SABBATICAL REPORT:

RAYMOND FREDERICK ADERMANN

1981-1982

SUBMITTED TO: MOUNT SAN ANTONIO COMMUNITY COLLEGE

SALARY AND LEAVES COMMITTEE

OCTOBER 31, 1982

TABLE OF CONTENTS

INTRODUCTION

The purpose of this report is to present a proposed Adapted Physical Education Program for Mount San Antonio Community College's physically handicapped and developmentally disabled students. I am grateful for the opportunity afforded me to prepare this Proposal which I sincerely hope will be implemented.

This Proposal is the culmination of a year of independent research and observation, formal education and practical experience. I returned to the MSAC Campus this Fall enthusiastically and firmly committed to developing the Adapted Physical Education Program at MSAC and eliminating the discriminatory attitudes and illegal practices which affect the disabled student attending this institution.

SABBATICAL ACTIVITIES

My study of Adapted Physical Education has followed the plan proposed in my Application for Sabbatical Leave, a copy of which appears in the Appendix.

1. I have reviewed past and current literature on the subjects of Adapted Physical Education; physical, emotional, and developmental handicaps; and theories of learning motor skills. I have compiled a resource file which will be presented to the Salary and Leaves Committee for its perusal.

2. I have prepared a survey concerning Adapted Physical Education Programs which was mailed to all Community Colleges and State Colleges within the State of California. The Survey Questionnaire, cover letter, and information obtained from the survey appear in the Appendix. The following colleges were visited upon identification of superior Adapted Physical Education Programs: California State College at Long Beach, California State College at Pomona, Cypress Community College, De Anza Community College, El Camino Community College, Glendale Community College, Golden West Community College, Long Beach City College, Palomar Community College, Riverside City College, Saddleback Community College, San Bernardino Community College, Santa Ana Community College, Santa Monica City College, University of California at Los Angeles, University of California at Riverside, and University of Southern California.

3. I have participated as a volunteer and/or visited the following facilities and institutions: Crippled Childrens'

Rehabilitation Center in Los Angeles; Crippled Childrens' Rehabilitation Center in Pomona; Danbury Elementary School for the Disabled in Claremont; El Roble Intermediate School, Handicapped Physical Education Classes in Claremont; Frank D. Lanterman State Hospital and Development Center; Rancho Los Amigos Physical Therapy Hospital; Spastic Foundation in Los Angeles; Veterans' Hospital in Long Beach; Veterans; Hospital in Riverside (Loma Linda); and Virginia Primrose Disability Center in Fontana.

I attended the Adapted Physical Education Workshop at California State College, Long Beach; the Handicapped Clinic at California State College, San Diego; the Wheelchair Athlete's Clinic at Saddleback Community College; the Adapted Physical Education Workshop at California State College at Pomona; the State CAPER Conference; the State of California Physical Education Conference; the Adapted Physical Education Workshop at the University of Redlands; the Special Education Clinic at Pomona College in Claremont; the Virginia Primrose Disability Center Tonic-Neck Reflex Workshop; the California State Games of Special Olympics at University of California at Los Angeles; and the Inland Counties District Special Olympics at Ontario High School.

I attended seminars or lectures for the following topics:

1. Assessment and evaluation in Adapted Physical Education
2. Athletic Organizations for the Handicapped
3. Aquatics for Adapted Physical Education
4. Behavior Management in Adaptive Physical Education

5. Biological Foundation of Adapted Physical Education

6. Child Development Through Physical Recreation

7. Developing Appropriate Activities for Developmental Needs

8. Developing Goals and Objectives in Adaptive Physical Education

9. Equipment and Facilities for Adaptive Physical Education

10. Group Activities for Adaptive Physical Education

11. How to Change Games for Adaptive Physical Education

12. I CAN PROJECT

13. IEP: Assessment--Planning--Implementation

14. Individualizing Instruction in APE

15. Instructional Strategies in Adapted Physical Education

16. Legal and Social Issues Affecting APE

17. Mainstreaming

18. Motor Assessment of Young Children and Adults

19. Motor Learning Theory and Strategies in APE

20. Overview and Perspective on International Disabled Sports: Past - Present - Future

21. Physical Education for the Cerebral Palsied and Orthopedically Handicapped Child

22. Physical Fitness Assessment

23. Psycho-motor Assessment Techniques

24. Relaxation Methods for the Handicapped Child

25. Resources for Teachers of APE

26. Sensory-Motor Based Water Training Program for the Severely Handicapped

27. Sensory-Motor Development Through Physical Education

28. Task Analysis Techniques for Adaptive Physical Education

29. Techniques for Modifying Environment and Activities in Adapted Physical Education

I completed a course of Introduction to Sign Language and Finger Spelling at Chaffee Community College. A transcript for three Graduate Special Education Courses at the University of Redlands appears in the Appendix:

TOPICS IN ADAPTED PHYSICAL EDUCATION Two Units

Foundations and understanding in the areas of social, historical philosophical aspects of Adapted Physical Education, current issues and trends, and factors affecting health and safety.

CONCEPTS AND APPLICATION OF PSYCHO-MOTOR DEVELOPMENT Four Units

Foundations in biological aspects, motor learning and development and implication in developing instructional strategies for atypical children.

ASSESSMENT AND EVALUATION Two Units

Use of tools for assessment, and evaluation for typical and atypical motor learning, and their relationship to the development of appropriate programs based on the level of pupil performance, program evaluation, and understanding of the legal implications in program development.

I have as of this date completed my program and requirements for the Adaptive Physical Education Credential and have applied for same. A copy of the Assessment for Adaptive PE Authorization and a copy of verification that I am eligible to apply for this Credential appears in the Appendix.

4. I have obtained a list and broad classification of type of handicap of all handicapped students attending Mount San Antonio Community College. Pursuant to the classifications of these students, I have begun compiling guidelines for meeting the special needs of the specific types of handicaps identified.

the list of students and the guidelines are in the resource file.

5. A proposed Adapted Physical Education Program has been prepared which could be implemented at MSAC utilizing existing facilities and staff. It is imperative for the success of this Program that proper equipment be purchased immediately. This Program complies with State and Federal mandates and is designed to serve the needs and fundamental rights of the physically or developmentally disabled student.

ADAPTED PHYSICAL EDUCATION PROGRAM

MOUNT SAN ANTONIO COLLEGE

A PROPOSAL

ADAPTED PHYSICAL EDUCATION PROGRAM

INTRODUCTION

Adapted Physical Education (APE) is defined in contemporary educational literature as a comprehensive service delivery system designed to identify and ameliorate problems within the psychomotor domain. Services within the system include Assessment, Individualized Educational Programming (IEP), Developmental and/or Prescriptive Teaching, Counseling, and Coordination of Related Resources/Services so as to provide optimal physical education experiences for all students.

The concept of the Indivdualized Education Program (IEP) is relevant to all APE services. Public Law 94-142 (Federal Register 42, August 23, 1977, p. 42491) requires a written IEP for every handicapped student which must include the following:

(1) A statement of the student's present levels of educational performance;

(2) A statement of annual goals, including short term instructional objectives;

(3) A statement of the specific special education and related services to be provided to the student and the extent to which the student will be able to participate in regular educational programs;

(4) The projected dates for initiation of services and the anticipated duration of the services; and

(5) Appropriate objective criteria and evaluation procedures and schedules for determining, on at least an annual basis, whether the short term instructional objectives are being achieved.

INDIVIDUALIZED EDUCATIONAL PROGRAM

ADAPTED PHYSICAL EDUCATION

Comprehensive Record

INDIVIDUALIZED I.E.P.

SEMESTER / YEAR ______________ DAY/TIME ______________

LAST ______________ FIRST ______________ M.I. ______ DIAGNOSIS ______________

M.D. ______________ M.D. OR EMERGENCY PHONE NO. ______________

LONG-TERM GOALS: ______________

PRECAUTIONS: ______________

		PRE-TEST	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	POST TEST	OBJS.
	DATE																			
	ASST.																			

INDIVIDUALIZED EDUCATIONAL PROGRAM

ADAPTED PHYSICAL EDUCATION

SEMESTER FORM

ADAPTED PHYSICAL EDUCATION
MOUNT SAN ANTONIO COLLEGE

IEP

NAME _____ STUDENT I.E.# _____

DISABILITY _____

APE CLASS _____ DAYS AND TIME _____

SEMESTER _____ DATE _____

CURRENT LEVEL OF PERFORMANCE	SEMESTER GOAL

COMMENTS

_____ _____

Signature of Student Signature of Instructor

Assessment in the APE system involves the combined process of testing, measuring and evaluating. It is an integral part of the teaching-learning process and occurs continuously. Inorder to comply with Federal IEP requirements, the Adapted Physical Education Program must begin with assessment of the present level of psychomotor functioning of each handicapped student. Additionally, evaluation procedures must be established for periodic determination of the effectiveness of the program.

Developmental and/or Prescriptive Teaching is the process in APE whereby psychomotor behaviors are changed to promote optimal growth and development. With handicapped students, teaching is often called intervention, i.e., interference with, or modification of, some undesirable physical, emotional and/or social behavior to bring about a specific, positive change. APE is deemed prescriptive as the physical educator utilizes the long term goals and short term objectives determined in each students's IEP and developmental as the physical educator adapts learning activities or interventions to the developmental, motor or fitness level of each student.

A comprehensive APE Program includes Counseling as a helping process which assists handicapped students to understand and accept themselves in various dimensions of the psychomotor domain. The purpose of Counseling is to help the handicapped student feel and be more whole, more integrated, and more self-actualizing. Counseling should focus upon reducing discrepancies between ideal self and actual self in levels of motor performance and fitness, use of leisure, and acceptance of body and self.

The major purpose of APE classes, to change psychomotor behavior, is identical to that of regular Physical Education classes. However, the APE Program is primarily concerned with psychomotor performance which is below average. The APE instructor's energies are directed toward analyzing such performance, identifying the problem, and determining the contributing factors. The instructor then designs specific educational interventions or strategies to ameliorate the problems. The instructor works with students on a one to one basis or in small groups.

A medical authorization must be obtained from a physician before a handicapped student can participate in APE activities. If necessary, medical assessment and diagnosis should be provided by the APE Program at no cost to the student. Federal law mandates that special education be provided and special education is defined as "...specially designed instruction, at no cost to parents or guardians,, to meet the unique needs of a handicapped child, including classroom instruction, instruction in physical education, home instruction, and instruction in hospitals and institutions." (PL 94-142, Federal Register, supra, p. 42480)

It is imperative for the protection of the handicapped student and the college that the APE instructor be cognizant of each student's disabilities, recommended restrictions, limitations, contraindications, medication, etc., before class participation commences.

Since physicians are ethically precluded from revealing any information about a patient to a third party without the express written consent of the patient, handicapped students must sign an Authorization for Release of Information Form upon entry into the APE Program at Mount San Antonio College.

AUTHORIZATION FOR RELEASE OF INFORMATION

I, hereby, request and authorize you to release to the Adapted Physical Education Program at Mount San Antonio College in Walnut, California, any medical information requested pertaining to me. I am assured by Mount San Antonio College that such information will remain confidential and only be used on my behalf toward the effectiveness of my educational program.

