sincerely,

Karen Sue Moss
513 Reynolds Dr. #22
Charleston, IL 61920
217-345-2679

APPENDIX B

Survey of Physical Education
Programs for Autistic Children

I. PROGRAM

Please check the one appropriate response.

1. Do you have a physical education program?
 yes
 no
2. Do you separate your program into elementary and secondary classes?
 yes
 no
3. What age do you start the children in physical education?
 2-3 years old
 4-5 years old
 6-7 years old
 older (please state age) _____

II. EQUIPMENT

Please check the appropriate response(s).

4. Do you have any physical education equipment?
 yes
 no
5. What types of small equipment do you have?
 bean bags
 hoops
 rings
 balls
 jump ropes
 wands
 other (please list) _____
6. What types of large equipment do you have?
 balance beam
 mats
 parachute
 climbing frames
 balance boards
 scooters
 other (please list) _____

III. CURRICULUM

Please check the one appropriate response.

7. Do you use a curriculum guide?
 yes
 no
8. When was it developed?
 1981
 1980
 1979
 1978
 1977
 1976
 other (please state when) _____

IV. CLASSES

Please check the appropriate response(s).

9. What activities do you present to your students?
 exercise program
 gross motor development
 low organized games
 rhythms
 stunts and tumbling
 sport activities
 other (please list) _____
10. What is the minimum number of students in your physical education classes?
 1-2
 3-4
 5-6
 7-8
 9-10
 other (please state) _____
11. What is the maximum number of students in your physical education classes?
 1-2
 3-4
 5-6
 7-8
 9-10
 other (please state) _____
12. Do you use Individual Education Programs (IEP)?
 yes
 no

13. Who is the main person in charge of forming the IEP's?
- Administrator
 - Speech Pathologist
 - Classroom Teacher
 - Physical Education Teacher
 - Para-professional
 - Teacher's Aid
 - other (please state) _____
14. How many physical education teachers of autistic children do you employ?
- 1
 - 2
 - 3
 - 4
 - other (please state) _____
15. What is the highest degree held by any one of your physical education teachers of autistic children?
- BS
 - BS + 15
 - MS
 - MS + 15
 - Specialist
 - Doctorate
16. What is the highest number of years of experience that any one of your physical education teachers has in working with autistic children?
- 1-2
 - 3-4
 - 5-6
 - 7-8
 - 9-10
 - 11-12
 - other (please state) _____
17. Do you require any special certification for your physical education teachers who work with autistic children?
- yes
 - no
18. Do you use teacher's aids or para-professionals?
- yes
 - no

V. INFORMATION

Please check the one appropriate response and give the information indicated.

19. What type is your agency?
 private
 public
20. How is your agency funded?
 privately
 publicly
21. Would you consider evaluating the proposed program that will be developed from this survey?
 yes
 no
22. Would you like a copy of the proposed program?
 yes
 no
23. Name of Agency

24. Do you have any pertinent information or suggestions that would contribute to the development of a physical education program for autistic children?
ie. Curriculum guide, bibliography or list of sources, list of special materials and aids, other.

APPENDIX C

May 15, 1981

Dear

My name is Karen Moss and I am a graduate student at Eastern Illinois University. Recently, I sent you a survey on "Developing a Physical Education Program for Autistic Children." One of the questions asked if you use a curriculum guide and your response was 'yes'. I would like to use your Physical Education curriculum guide as one of the sources in my thesis. Could you please let me know where I could obtain a copy and how much it will cost or could you send me a copy and a bill to cover expenses.

I really appreciate your cooperation in helping me with this project.

Thank you,

Karen Sue Moss
513 Reynolds Dr. #22
Charleston, IL 61920
217-345-2679