PHYSICIAN's NAME _____

PHYSICIAN's ADDRESS _____

_____

_____ _____

Signature of Parent or Guardian if student is under 18 years of age

Signature of Student

_____

Date

Identification Data:

Print Full Name: _____
Maiden Name or Other Used: _____
Place of Birth: _____
Social Security Number: _____

MEDICAL AUTHORICATION
FOR ADAPTED PHYSICAL EDUCATION
MOUNT SAN ANTONIO COLLEGE

Name of Student _____ Age _____

Address of Student _____

The above-named student is planning to enroll in an Adapted Physical Education Program at Mount San Antonio College in which the skills to be taught will be determined by the condition of each student. In order to plan a program to meet the specific needs of a student, it is necessary that those responsible for the planning have certain facts concerning the individual. It will be appreciated if you will provide this Program with the information requested below. An executed Authorization for Release of this information is enclosed for your file. Thank you for your anticipated compliance with this request.

1. Diagnosis _____

2. Prognosis and Limiting Effects _____

3. Parts of the Body Involved _____

4. Specific body movements or positions indicated _____

5. Specific body movement contraindicated _____

6. Specific precautions that should be taken _____

7. Recommendations for Corrective and Rehabilitative Exercise _____

8. Medications taken and frequency of dosages _____

9. COMMENTS _____

I give medical consent for my patient to participate in the Adapted Physical Education Program at Mount San Antonio College.

Date: _____ _____
Signature of Physician

The handicapped student has a right:

(1) To as vigorous a body as human skill can give him.

(2) To an education so adapted to his handicap that he can be economically independent and have the chance for the fullest life of which he is capable.

(3) To be brought up and educated by those who understand the nature of the burden he has to bear and who consider it a privilege to help him bear it.

(4) To grow up in a world which does not set him apart, which look at him not with scorn or pity or ridicule--but which welcomes him, exactly as it welcomes every child, which offers him identical privileges and identical responsibilities.

(5) To a life on which his handicap casts no shadow but which is full day by day with those things which make it worth while, with comradeship, love, work, play, laughter, and tears---a life in which these things bring continually increasing growth, richness, release of energies, joy in achievement.

White House Conference on Child Health and Protection, Committee on Physically and Mentally Handicapped, The Handicapped Child. New York: Appleton-Century Company, 1933, p. 3.

ADAPTED PHYSICAL EDUCATION ONE
PERCEPTUAL-MOTOR DEVELOPMENT

I. COURSE DESCRIPTION:

Perceptual-Motor Development is a one unit course designed for disabled students who require assistance in developing perception and improving motor skills. This class serves as a forerunner to APE Body Conditioning and Weight Training for individuals who lack the required muscle control to participate in these classes. The class includes various breathing and relaxation exercises; range of motion exercises; kinesthetic awareness; eye-hand coordination; and various modified games to develop motor skills and desterity.

II. COURSE OBJECTIVES:

A. The student should acquire improved perception, motor skills, ambulation and balance.

B. The student should acquire increased kinesthetic awareness and gain control over voluntary muscle groups.

C. The student should learn how to relax and reduce stress.

D. The student should acquire increased positive self-image and reliance.

III. COURSE INFORMATION:

The practice of formally assessing perceptual-motor strengths and weaknesses has a relatively short history beset with contro-

versy, misunderstanding, and competition. From the 1930's onward, several disciplines attempted to develop techniques for assessing perceptual-motor development and identifying associated dysfunctions. Leaders in the fields of medicine, optometry, clinical psychology, physical therapy, and occupational therapy all contributed substantially to the evolution of evaluation techniques in the perceptual-motor domain before most physical educators became interested in the movement.

Perception is defined as the basic, immediate discriminatory behavior that relates individuals to their surroundings. Perception can be stimulated by ten different sense modalities, each of which neurologically is distinct in structure and function; (1) vision; (2) audition; (3) taste; (4) smell; (5) touch and pressure; (6) kinesthesis; (7) vesibular sense; (8) temperature; (9) pain; and (10) common chemical sense.

This class emphasizes development of haptic perception which encompasses kinesthetic, vestibular and tactile input. The haptic receptors are located throughout the body in (1) skin and deeper underlying tissue; (2) muscles and tendons which attach muscles to bone; (3) skeletal joints and connecting ligaments between all moveable bones; (4) blood vessels; and (5) hair cells located in the semicircular canals, utricle, saccule, and cochlea of the inner ear.

The haptic system provides two major kinds of information. The touch-pressure sense modality gives information about the environment as: surface texture, surface area or size, shapes, borders, and openings; qualities of consistency such as hard, soft, resilient, or viscous; temperature; pressure, and pain.

The kinesthetic and vestibular sense modalities provide information about the body itself: (1) dynamic movement patterns of the trunk, arms, legs, mandible, and tongue; (2) static limb positions or posture; (3) linear and rotatory directions of movement of the skull, limbs, and body as a whole, (4) the location of the body in relation to external objects; (5) weight of resistance to gravity; (6) the relative weights of external objects which are being pushed, pulled, lifted, or lowered; and (7) the relationship of the body to gravitational pull.

The kinesthetic and vestibular sense receptors can be grouped together as proprioceptors. Proprioception includes sensations pertaining to balance, postion, and movement. The vestibular apparatus in the inner ear registers stops, starts, and changes in direction related to static and dynamic balance. The kinesthetic receptors in the joints are believed most vital to the perception of space and movement. Awareness of position and movement of the joints seems to depend solely upon joint receptors. The amount of information which is obtained from muscles and tendons is limited. Specifically, muscle receptors register stretch and tendon receptors register strain. Receptors in joints, muscles, tendons, ligaments, and skin all contribute to perception of muscular effort required to resist and/or overcome gravity and to impart force to an external object. Kinesthetic perception is not a general ability; it is comprised of many different factors, each of which must be taught and measured separately.

Among the tasks which are included on most tests of kinesthetics are: One Foot-Touch Head or Needle Scale, Side Leaning Rest,

Grapevine, One-Knee Balance or Knee Scale, Stork Stand, Double Heel Click, Cross-Leg Squat or Turk Stand, Full Left Turn or Full Pirouette, One-Knee-Head to Floor or Fish Hawk, Hop Backward, Forward Hank Kick, Full-Squat Arm Circles, Half-Turn-Hop Left Foot or Half Pirouette in Air, Three Dips or Push-Ups, Side Kick or the Bell, Flea Hop or Kneel, Jump to Feet, or the Upswing, Russian Dance or Frog Dance or Bear Dance, Full Right Turn or Top or Pirouette in Air, Human Ball or Egg Roll, Single Squat Balance, and Jump Foot.

With college students, tests of static and dynamic balance should be used to test vestibular functioning. As the relationship between static and dynamic balance is about .34, both kinds of balance must be assessed. The Stork Test is among the most widely used measure of static balance. The test is performed first with the eyes open. If the stance is maintained for several seconds, it is then made more difficult by closing the eyes. The student maintains his or her weight on the preferred foot while the sole of the other foot is positioned along the medial surface of the supporting knee. The hands are placed on the hips. Three trials are given. The score is the highest number of seconds in any one trial that balance is maintained.

The stabilometer, a piece of equipment that resembles a tilt board, is used to measure dynamic balance whenever possible. Measures can also be made using homemade equipment such as balance beams or rails or floor markings for leaping, jumping, and hopping tests. The Heath Rail-Walking Test consists of three wooden rails, numbers one and two nine feet long, number three six feet

long. The rails are four, two, and one inches wide, respectively. Three trials are required on each beam. A trial ends when a step-off occurs. The number of feet walked during each of the three trials is recorded as a subscore. The perfect subscore of nine is required on each beam before the student progresses to a narrower width. Because of difference in degree of difficulty, the three subscores are empirically weighted in a 1-2-4 ratio. Thus a perfect score for the entire test is 153.

Perceptual-Motor Training is not synonymous with Physical Education and should not be substituted for instruction in leisure time activities and the development of fitness. It is, however, an integral part of Adapted Physical Education. In the Physical Education setting, students practice purposeful movement of the entire body; they learn that shapes can be dynamic or static. The emphasis is upon making shapes with their own bodies and working together with a group to make the shapes or formation requisite for playing games or performing activities.

Lead-up games to volleyball can be used to reinforce right-left discriminations and to provide practice in visual pursuit and/or tracking. Newcomb, the best-known lead-up game to volleyball, substitutes throwing and catching various objects over a net for volleying. It is based upon the assumption that tracking and catching a descending ball are prerequisites to tracking and striking.

Badminton, tennis, and deck tennis also emphasize visual pursuit skill; they should be introduced at the same time as other net games. Any kind of racquet can be used; the shorter, the handle, the better for beginning players. Large yarn balls

can be substituted for shuttlecocks.

Team games teach spatial awareness through position play. Playing a particular position on the court and rotating from position to position reinforces the concepts of right, center, and left and of front and back. No other physical activity offers richer opportunities for perceptual-motor training than softball. First, the understanding of the diamond and the positions of the players on the field requires the ability to make right-left discriminations. The concept of infield versus outfield offers dimensions of spatial awareness. The expectation that each player cover a particular area of the field and back up other players is based upon spatial awareness. Bases are run in a counterclockwise direction. Pitches are described as inside, outside, high, low and curved to the right or left. A batter who misses the ball is told that he swung too early or too late. Decision making by a fielder as to where to throw the ball is based upon visual memory of sequences.

Instruction and practice in relaxation are integral parts of a comprehensive Adapted Physical Education Program, but especially important in a Perceptual-Motor development class program. Relaxation is a neuromuscular accomplishment that results in a reduction of muscular tension. Tension is the amount of electrical activity present in a muscle. The shortening of muscle fibers is attended by an increase of electrical voltage.

Shortening, contracting and tightening are synonyms in the sense that each implies increased muscle tension. The release of tension within a muscle is attended by a decrease of electrical voltage, which is expressed in microvolts or millivolts. Complete

muscle relaxation is characterized by electrical silence -- i.e. zero action potentials.

Neuromuscular tension is a positive attribute. No movement can occur without the development of tension in the appropriate muscle groups. Unfortuantely, many persons maintain more muscles in a state of tension than is necessary for the accomplishment of motor tasks. Such excessive neuromuscular tension is known as hypertension. The purpose of relaxation training is to prevent or reduce hypertension.

Excessive neuromuscular hypertension is identified by the presence of certain signs:

Hyperactivity: Inability to remain motionless for set period of time; wriggles in chair; shifts arm or leg; plays with hair; scratches, rubs or picks at skin; makes noises with feet; drums fingers on desk top or doodles with pen; chews gum,pencil, or fingernials; fails to keep place in line or any set formation.

Facial expression: Lines in face seldom disappear; eyes frequently shift focus; lips quiver or seem abnormally tight; cheek muscles show tension; immobile expression, such as a frozen smile or incessant frown; eye tic.

Breathing: Unconscious breath holding; shallow, irregular breaths; hyperventilation.

Skin: Nervous perspiration; irritations caused by picking; hives; eczema.

Voice: Two opposite patterns, the more common of which is talking too much, louder than usual, faster than usual, and with higher pitch; deep sighs indicating excessive respiratory tension; crying.

These signs are characteristic of persons on the verge of emotional breakdowns, but they also appear in times of great stress such as final exam periods, death or severe illness in family, impending divorce of parents, and/or incessant bickering among family members. Certain drugs result in overt signs of hypertension. When the problems causing hypertension are not

resolved over long periods of time, the sufferers slip into a state of chronic fatigue.

Awareness of residual hypertension can be developed by instructing students to lie on their backs and release all tensions. The instructor lifts one body part at a time and then lets go. The degree of hypertonus present is recorded as negative, slight, medium, or marked on the right and left sides for the muscles of the wrist, elbow, shoulder, ankle, knee, hip, and neck. Hypertonus es detected by such unconscious muscular responses as:

1. Assistance; student assists instructor in lifting the body part.

2. Posturing or set: student resists gravity when teacher removes support.

3. Resistance: student tenses or resists the action of the instructor in lifting the body part.

4. Perseveration: student continues a movement after the isntructor starts it.

The presence of residual hypertension can be assessed also through electromyography. The electromyometer records the amount of electrical activity present in the muscle fibers. Biofeedback in the form of sound and a digital readout reinforces attempts to reduce tension, making the apparatus effective both as a teaching and an evaluation device.

Deep body awareness, imagery techniques, static stretching exercises, Yoga, and Tai Chi are recommended methods of teaching relaxation in the Adapted Physical Education class.

ADAPTED PHYSICAL EDUCATION TWO
AQUATICS

I. COURSE DESCRIPTION:

Adapted aquatics is a one unit course for the disabled and is designed to assist students in developing the basic understanding and skills necessary for enjoyable and satisfactory participation in an aquatic environment. Each student will have an individualized program.

II. COURSE OBJECTIVES:

A. The student should acquire basic swimming and survival strokes/skills according to individualized disability.

B. The student should improve and/or develop walking skills and relaxation skills.

C. The student should acquire improved cardiovascular and motor function.

D. The student should acquire increased positive self-image and a positive attitude concerning swimming as a leisure-time physical activity.

III. COURSE INFORMATION:

Therapeutic exercise underwater is especially valuable for the nonambulatory student whose body parts lack the strength to overcome the force of gravity. In the pool, the force of gravity is greatly minimized, permitting some range of movement to limbs which have none when not immursed in water. Students who require crutches and/or braces to walk on land can often ambulate

in water.

The methods of teaching the nine regulation swimming strokes to students with physical defects are similar to those traditionally employed with all beginners. In order to teach floating to persons with varying body builds and/or amputations of one type or another, the instructory must understand that amputations affect the location of the Center of Gravity (CG) and the Center of Buoyancy (CB), which in turn affects buoyancy and balance.

The loss of a limb causes displacement of the CG and CB to the opposite side. Thus, a student who has lost a right leg or arm has a tendency to roll to the left where the weight of the body is centered. Most persons with amputations or paralysis of muscles in limbs, whether congenital or acquired, can become excellent swimmers. Extensive movement exploration is recommended to enable each handicapped person to discover for himself the floating position and swimming strokes which best serve his needs. Most students with severe orthopedic disabilities seem to prefer swimming on the back. Specifically, the following strokes are suggested:

1. Loss of both legs - back crawl or breast-stroke.

2. Loss of one leg - back crawl, elementary backstroke, or sidestroke.

3. Loss of both arms - any kick that can be done on the back. This person has exceptional difficulty in changing from horizontal layout position to a stand.

4. Loss of one arm - sidestroke or swimming on back with legs providing most of the power and the one arm finning.

5. Loss of one leg and one arm - sidestroke with leg on the bottom; arm will create its own effective finning action.

The following adaptions should be implemented at the MSAC POOL:

1. Nonskid surface for floors and decks.
2. Handrails in the shower room.
3. Several ways to trun the water off and on in the shower room or have the water in the shower room turn itself off automatically.
4. Doors into the pool wide enough to allow wheelchairs through.
5. Ramps as well as stairsteps; a movable ramp for entrance into the swimming pool; ladders which telescope up and down.
6. Flashing red and green lights at the deep and shallow ends respectively; a metronome or radio playing at the shallow end.
7. Floating buoys extended across the pool to warn of deep water; a change in the texture of the tile along the gutter; the depth of the pool written in braille in the tile every several feet.
8. Hooks on the wall or plans for storage of inner tubes and other flotation devices needed in adapted aquatics.

The temperature of a swimming pool is normally maintained between 78 degrees and 86 degrees. While this temperature is invigorating, it is not geared to the needs of the beginning swimmer who is partially out of the water when not in a norizontal position. Moreover, cold water tends to produce hypertonus and to heighten the spacticity of students with cerebral palsy.

To facilitate relaxstion of muscles in the water and insure an optimum learning environment, the temperature of the water for Adapted Aquated should be in the low 90 degrees. Increasing the temperature of the water causes a problem in pool management as the chlorine evaporates in 90 degree water. Increasing chlorine count is easy enough, but the complaints of the swimmers about chlorine hurting their eyes appears unaboidable.

While the use of flotation devices has been criticized in conjunction with instruction for the nonhandicapped, they are recommended highly in the APE setting. Their most important contribution is allowing independence in the water so that the severely involved student does not have to hold onto the in-

structor for support. In other cases, flotation devices serve as substitutes for missing or paralyzed limbs. They can help immeasurably in assuring a proper head position when the student has poor control of cervical muscles. Cork slabs, styrofoam pieces, and small inflated tubes can be attached to disabled limbs to promote buoyancy.

Swim fins are recommended especially for spastic cerebral palsy, since they tend to minimize the exaggerated stretch reflex and provide additional power in the kick. Individuals with amputations of upper or lower extremities may use swim fins as substitutes for limbs. Only by continuous experimentation can the teacher determine the type of flotation device and/or substitute limb which is best for a particular student. Considerable creatibity is often required in solving problems of where and how to attach such devices to the body.

Swimming is universally recommended for individuals with all kinds of disabilities with the following exceptions:

1. Infectious diseases in the active stage
2. Chronic ear infections
3. Allergies to chlorine or water
4. Chronic sinusitis
5. Skin conditions such as exzema and ringworm
6. Open wounds and sores
7. Osteomyelitis in the active stage
8. Inflammation of joints, as in rheumatoid arthritis
9. Severe cardiac conditions and venereal diseases

Diving may be contraindicated for students with arrested hydrocephalus, hemophilia, or anomalies of the face or head which affect normal breathing. Students with spastic cerebral palsy should not be taught to dive unless instruction is requested specifically and endorsed by the physician.

ADAPTED PHYSICAL EDUCATION THREE
BODY CONDITIONING

I. COURSE DESCRIPTION:

Body Condition is a one unit course for the disabled to assist in developing the basic skills and understanding necessary for injoyable and satisfactory participation in a fitness-type development program. The exercises include dynamic stretching and aerobic/conditioning exercises. Each class is ended by a warm-down of stretching and rhythmic breathing.

II. COURSE OBJECTIVES:

A. The student should be able to perform basic flexibility and conditioning activities.

B. The student should acquire improved strength, range of motion, flexibility, and endurance.

C. The student should acquire improved cardiovascular circulation and motor function.

D. The student should acquire knowledge of various conditioning and flexibility type exercises.

E. The student should increase self-image or body awareness.

III. COURSE INFORMATION:

Two types of fitness are generally recognized: health-related fitness and physical or motor fitness. Health related fitness refers to those aspects of physiological and psychological functioning which are believed to offer protection against

such degenerative diseases as obesity and coronary heart disease. Physical or motor fitness refers to the traditional concept of optimal strength, endurance, flexibility, power, ability, and balance for sports functioning, or in the case of many handi-persons, for daily living activities.

Individuals with subminimal fitness need this special physical education program designed to change attitudes toward exercise, to support them in attempts to increase pain tolerance, and to raise levels of fitness as quickly as possible. These objectives can be accomplished best when implemented in groups of not more than ten students. Low physical fitness deserves a guidance and counseling approach as much as does low mental and emotional fitness. Time should be allocated for individual conferences and small group sessions during which reasons for fitness are explored and alternate methods of developing strength and circulo-respiratory endurance are analyzed. The primary purpose of fitness counseling is to change attitudes toward the body and its capactiy for strength, flexibility, and circulo-respiratory endurance. When attitudes are changed, new habits of exercise result.

The instructor's attitudes -- rather than knowledge, theories and techniques -- are the most important determinants of attitude change and behavior modification on the part of the handicapped student.

Students cannot cope with problems of awkwardness and low fitness until they objectively analyze the causal factors and resultant consequences. In many instances, they lack faith in their ability to change themselves and suffer from poor self-

concepts. It is necessary, therefore, to change the attitude toward self before modifying attitudes toward exercise and fitness.

Fitness counseling may encompass several stages: (1) initial collection of data, (2) establishing rapport, (3) listening with appropriate responses, (4) proving support and reinforcement in the exercise setting, (5) continuous evaluation and follow-up.

Facts about the student's fitness are gathered through observations, interviews, and various tests. The greater the data accumulated about an individual, the more insight the instructor has.

Rapport between the teacher and the handicapped student begins at the moment of face-to face contact. It is essential, therefore, that the very first meeting with a student convey feelings of acceptance and understanding and a belief in the student's self-actualizing potential.

Successes and failures in the activities are accepted with equanimity. Neither praise nor blame should be offered. On some occasions, the instructor may imitate the movement of the student, using this technique to reflect how the student looks to another and to reinforce the belief that others can accpet him and his movement as the best of which he is capable at the moment. Imitation of movements, performed without words, shows willingness to suffer as the student is suffering, to feel as he feels, to perform through his body, and to walk in his shoes.

Success in the program is dependent upon the skill of the instructor in the following functions: (1) seeing the student as a co-worker on a common problem, (2) treating the student as an equal, (3) understanding the student's feelings, (4) following

the student's line of thought, (5) commenting in line with what the student is trying to convey, and (6) participating completely in the student's communication.

As the fitness program proceeds, the student should grow in self-acceptance. The following criteria may serve as one basis for evaluation: (1) The student perceives himself as a person of worth, worthy of respect rather than criticism; (2) The student perceives his abilities and characteristics with more objectivity and greater comfort; (3) The student perceives himself as more independent and more able to cope with problems; (4) The student perceives himself as more able to be spontaneous and genuine; and (5) The student perceives himself as more integrated, less divided. Self acceptance implies the desire and ability to change what can be changed, to accept what cannot be changed, and the wisdom to know the difference.

Assessment of fitness of the handicapped student should address the following criteria: (1) Alertness, i.e. sufficient fitness to take in and respond to the surrounding world, (2) Energy enough to keep up with peers, (3) Ability to stay awake in spite of prescribed medication and to concentrate, (4) Freedom from pain, discomfort, and breathlessness during movement, and (5) Sufficient health to enjoy life, relax, laugh, and behave in appropriate ways.

In order to scientifically plan an exercise program, it is necessary to know both the resting and the maximum heart rate. Resting heart rate is obtained by counting the pulse after a person has been in a sitting position for five or more minutes. Maximal heart rate may be calculated after use of a treadmill,

bicycle ergometer, or a long distance run. Generally, a nine-minute or one-mile run is recommended for the handicapped student.

After maximum heart rate is determined, the instructor is able to determine the intensity, duration, and frequency of exercise needed to improve cardiovascular endurance in each individual. This determination comprises the cardiovascular exercise prescription of each student.

GENERAL PRINCIPLES OF TEACHING FITNESS TO HANDICAPPED STUDENTS

1. INDIVIDUAL DIFFERENCES. Every student's exercise prescription should be different, based on specific assessment data, motivation level.

2. FREQUENCY. Sessions should be scientifically spaced so that there is time for physiological homeostasis to occur, i.e., muscles to rest. Too frequent practices tend to result in chronic fatigue, muscle stress, and motivation problems.

3. SPECIFICITY/TRANSFER. Values gained from exercises done in one position or at one speed will not transfer or benefit the person in other positions or at alternate speeds. Strength exercises need to be done at many joint angles, many intensities. Warm-ups should use the same movements and position that will be used later in the exercises.

4. ACTIVE/VOLUNTARY MOVEMENT. Outcome is most effective when the exercise is active rather than passive. In the case of the severely handicapped student with little or no movement capacity of a particular body part, the instructor should encourage all-out effort of the student to at least initiate the movement. The student should be actively concentrating and assisting in coactive movement.

5. RECOVERY/COOL DOWN. Students with dyspnea should not lie or sit down immediately after high intensity exercise. This tends to subvert return of blood to the heart and cause dizziness. Cool down should entail continued slow walking or mild activity.

6. WARM-UP. A few minutes exercises using movement specific to the game or training to follow should precede high intensity exercise sessions or games. Warm-ups should emphasize stretching exercises and facilitate range of motion.

7. STATIC STRETCH. Slow static stretches are generally more effective in increasing range of motion than ballistic or rhythmic bouncing exercises. Ballistic type exercises are never recommended for some handicaps. For example, they elicit the abnormal stretch reflexes in spastic cerebral palsey students.

8. CONTRAINDICATION. The instructor must know what exercises are contraindicated for each student.

9. ADAPTATION. The instructor must know what exercises are easy, medium and difficult progressions by task analysis and ascertain that each student is doing the progression best for him/her. A biomechanical principle ofted used in adapting exercises is leverage, the shorter the lever, the easier the exercise. For example, straight leg lifts from a supine position to develop or assess abdominal strength are very difficult since the body, as a lever, is in its longest position. By doing bent knee leg lifts, the body lever is shortened and the exercise is made easier.

10. MOTIVATION. Persons who wish to be physically fit must be willing to pay the price. They must be motivated to tolerate boredom, fatigue and discomfort; fitness for the handicapped, especially does not come easily.

Aerobics is a progressive physical conditioning program which stimulates circulorespiratory activity for a time period sufficiently long to produce beneficial changes in the body. The originator of the now widely used aerobics exercise program is Kenneth H. Cooper, a physician and major in the USAF Medical Corps, who currently directs the Aerobic Center in Dallas, Texas. Based upon a longitudinal study of the circulorespiratory fitness of over 5,000 adult male subjects, Cooper's first book, published in 1968, stressed two underlying principles: (1) If the exercise is vigorous enough to provide a sustained heart rate of 150 beats per minute, or more, the training effect benefits begin about five minutes after the exercise starts and continue as long as the exercise is performed; and (2) If the exercise is not vigorous enough to provide or sustain a heart rate of 150 beats per minute, but is still demanding oxygen, the exercise must be continued consider-

ably longer than five minutes, the total period of time depending on the oxygen consumed. (Kenneth Cooper. Aerobics. New York: M Evans Co., 1968)

The Aerobics exercise program can be divided into three phases: (1) evaluation of circulorespiratory fitness by means of long distance run, (2) a period of progressive conditioning which extends over several weeks, and (3) maintenance of optimal fitness by earning a specific number of points for exercise each week. The points are based upon the amount of oxygen consumed per minute during exercise.

Prior to a handicapped student undertaking this aerobics training program, individuals who are unaccustomed to exercise should be examined by a physician. After a medical examination and consent, fitness for aerobic-training is evalusted by the long distance run. The fitness classification of the student determines the number of weeks of conditioning which will be required in order to work up to the maintenance phase of thirty points per week. The following guideline can be used in this regard: (1) very poor - 16 weeks, (2) poor - 13 weeks, (3) fair - 10 weeks. For students in these three categories, conditioning begins with the accumulation of ten points a week during the first two to three weeks after which an additional three to five points are required each week until the sum of thirty is reached. Students who score in the good and excellent fitness categories do not participate in the program of progressive conditioning but proceed directly to the maintenance phase earning 30 points each weeks.

The most efficient way to earn thirty points is to jog 1 1/2 miles in 12 minutes four times a week. The following activities,

each worth five points, create a basis for developing an individualized maintenance program:

Bicycling 5 miles in less than 20 minutes

Running 1 mile in less than 8 minutes

Swimming 600 yards in less than 15 minutes

Handball played for a total of 35 minutes

Stationary running for a total of 12 1/2 minutes

While there are few studies of fitness among different handicapped groups, a growing body of research substantiates the low cardiovascular fitness of the handicapped. This, coupled with other high-risk factors, like obesity and physical inactivity, make many handicapped persons prime candidates for heart disease.

ADAPTED PHYSICAL EDUCATION FOUR
WEIGHT TRAINING

I. COURSE DESCRIPTION:

Weight Training is a one unit course for the disabled designed to assist the student in body development, maintenance, and/or conditioning. Individual programming for each student's needs and requests is provided. The course is conducted as a combination of circuit training with implementation of a Universal Gym and various free weights. Students will be instructed in breathing methodology, range of motion exercises, Universal weight machine usage, biomechanics of weight training, and overall body maintenance.

II. COURSE OBJECTIVES:

A. The student should be able to perform his/her own individual specific weight training exercises at an acceptable level.

B. The student should acquire improved strength, range of motion, and endurance.

C. The student should acquire improved cardiovascular circulation and motor development.

D. The student should acquire a basic positive self-image and body awareness.

III. COURSE INFORMATION:

The 1980 AAHPERD Health Related Fitness Test should be administered to each student for initial assessment. Adminis-

tration of this test necessitates the purchase of skinfold calipers and the sit and reach flexibility apparatus. (Lange calipers are sold by Cambridge Scientific Industries, 527 Poplar Street, Cambridge, Maryland 21013; Harpenden calipers by H.E. Morse Company, 455 Douglas Avenue, Holland, Michigan 49423.) Skinfold calipers are used to determine body fat, considered the most important component of body composition. The 1980 AAHPERD Health Related Fitness Test uses both triceps and subscapular measures. If testing time is limited, the triceps measure can be used alone. Skinfold measures should generally follow the following figures:

Site	Range	Sex
Triceps and abdominal	6-20 mm.	Males
Triceps and abdominal	7-28 mm.	Females
Subscapular	Slightly lower	Males and Females

If the APE Progam cannot purchase calipers and the instructor cannot to borrow some, height and weight measures can be used to screen weight problems as well as growth abnormalities. It must be understood, however, that height-weight tables are not accurate indicators of weight problems. Several researchers have reported that ideal weights presented on standard weight tables have correlation coefficients of only .67 with calculated percent of body fat. (Chester Ward. "Obese or Overweight?" Aerospace Medicine 39, July 1968, pp. 680-82; W.C. Wang and D.H. Kou. "Estimation of Body Fat in Chinese Young Men" Aerospace Medicine 45, March 1974, pp. 307-9)

Circuit or Interval Training was originally developed to condition long distant runners and swimmers. It can be adapted to any physical activity and is especially beneficial to handicapped students with low fitness. The basic objective is to exercise for short periods of time with a rest interval between exercise periods in order to develop greater energy potential for a particular motor activity. An Interval Training Prescription (ITP) must be planned for each student individually. The following terms are used in planning the ITP:

1. SET. Term which encompasses both the work interval and the rest interval. An ITP may have any number of sets.

2. WORK INTERVAL. Also called a bout. A prescribed number of repetitions of the same activity under identical conditions. Traditionally the work has been walking, running or exercising in an effort to raise the heart rate to 180 beats per minute. If the heart rate does not reach this level after two or three work intervals, the student should be encouraged to work harder.

3. REST INTERVAL. The number of seconds or minutes between work intervals during which the student catches his/her breath and prepares for the next repetition. During the rest period, the student should walk rather than sit, lie, or assume a stationary position. Prescribing a light activity like walking, arm circles, or toe touches may be psychologically beneficial in that it keeps the mind off the impending exhaustion and provides structure. The number of seconds comprising the rest interval depends on individual heart recovery rate. The next repetition should not be begun until the heart rate drops to 120 beats per minute. If the heart rate does not recover within the rest interval, the student should be excluded from further interval training for the remainder of the class.

4. REPETITIONS. The number of times the work interval is repeated under identical conditions. The amount of effort exerted in each repetition should be kept more or less constant.

5. TARGET TIME. The best score that a student can make on the prescribed activity. Target times are generally not determined until the first two weeks of training are completed. The target time is then used as a motivational device to encourage all-out performance.

6. LEVEL OF ASPIRATION. A statement made by the student of the score he thinks he can attain in a particular activity. This is also a motivational device.

Students should be guided in the development of individualized exercise sessions comprised of sets which reflect personal levels of aspiration. Exercise sessions should become increasingly more demanding each week.

Circuit Training develops selected aspects of fitness as the student moves from station to station performing a different fitness task at each station, and completes the circuit a prescribed number of times. Ideally, the task performed at each station uses different groups of muscles, thereby developing different aspects of fitness. Six to ten stations are recommended. The amount of time at each station varies, but initially is relatively brief. Thirty seconds at each station, with ten seconds for rotation is recommended. Thus a circuit can be completed in approximately 2 1/2 minutes. As the semester progresses, the amount of times at each station can be extended or the number of completed circuits increased. The intensity of the work demanded should be increased gradually in keeping with the overload principle.

Each student should rotate from station to station at his or her own rate of speed and finish the Circuit Training portion of the Weight Training class at a different time. Specific directions should be given with respect to where to go and what to do when the circuit is completed. The following procedures should be followed in developing individual circuit programs:

1. Test each student, allowing several trials at each station. Each trial should be for a set time period such as 30 seconds, during which the fitness task is performed as many times as possible. Record the student's best score at each station.

2. Base each student's individualized circuit upon one-half of his best test performance at each station.

3. Determine the number of seconds required for a student to go through the prescribed circuit three times.

4. Establish the target time as two-thirds of the actual time required to complete three circuits.

5. In the exercise sessions which follow, encourage each student to bring his/her circuit time down to the target time. When this goal is accomplished, the number of circuits may be increased, or an entirely new circuit comprised of different fitness tasks begun. If the goal is not achieved in several weeks, the target time may be reset or a new circuit begun.

While some students are Circuit and Interval Training, others may be using the Universal Gym or free weights in the APE Room. As a general principle, increases in strength and indurance result when the workload is greater than that to which the student is accustomed. Technically, overload refers only to amount of work or stress, although some instructors conceptualize it as encompassing amount of energy also. Overload can be be achieved with weights bt steadily increasing the number of pounds being lifted, pushed, or pulled. This results in Progressive Resistance Exercises.

The technique of Progressive Resistance Exercises (PRE) or DeLorme Program is used widely in rehabilitative settings. The PRE technique, based upon knowledge of the individual's pain tolerance, entails the following three procedures:

1. Determine maximal resistance that can be lifted ten times (10 RM)

2. Then plan four exercise sessions weekly comprises of thirty repetitions executed as follows:
   a. Ten repetitions at 1/2 10 RM (half the maximal resistance determined in procedure one)
   b. Ten repetitions at 3/4 10 RM (three-fourths the maximal resistance determined in procedure one)
   c. Ten repetitions at 10 RM (the maximal resistance determined in procedure one)

3. Increase the 10 RM (maximum resistance that can be lifted ten times) each week

Another weight training technique , The 10-20 Repetitions Sequence, uses the heaviest weight than can be lifted ten times (10 RM). The number of repetitions increases over a ten-day period in accordance with the following plan. For individuals with less strength, a 5-10 repetitions sequence can be patterned after the 10-20 series. This technique can be applied to any kind of weight lifting program. The following can be used in lieu of a Universal gym: fireplace logs; sacks of potatoes, cat sand, dry dog food, or flour -- one, five, ten, twenty-five, fifty, and 100 pound bags are usually available; plastic bottles filled with sand; back packs; dumbbells; and homemade weights from tin cans, cement, and wooden dowels or broomsticks.

CONCLUSION

During my Sabbatical Leave, I have learned valuable techniques for developing Individualized Educational Programs for students with various handicapping conditions as well as how to make the IEP an integral part of my daily instruction. I have refreshed my knowledge of the principles of human development, motor learning, fitness and biomechanics; I have been trained to apply these principles to program planning and implementation for each handicapping condition. I have become aware of present and past research in Adapted Physical Education and Recreation and of available human and documentary resources which can provide additional information as the need arises. I have also become familiar with advocacy associations and organizations that govern sports and games for the various types of handicapped students.

I am appreciative to the Salary and Leaves Committee and the Board of Trustees of Mount San Antonio Community College for permitting me to acquire this breadth of knowledge and skill and to experience the love and strength of handicapped children. I am anxious to share experiences and knowledge with my colleagues in the Physical Education Department and welcome association with other individuals on campus who are involved with the handicapped students. I hope to demonstrate my gratitude by gaining respect as a specialist who can knowledgeable present and interpret findings pertaining to the physical development and motor behavior of the handicapped student, thereby making a meaningful contribution to the college.

APPENDIX

MT. SAN ANTONIO COLLEGE
APPLICATION FOR SABBATICAL LEAVE

Name of Applicant Adermann (Last) Raymond (First) F. (Middle)

Address 269 W. Seventh Street, Claremont, CA 91711

Employed at Mt. San Antonio College beginning September (Month) 1966 (Year)

Date of last sabbatical leave: (None)

From: _____ (Month) _____ (Year) To: _____ (Month) _____ (Year)

Type of sabbatical leave requested:

A. One semester / / Fall_____ Spring _____

B. One year /X/

C. Administrative / /

Purpose of sabbatical leave:

A. Study /X/

B. Travel / /

C. Study and Travel / /

Effective dates for proposed sabbatical leave:

From September (Month) 1981 (Year) To: June (Month) 1981 (Year)

1. In the space below present a statement of your proposed plan of study, research, or travel, including a description of the nature of the project, the design or outline to be followed.

The purpose of this Sabbatical Leave is to research the subject of Adaptive Physical Education in order to present a plan for an appropriate program at Mt. San Antonio College.

The nature of the project would involve developing an improved and expanded Physical Education Program for the Handicapped in compliance with the regulations issued by the Department of Health, Education, and Welfare on January 13, 1978 implementing Section 504 of the Rehabilitation Act of 1973 which mandates that handicapped persons may not be "excluded from participating in be denied the benefits of, or otherwise be subjected to discrimination under" any federally funded or assisted program because of a handicap.

A proposed plan of study includes, but is not necessarily limited to, the following:

1. Review of the current literature on the subject;
2. Survey and evaluation of existing Adaptive Physical Education Programs in other California Community Colleges;
3. Participation in seminars and workshops;
4. Identification and classification of the physically handicapped and developmentally disabled students at MSAC; and
5. Preparation of a proposed program for Adaptive Physical Education at MSAC which utilizes existing facilities and staff, complies with regulatory statutes, and effectively accomodates the needs and rights of MSAC's physically disabled students.

11. State the anticipated end result, particularly as it will help you to render a more effective service to Mt. San Antonio College.

It is anticipated that the above-described plan of study and research will result in the presentation of a proposal for an improved and expanded Adaptive Physical Education Program at MSAC. Such a proposal will provide guidelines for development and implimentation of an effective Physical Education for the physically handicapped students attending MSAC. This program would be designed to protect the rights of said students and insure compliance of the institution with Federal and State laws thereby precluding loss of Federal Funding or State Financial Aid.

Any change or modification of the plans as evaluated and approved by the Committee must be submitted to the Committee for reconsideration.

Signature of Applicant _____ Date 11/25/80
RAYMOND F. ADERMANN

APPROVAL OF THE DIVISION

Signature _____ Date _____
Chairperson

APPROVAL OF THE OFFICE OF INSTRUCTION

Signature _____ Date _____
Vice President, Instructional Services

APPROVAL OF THE SALARY AND LEAVES COMMITTEE

Signature _____ Date _____
Chairperson

APPROVAL OF THE BOARD OF TRUSTEES

Signature _____ Date _____
Authorized Agent for the Board

MT. SAN ANTONIO
COMMUNITY COLLEGE DISTRICT
1100 NORTH GRAND AVENUE • WALNUT, CALIFORNIA 91789
Telephone: 714/594-5611

March 4, 1981

Mr. Raymond F. Adermann
Physical Education Division
Campus

Dear Mr. Adermann:

At the regular meeting of February 18, 1981, the Board of Trustees accepted the recommendation of the Salary and Leaves Committee to approve your sabbatical leave application for the 1981-82 school year.

It is the purpose of a sabbatical leave to improve instruction and other programs at the College. Any change in plans must be submitted in writing to the Salary and Leaves Committee for prior approval. The request for change must state the manner in which the revised proposed study and/or travel will result in benefit to the District. Unauthorized changes, except those beyond the control of the applicant, will constitute a breach of the sabbatical leave agreement.

Employees granted sabbatical leaves should review Article XI, Section K, of the existing Agreement between Mt. San Antonio College/Faculty Association for contractual provisions regarding sabbatical leaves. You will be notified in the near future when the contract is ready for signature.

Following the sabbatical leave, you must submit a comprehensive report of your activities to the Salary and Leaves Committee. The Committee is presently in the process of developing guidelines for the preparation of sabbatical leave reports.

We hope your sabbatical program will be an outstanding personal and professional experience for you and will be of significant benefit to your students.

Sincerely,

Walter W. Collins
Director, Personnel

myw

May 5, 1982

Mount San Antonio Community College
1100 North Grand Avenue
Walnut, California 91789

Dear Physical Education Department Chairperson:

A proposal for expansion and improvement of the Adaptive Physical Education Program at Mount San Antonio Community College is presently being prepared in order to comply with Section 504 of the 1973 Rehabilitation Act.

The attached questionnaire is being sent to Physical Education Departments throughout the California higher education system to: (1) obtain an accurate description of existing adaptive physical education programs and (2) to identify superior adaptive physical education programs for observation and study.

Your anticipated cooperation in completing and returning this questionnaire is greatly appreciated. A stamped, addressed return envelope is enclosed for your convenience.

Thank you for your time and assistance in this matter of special concern to our profession.

Sincerely,

Ray F. Adermann
Instructor
Physical Education Department
Mount San Antonio Community College

jaa:RFA

Enc.

COMMUNITY COLLEGES WITH ADAPTIVE P.E. PROGRAMS

ALLAN HANCOCK
AMERICAN RIVER
ANTELOPE VALLEY
BAKERSFIELD
BUTTE
CANADA
COLLEGE OF ALAMEDA
COLLEGE OF THE PACIFIC
COLLEGE OF THE REDWOODS
COLLEGE OF SAN MATEO
COLLEGE OF SISKIYOUS
COLUMBIA (STOCKTON)
CRAFTON HILLS
CUESTA
DE ANZA
DIABLO VALLEY
EL CAMINO
FOOTHILL
FRESNO
GLENDALE
GOLDEN WEST
GROSSMONT
IMPERIAL VALLEY
LA SIERRA
LONG BEACH CITY
LOS ANGELES CITY
LOS ANGELES TRADE TECH
LOS ANGELES VALLEY
MIRA COSTA
MODESTO
MONTEREY PENINSULA
NAPA
OHLONE
PALOMAR
PORTERVILLE
REEDLEY
RIVERSIDE CITY
SADDLEBACK
SAN DIEGO MESA
SAN JOAQUIN DELTA
SANTA MONICA CITY
SANTA ROSA
SHASTA
SOLANO
SOUTHWESTERN
VENTURA
YUBA

COMMUNITY COLLEGES WITHOUT ADAPTIVE P.E. PROGRAMS

CHAFFEY
COMPTON
CONTRA COSTA
FEATHER RIVER
FULLERTON
GOLDEN GATE
LOS ANGELES HARBOR
LOS ANGELES PIERCE
WEST HILLS
WEST LOS ANGELES

STATE COLLEGES WITH ADAPTIVE P.E. PROGRAMS

CAL STATE, BAKERSFIELD
CAL STATE, DOMINQUEZ HILLS
CAL STATE, LONG BEACH
CAL STATE, NORTHRIDGE
CAL STATE, SACRAMENTO
CAL STATE, SAN BERNARDINO
CAL STATE, SONOMA
CAL POLY, POMONA
CAL POLY, SAN LUIS OBISPO
HUMBOLDT STATE
SAN DIEGO STATE
SAN FRANCISCO STATE
SAN JOSE STATE

STATE COLLEGES WITHOU ADAPTIVE P.E. PROGRAMS

CAL STATE, CHICO
CAL STATE, FRESNO
CAL STATE, FULLERTON
CAL STATE, HAYWARD
CAL STATE, LOS ANGELES
CAL STATE, STANISLAUS

COLLEGE SURVEY
JUNIOR COLLEGES

QUESTION NO. 3 -- WHAT, IF ANY, SPECIAL EQUIPMENT DOES YOUR DEPARTMENT HAVE FOR ADAPTIVE PHYSICAL EDUCATION CLASSES?

NO. 5 -- IF YOU DO MAINSTREAM HANDICAPPED STUDENTS INTO REGULAR PHYSICAL EDUCATION CLASSES, WHAT TYPES OF HANDICAPPED STUDENTS ARE ENROLLED IN REGULAR CLASSES?

NO. 7 -- DO YOU PRESENTLY HAVE ADEQUATE FACILITIES AND EQUIPMENT TO PROVIDE AN EFFECTIVE PHYSICAL EDUCATION PROGRAM FOR HANDICAPPED STUDENTS ATTENDING YOUR COLLEGE OR UNIVERSITY?

NO. 11 -- IS THERE AN OUTSTANDING ADAPTIVE PHYSICAL EDUCATION PROGRAM FOR THE HANDICAPPED STUDENT AT A COLLEGE OR UNIVERSITY IN YOUR GEOGRAPHICAL AREA?

ALLAN HANCOCK

NO. 3 Weights, (hand, wrist, ankle)
Parallel bars, raise platform, axial rotator, stairs, games (ping pong and bowling)

5

7 Yes

11 No

AMERICAN RIVER

NO. 3 Special room with variety of machines, universal gym, mini gyms, tables, testing equipment.

5 Deaf, those with less severe physical disabilities.

7 Yes

11 DeAnza

ANTELOPE VALLEY

NO. 3 Universal Gym - 12 station, 10 pair small hand dumbbell with rack, 10 pair wrist and ankle weights, 20' walking parallel bars, bicycle ergometer, handgrip dynomometer, hip circumductor, Hamilton ISO-Quadron, restorator, duplex pulley weights with weights at chest and floor level, wrist cuffs, ankle cuffs, holding mitt. All equipment is housed inside a closed room within the pool facility in order to utilize the pool for therapy and exercise. Pool is heated and indoors.

5 Possibly some slow learners or students who have rehabilitated injuries.

7 Yes, but always growing and adding.

11 California State University, Northridge.

FEEL FREE TO CALL ANYTIME --
FRANK BLUA - P.E. INSTRUCTOR
IN CHARGE OF
ADAPTIVES - AVC

BAKERSFIELD COLLEGE

NO. 3 No special equipment-regular equipment as used by regular students.

5

7 Substantial

11

BUTTE COLLEGE

NO. 3 Some leg weights, puddy, bike and some isokinetic equipment.

5 All types - any student can take any class at Butte College as long as he will not be putting himself into a dangerous situation.

7 No

11 Chico State has a fairly good program.

CANADA COLLEGE

NO. 3 Stationary exercise bicycle, Hydra-gym weight equipment, wall pulleys, low carpeted balance beam, mats, dumbbells, sandbag weights, various games and other equipment -- nerf balls, parachute, play buoy.

5

7 Yes, however, we do lack a swimming pool, outdoor track.

11 CSM, Foothill

COLLEGE OF ALAMEDA

NO. 3 Universal exercise, wall pulleys, weight sets, speical mats, various exercise apparatus

5

7 No, problem is lack of funds to adequately outfit facility.

11 De Anza College

COLLEGE OF THE PACIFIC

NO. 3 None

5 Orthopedically disabled

7 No, monumental accessibility problems as per "small" private institution.

11 Yes, De Anza College and San Joaquin Delta College

COLLEGE OF THE REDWOODS

NO. 3

5 Physically limited

7 Yes

11

COLLEGE OF SAN MATEO

NO. 3 Parallel bars, Gait training stairs, assortment of ankle weights and dumbbells, Isokenic pulleys, Bicycle ergometer, tread mill, Hoyer lift, floatation devices, standing frames, and regular training room whirlpools.

5 Individuals with lower back problems and post-stroke individuals.

7 Yes

11 De Anza College and College of San Mateo.

We have applied for state funding for an elevator and a 40'x40' completely equipped adapted physical education room.

COLLEGE OF SISKIYOUS

NO. 3 Swimming equipment, stationary bike and rowing machine.

5 Mentally handicapped and many of our handicapped students recovering from various injuries and illnesses.

7 We are working quite intensely in developing all areas of our campus for handicapped student attendance.

11 No

COLUMBIA JUNIOR COLLEGE

NO. 3 Cybex: Orthotron, Kintron
Various hand equipment, foot ladder, parallel bars, balance boards.

5 Long diseases, orthopedic problems

7 No

11

CRAFTON HILLS COLLEGE

NO. 3 None

5 All types

7 No

11 SBVC has a limited program - otherwise, unknown.

CUESTA COLLEGE

NO. 3 Shallow pool - 2½' - 4' at 90°.

5

7 Could be better

11

DE ANZA COLLEGE

NO. 3 Too much to list here. Call me at 408-996-4910 or 4873

5

7 We need more room for additional classes.

11 This is the best in the country.

I am available as an Adaptive Physical Education Program Consultant. I have performed these duties for the College of Alameda and have edited a textbook on community college adaptive P.E. Jeffrey Forman, PhD., C.C.T.

DIABLO VALLEY COLLEGE

NO. 3 Wall pulleys, floor exercycle, mat tables and mats, limited weights, wall bar and mat chin up bar.

5 Vision and hearing impaired, milk neurological and orthopedic problems.

7 We have limited adapted sports equipment, although there has been no demand to date. We have limited weight training apparatus and the weight room is non-accessible to non-ambulatory students.

11 De Anza College, Marin Center for Independent Living.

EL CAMINO COLLEGE

NO. 3 Five sports model wheelchairs, bowling (ball with retractable handle, pusher, trough) Swimming (life vests-jacket style, belt style, and silva egg style). Exercise/weight training (velcro weights, 1-10 lbs., hand mitts with velcro attachments, wrist, ankle, and thigh cuffs). An Adaptive Exercise Laboratory with mats, wall pulleys and other equipment.

5 Primarily the hearing impaired and learning disabled.

7 There are always new pieces of equipment that would be helpful, for example, a pool lift, but the basics are here and a great number of volunteer student instructional aides make the program possible.

11 El Camino College.

FOOTHILL COLLEGE

NO. 3 Weight training equipment, balance bean, balls, dumbbell weights.

5 Once disabled students display particular physical competency they are encouraged to go into regular classes.

7 Yes, with recent addition of Isokinetic equipment.

11

Ray, feel free to stop and visit our program. Our program has recently made major strides in improving our program.
Karl Knopf 948-8590 Ext. 242

FRESNO CITY COLLEGE

NO. 3 Foam frisbees, quad cuffs, walking belts, canes, walker, (10) wheelchairs, backpacks, climing rope

5 Any that can benefit more from regular classes than from special ones.

7 Yes

11 Right here.

GLENDALE COLLEGE

NO. 3 None

5 Those able to benefit

7 A swimming pool would be very beneficial.

11 Northridge - CSUN

GOLDEN WEST COLLEGE

NO. 3 Universal and Nautilus circuits, olympic swimming pool, Hoyer hydraulic lift

5 Hearing impaired

7 Yes

11 De Anza College

GROSSMONT COLLEGE

NO. 3 We have a very complete resistance training room plus two exercycles mounted on tables for students in chairs.

5 Primarily post-operative

7 Yes

11 Yes, San Diego State and Southwestern College.

IMPERIAL VALLEY COLLEGE

NO. 3 Universal gym equipment

5

7 We could use more room and equipment.

11

We have approximately 35 physically limited students in the two adaptive P.E. classes and approximately 20 students involved in PE-62 that are physically limited.

LA SIERRA COLLEGE

NO. 3

5 Heart problems, joint problems.

7 No

11 ?

LONG BEACH CITY COLLEGE

NO. 3 Ergometers, fitron, orthotron, Elgin exercise table, Elgin circular exercizer, shoulder wheel.

5 Cerebral Palsy, parapelegic, aphasic

7 Too many students for existing facilities equipment.

11

The 3 levels of adapted P.E. has just been instituted.

LOS ANGELES CITY COLLEGE

NO. 3 Hydra-gym 8 station, Sears walker jogger, bicycle ergometer, mats, and hoping to eventually purchase a ECG machine.

5 All types

7 Adequate, but far from ideal.

11 ?

LOS ANGELES TRADE TECH

NO. 3 Hydraulic lift into pool

5 Deaf-Orthopedic

7 Faculty does not have an elevator to second floor office and classroom areas.

11 ?

LOS ANGELES VALLEY

NO. 3 Hydro Gym, bicycle ergometer

5 Blind, deaf, or the Spastic (almost anyone, that's why they are here).

7 A great deal of ingenuity is needed.

11 Cal State University, Northridge

MIRA COSTA COLLEGE

NO. 3 Two Ergometers; wheelchair adapted weight pulleys.

5

7 No, greatest need is for a pool

11

MODESTO JUNIOR COLLEGE

NO. 3 A hoist to raise and lower students in pool

5 Wheelchair students in tennis, jogging, archery, and basketball.

7 We could always use more space and equipment.

11 DeAnza College

MONTEREY PENINSULA

NO. 3 Punch bag, shoulder wheel finger ladder, small weight row machine, exercycles, balance beam, tandem bike, horseshoes, various recreational equipment such as nerf balls, pool table, Universal weight machine, walking parallel bars, Monarch hand and arm trainer.

5 C.P. strokes, post polio

7 We could always have more but we are satisfied.

11 DeAnza College

NAPA JUNIOR COLLEGE

NO. 3 Isokinetic, lifts (Hoyer) adaptive games, standing frame, parallel bars (walking), light weights, arm and leg weights.

5 Orthopedically handicapped, developmentally disabled.

7 We have a specialized room designated as corrective P.E.

11 Here!! At Napa College!

OHLONE COLLEGE

NO. 3 Weights - pool lift

5 Hearing impaired

7 Yes

11 DeAnza College

PALOMAR COLLEGE

NO. 3 Very minimal special equipment -- bowling ramp, pool lift (of which I prefer not to use), special pool equipment, a variety of perceptual equipment.

5 Some paraplegics, accident victims with some paralysis

7 I think with innovative ideas, you can do just about anything.

11 San Diego State gives an "emphasis credential" and has a few special classes for the disabled students.

PORTERVILLE COLLEGE

NO. 3 Performance Lab, Treadmill, bkg., stationary bicycle.

5 Wheelchair - weight training

7 Yes

11

REEDLEY COLLEGE

NO. 3 Various weights, exercise bicycle

5 Those with minimum mental and physical disorders, some can function very well in weight training or figure control (exercise class)

7 Yes

11 Fresno City College in Fresno, California

RIVERSIDE CITY COLLEGE

NO 3 We use our fitness room and main gym, and athletic fields. Some equipment is purchased specifically for the handicapped.

5 Those who are able to perform the activity, such as swimming, archery, etc.

7 Yes

11 Do not know.

SADDLEBACK COLLEGE

NO. 3 Handicap ramp in pool, sports wheelchairs, strength equipment, parallel bars, adaptive grip equipment. (The P.E. department has supurb equipment, including a fitness lab which is used by disabled students.)

5 Physically disabled, blind, learning disabled, hearing disabled, other health impaired i.e. cardiac, respiratory disorders.

7 Saddleback is faster growing college and is in need of more building and P.E. facilities which would enhance the disabled students also.

11 Saddleback College

SAN DIEGO MESA COLLEGE

NO. 3 Weights - special pulley systems, walkers -- extra chairs, mitts, lead weights, hand crank ergometer, stationary bike, hoist for pool, assistive devices for pool.

5 Para's - Hemi's - M.D. head injuries, Quad's - C.P. - M.S. surgery P.T. In my regular classes mostly some Para's and C.P. in others.

7 No

11 No

SAN JOAQUIN DELTA COLLEGE

NO. 3 Hoyer lift for swimming; treadmill, arm crank rehab. trainers, bikes for conditioning.

5 All types including chairs

7 Could use an indoor pool (small)

11 DeAnza College - we have a fine swimming program. University of the Pacific is working on training instructors.

SANTA MONICA CITY COLLEGE

NO. 3 Bicyle ergometers, jacuzzi, roller board, walker and tricycle.

5 Brain and spinal chord post trauma, cerebral palsy, etc.

7 No

11 No

SANTA ROSA

NO. 3 Universal weight machines, stationary bicycles, sandbag weights (1-10 lbs) mat tables for stretching, eagle gloves for better gripping and holding, shoulder wheel for range of motion, tilt table for standing erect. We have a lot of adaptive equipment which makes it possible for the disabled student to utilize the able-bodied equipment.

5 We try to depend on disability.

7 Yes

11 No

SHASTA COLLEGE

NO. 3 Gate trainer, treadmill, arm machine - we have a special equipped fitness lab which adaptive (Rehab) students use a great deal.

5

7 Yes

11

Because of money reduction, we are reducing our adaptive program from 6 hours per week to 4 hours.

SOLANO COLLEGE

NO. 3 Mats, whirlpool, bicycle, pulley weights

5 Minor disabilities: knee injuries, single limb impairments, minor visual impairment.

7 Yes

11 Unknown

SOUTHWESTERN COLLEGE

NO. 3 Pool lift, dressing tables, sport wheelchairs, electric wheelchair, specialized golf cart

5 Post Polio (badminton) paraplegic (tennis/scuba)

7 Yes

11 Southwestern

VENTURA COLLEGE

NO. 3 Aquatics use of the Easter Seal Pool (Special ramp & hand rails)

5

7 Yes, they use the same facilities as everyone else.

11 No

Cut will probably constitute reduction in number of offerings.

YUBA COLLEGE

NO. 3 Isometric - Isokinetic - isotonic machines, exercycles, standing frame, parallel bars, walk-up steps, electronic pulse meter, blood pressure, various pulley systems, gloves, weights, etc., exercise table, shoulder wheel.

5 Paraplegics, back injuries, amputees, epileptics, visually impaired, Multiple Sclerosis, head injury.

7 Yes

11 Yuba College, Chico State

COLLEGE SURVEY
STATE UNIVERSITIES

QUESTION NO. 3 -- WHAT, IF ANY, SPECIAL EQUIPMENT DOES YOUR DEPARTMENT HAVE FOR ADAPTIVE PHYSICAL EDUCATION CLASSES?

NO. 5 -- IF YOU DO MAINSTREAM HANDICAPPED STUDENTS INTO REGULAR PHYSICAL EDUCATION CLASSES, WHAT TYPES OF HANDICAPPED STUDENTS ARE ENROLLED IN REGULAR CLASSES?

NO. 7 -- DO YOU PRESENTLY HAVE ADEQUATE FACILITIES AND EQUIPMENT TO PROVIDE AN EFFECTIVE PHYSICAL EDUCATION PROGRAM FOR HANDICAPPED STUDENTS ATTENDING YOUR COLLEGE OR UNIVERSITY?

NO. 11 -- IS THERE AN OUTSTANDING ADAPTIVE PHYSICAL EDUCATION PROGRAM FOR THE HANDICAPPED STUDENT AT A COLLEGE OR UNIVERSITY IN YOUR GEOGRAPHICAL AREA?

CAL.STATE, BAKERSFIELD

NO. 3 Little offhand - I can't remember any - we use the public schools for our practices.

5 Blind, wheelchair, C.P. and hearing loss.

7 Don't provide facilities for severely handicapped.

11 Credential program for Adapted P.E. here at CSB.

CAL.STATE, DOMINQUEZ HILLS

NO. 3 Pool Lift

5 Students are interviewed by an adaptive coordinator and assigned a class - no limitations except interview.

7 Yes

11 Long Beach State and L.A. State

CAL.STATE, LONG BEACH

NO. 3 Floor Space

5 Wheelchair

7 No

11

CAL.STATE, NORTHRIDGE

NO. 3 All therapeutic exercise equipment. We modify other sports equipment to enable all to participate - adjustable baskets.

5 Deaf - visually impaired, mild C.P. etc.

7 Yes, we have outgrown them because our program has grown so fast.

11 I believe we have a quality program.

CAL.STATE, SACRAMENTO

NO.	3	Ergometers, walking bars, hand cranking
	5	
	7	No
	11	

CAL.STATE, SAN BERNARDINO

NO.	3	Corrective weights, exercycle and pool hoist.
	5	Students who have very mild disabilities.
	7	No, we need additional equipment if we sre to do a first rate job. Gradually obtaining more equipment.
	11	

CAL.STATE, SONOMA

NO.	3	Three wheel bicycle, wheelchair, Hoyer lift (makes the pool accessible). We have also made our track and a special "par course" setup accessible to wheelchairs.
	5	We have a C.P. individual in a badminton class and a deaf student in a swimming/diving class.
	7	The equipment we have is easily modified or adapted to a variety of uses.
	11	Yes, Dominican College in Marin County.

CAL POLY, POMONA

NO.	3	We are completely equipped for any condition or population. In addition, we have a model motor development clinic.
	5	You name it, we've done it.
	7	Yes
	11	In addition to our own program, I have respect for the programs at Cal State L.A. and Long Beach.

CAL POLY, SAN LUIS OBISPO

NO.	3	None, we have use of the training room and to the equipment in the Physiology lab.
	5	Wheelchair, deaf, visually impaired.
	7	No
	11	Cuesta Community College

HUMBOLDT STATE

NO.	3	None
	5	Amputees, C.P.
	7	Need swimming pool lift
	11	None

SAN DIEGO STATE

NO.	3	
	5	Blind - wheelchair bound
	7	Yes
	11	

SAN FRANCISCO STATE

NO.	3	Presently purchasing a pool lift
	5	Predominantly visually impaired
	7	Yes, in the areas they seem to be interested
	11	I have not observed the program at the College of Marin, but it is supposed to be good.

SAN JOSE STATE

NO.	3	An uninstalled lift, beepers for visually impaired, and adaptive devices for archery.
	5	Cerebral Palsy, spinal cord injury, blind (visually impaired) and hearing impaired.
	7	We have a lift for our pool but it still hasn't been installed.
	11	De Anza College, Foothill College and San Mateo College.

UNIVERSITY OF REDLANDS 8-10-82
OFFICIAL GRADE REPORT

ADERMANN,RAYMOND FR

548-50-8976 SUMMER 2 1982 ALL *** GRADED

DEPT	NO.	COURSE TITLE	GR	UNITS	UNITS	POINTS
PE	276	TOPICS:ADAPTVE PE	4.0	2.0	2.0	8.0
PE	277	CONC & APPL PSYC MOT	4.0	4.0	4.0	16.0
PE	278	ASSESMNT & EVAL:MOTO	4.0	2.0	2.0	8.0

	SP	PE	CN	GPA			
SEM. TOTAL	0.0	0.0	0.0	4.00	8.0	8.0	32.0
CUM. TOTAL	0.0	0.0	0.0	4.00	8.0	8.0	32.0

UNIVERSITY of REDLANDS

School of Education

August 5, 1982

TO WHOM IT MAY CONCERN:

This is to verify that Raymond Adermann has completed the Commission-approved Adaptive Physical Education Authorization Program at the University of Redlands during Summer, 1982.

Carol G. Franklin

Carol A. Franklin, Director
School of Education

CAF:eob

Redlands, California 92373/(714) 793-2121

ASSESSMENT FOR ADAPTIVE PE AUTHORIZATION

Name_____

Minimum Satisfactory Levels = C

Proficiency Level = B

Excellence Levels = A

CTPL COMPETENCIES	LEARNING EXPERIENCE	REQUIRED PERFORMANCE	PERFORMANCE SCALE
A. Biological Foundations 1. Physical Growth and Development a. Demonstrate understanding of atypical physical growth and development.			
2. Kinesiology a. Demonstrate understanding of the analysis of motor deficits. b. Demonstrate understanding and appreciation of the unique structure of individuals with exceptionalities. c. Demonstrate knowledge of bio-mechanical principles related to artificial devices, posture, and pathological conditions that affect motor function.			
3. Physiology of Exercise and Motor Functioning a. Demonstrate understanding of pathological conditions in the human organism and their effects on motor performance. b. Demonstrate knowledge of the design and conduct of instructional programs in accordance with medical treatment affecting physiological disorders.			

ASSESSMENT FOR ADAPTIVE PE AUTHORIZATION

Name_____

Minimum Satisfactory Levels = C
Proficiency Level = B
Excellence Level = A

CTPL Competencies	Learning Experience	Required Performance	Performance Scale
and aging.			
4. Neurological Basis a. Demonstrate knowledge of the organization and function of nervous system' b. Demonstrate understanding of neurological disorders and their implications for motor functioning.			
B. Psychomotor Foundations 1. Motor Learning a. Demonstrate understanding of sensory motor development.			
b. Demonstrate understanding of the principles of motivation on the development of motor skills with emphasis on the exceptional individual.			
2. Self Realization a. Demonstrate understanding of the relationship between positive and negative movement.			

ASSESSMENT FOR ADAPTIVE PE AUTHORIZATION

Name_____

Minimum Satisfactory Level = C

Proficiency Level = B

Excellence Level = A

CTPL Competencies	Learning Experience	Required Performance	Performance Scale
3. Personality Dynamics a. Demonstrate understanding of personality dynamics to motor performance and the adjustment.			
4. Behavior Management a. Demonstrate an understanding motivation and its effect on behavior. b. Demonstrate an understanding of various modes for managing behavior consistent with the individual's educational plan.			
C. Instructional Subject Matter 1. Psychomotor Skills, Rules, and strategies			
a. Demonstrate knowledge of developmental activities, exercises, movement education, games, sports, rhythms, and aquatics suited to the needs, limitations, and capacities of exceptional individuals.			
b. Demonstrate an understanding of the principles for adapting developmental activities, exercises, movement education, games, sports, rhythms, and aquatics for exceptional individuals.			

ASSESSMENT FOR ADAPTIVE PE AUTHORIZATION

Name_____

Minimum Satisfactory Level = C

Proficiency Level = B

Excellence Level = A

CTPL Competencies	Learning Experience	Required Performance	Performance Scale
c. Demonstrate awareness of the governing organization regulating adapted sports and games.			
D. Assessment and Evaluation 1. Performance Assessment a. Demonstrate knowledge of appropriate instruments and procedures utilized to measure physiological, biomechanical, and psychomotor functioning. b. Demonstrate understanding of the criteria for construction of assessment instruments when appropriate tools do not exist.			
2. Program Goals and Objectives a. Demonstrate awareness of the goals of adapted physical education as specified in current enabling legislation.			
b. Demonstrate an understanding of performance levels and instructional objectives which lead to the fulfillment of the course			

/ SSESSMENT F ADAPTIVE PE AUTHORIZATION

t ame_____

Minimum Satisfactory Level =

Proficiency Level = B

Excellence Level = A

CTPL Competencies	Learning Experience	Required Performance	Performance Scale
3. Individualizing Instruction a. Demonstrate an understanding of the components of individualized instruction.			
b. Demonstrate an understanding of the development of appropriate programs for pupils based upon current levels of performance as established by the individualized education plan.			
c. Demonstrate an understanding of the scientific basis for contraindicated exercises and activities			
4. Program Evaluation a. Demonstrate knowledge of principles involved in the assessment of program effectiveness.			
C. Sociological Foundations 1. Recreation and Leisure in the Community a. Demonstrate an understanding of basic recreation and leisure principles and their significance in the growth and development of the exceptional individual.			

ASSESSMENT FOR ADAPTIVE PE AUTHORIZATION

Name_____

Minimum Satisfactory Levels = C

Proficiency Level = B

Excellence Level = A

CTPL Competencies	Learning Experience	Required Performance	Performance Scale
b. Demonstrate a knowledge of recreation and leisure opportunities and special services available to the disabled. c. Demonstrate an understanding of group dynamics, human interaction, and social behavior evolving from cooperative and competitive activities.			
2. Social Aspects and Attitudes a. Demonstrate an understanding of the social implications of disability on the individual. b. Demonstrate an understanding of the methods and techniques enabling normalization and social integration of exceptional individuals.			
3. Health Facilities and Services a. Demonstrate an understanding of health facilities and services and their effect on the lifestyle of exceptional individuals.			

ASSESSMENT FOR ADAPTIVE PE AUTHORIZATION

Name_____

Minimum Satisfactory Levels = C
Proficiency Level = B
Excellence Level = A

CTPL Competencies	Learning Experiences	Required Performance	Performance Scale
b. Demonstrate an understanding of the processes involved in facilitating the exceptional individual's progress towards maximum independence.			
F. Foundations and Understandings 1. Historical Aspects a. Demonstrate knowledge of the historical development of adapted physical education.			
2. Philosophical Aspects a. Demonstrate understanding of the philosophical basis of adapted physical education.			
3. Issues and Trends a. Demonstrate awareness of current enabling legislation and its effect upon adapted P.E. b. Demonstrate awareness of litigation related to adapted P.E., including the rights and responsibilities of parents, teachers, and pupils.			

ASSESSMENT FOR ADAPTIVE PE AUTHORIZATION

Name_____

Minimum Satisfactory Levels = C
Proficiency Level = B
Excellence Level = A

CTPL Competencies	Learning Experience	Required Performance	Performance Scale
4. Interdisciplinary Concept a. Demonstrate understanding of the role and significance of the adapted physical educator on the interdisciplinary team.			
G. Health and Safety Concepts 1. Physical Activity and Health a. Demonstrate awareness of unique health problems associated with exceptionalities and common practices for management of same. b. Demonstrate awareness of the role of physical activity and its unique contribution to the health of exceptional individuals.			
2. Factors Affecting Health a. Demonstrate knowledge of the effects of drugs, fatigue, and restrictions due to illness on mental and physical health. b. Demonstrate knowledte of the importance of personal hygiene, posture, and nutrition, and the implications for specific			

ASSESSMENT FOR ADAPTIVE PE AUTHORIZATION

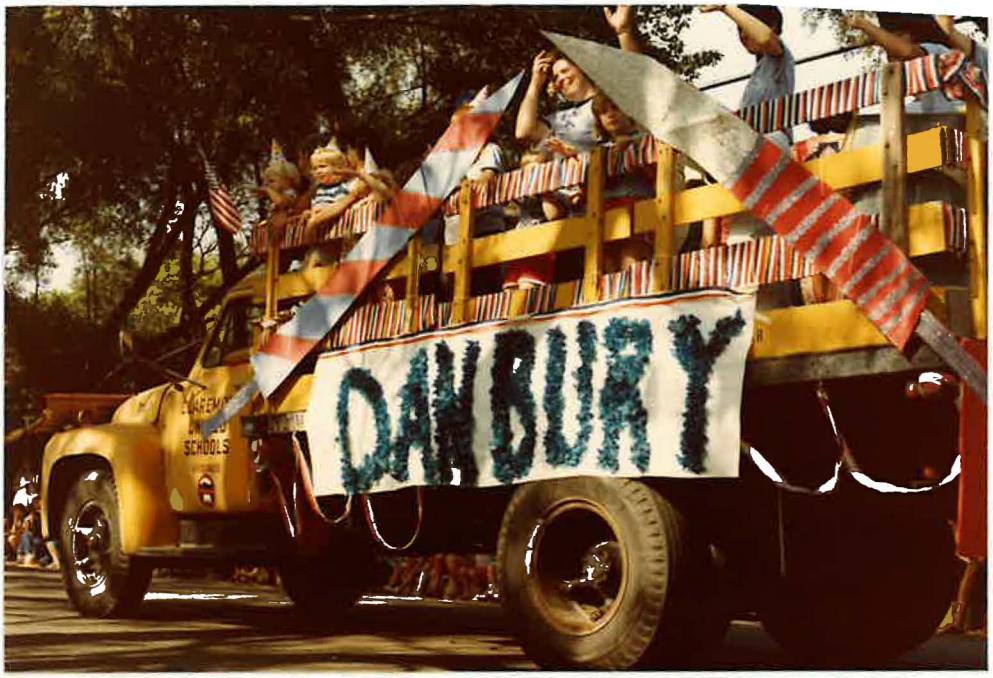
Name_____

Minimum Satisfactory Levels = C

Proficiency Level = B'

Excellence Level = A

CTPL Competencies	Learning Experience	Required Performance	Performance Scale
exceptionalities			
B. Safety			
a. Demonstrate an understanding of the principles of safety as they relate to physical activities, including the recognition of safe and unsafe practices.			
b. Demonstrate knowledge of efficient lifting and assisting techniques.			


DANBURY

RESPIRATORY PROBLEMS

Many of the handicapped students suffer from Asthma, Chronic Bronchitis, Emphysema, or Cystic Fibrosis. The symptoms are similar in all four conditions, and exercise is vital for the maintenance of respiratory fitness.

ASTHMA. Asthma is a chronic lung disease. Management depends largely on medication and avoidance of stimuli that trigger attacks characterized by spasms of the bronchial tubes, swelling of their linings, and excessive secretion of mucus, all of which cause coughing, wheezing, syspnea, and a feeling of constriction in the chest. The etiology of asthma has now been traced to deficient homeostatic function at the cellular level. Within the broad spectrum of individual differences, asthmatics may be hypersensitive to cigarette smoke, changes in weather, changes in body temperature, air pollutants, and other stimuli. Because infection affects homeostasis, it is a major precipitator of bronchial constriction and other asthmatic symptoms.

While asthma is chronic and always present, attacks occur only occasionally. Asthmatic attacks progress through three stages: (1) coughing, (2) dyspnea, and (3) severe bronchial obstruction. The third stage should be prevented whenever possible by use of medication, cessation of exercise, or removal of allergens.

In the mid 1970's, research was published on exercise-induced asthma (EIA). It was found that short term exercise of less than four minutes facilitated breathing while longer-term exercise resulted in bronchoconstriction. EIA occurs most often in running

activities and least often in swimming.

Asthmatic students should be screened to determine whether they fall into the EIA Classification. If so, special pre-exercise medication (Cromolyn Sodium) may be prescribed by a physician to prevent or reduce EIA. Warm-up activities prior to hard exercise are essential also to prevent EIA.

Physicians involved in asthma research recommend that students with EIA participate in regular strenuous exercise. The student should be guided into suitable activities for his/her conditions. Dashes are preferable to long distance runs, and games such as baseball, softball, and volleyball are preferable to games that demand continuous running. Intermittent exercise is recommended, i.e. no more than five minutes of vigorous activity followed by another five minutes of rest, etc. Swimming is deemed the best exercise of all for EIA student. Problems characteristic of asthmatic students, inefficient pattern of breathing, excessive nervous tension, postural defects, can be remediated through Adapted Physical Education.

The following information should be obtained about the asthmatic student before beginning a program of breathing exercises: (1) age, (2) type of asthma, (3) season during which asthma is not as severe, (4) number of attacks furing each of the previous three months, (5) specific allergens or conditions which seem to precipitate asthma, (6) specific dosage of tablets or number of times inhalators and/or suppositories have been used during the last ten days, and (7) measure of pulmonary efficienby. The two test used most often to measure pulmonary efficiency are the FEV(for forced expiratory

volume for one second0 and the MBC (maximal breathing capacity). Both test require laboratory apparatus such as a spirometer or respirometer.

Breathing exercises may improve efficiency of expiratory phase, decrease activity to the upper part of the chest, teach diaphragmatic breathing, relax spasmodically contracted muscles and increase flexivility of intercostals, pectorals, scaleni, and trapeaius. Asthmatic students must be taught the kinesiology of respiration. They should understand the difference between costal and diaphragmatic breathing and be able to feel the muscles of inspiration and forced expiration. The asthmatic typically overworks his upper chest, using the intercostal muscles more than the diaphragm. APE classes for asthmatic students should begin with breathing exercises such as Diaphragmatic Breathing Exercises, Side Expansion Breathing Exercises, Diaphragmatic Breathing Exercises, Elbow Circling Excercises, Forward Bending Excercises, Relaxing Exercises, Abdominal Muscle Exercises, Side Bending Exercises, Trunk Turning Exercises, Forward Bending Exercises, and Side Bending Rotation Exercises.

Since so many asthmatic studnets are sensitive to pollens and dust, APE should be conducted indoors at least during the seasons of peak incidence of attacks. The room should be air conditioned and entirely dust-free. The humidity should be maintained as low as possible. Changes in weather, particularly dampness, predispose the asthmatic to attacks. Alteratiton in body temperature, specifically becoming overheated, seem to cause sneezing. A cold, wet towel on the forehead and/or back of the neck between activities will help to maintain uniform body temperature. When

chalkboard is in use, the asthmatic student should be stationed as far away from it as possible. Nylon-covered, allergen-free mats containing foam rubber as filler are recommended. Most asthmatics are extremely sensitive to cigarette smoke. Even if a cigarette is not burning, residual fumes can trigger an attack. Forcing fluids is an essential part of the total exercise program for the asthmatic. As tissues become drier during exercise, the mucus thickens and it is more difficult to cough up. More than three or four consecutive coughs should be avoided since coughing itself dries out the mucus membrames. The only means of thinning this mucus is through fluids taken by mouth or intervenously. Four or five quarts of water a day are recommended. Cold drinks are contraindicated since they may cause spasms of the bronchial tubes, hence hot drinks and fluids at room temperature are recommended. The instructor should ascertain that fluids are taken periodically throughout the exercise session.

CHRONIC OBSTRUCTIVE PULMONARY DISEASES (COPD). Chronic Obstructive Pulmonary Diseases include chronic bronchitis and pulmonary emphysema; they constitute the fastest growing chronic disease problem in America.

Chronic bronchitis is defined as a recurrent cough characterized by excessive mucus secretion in the bronchii. The three stages are: (1) Simple in which the chief characteristic is mucoid expectoration, (2) Mucopurulent in which the sputum is intermittently or continuously filled with pus because of active infection, and (3) Obstruction in which there is narrowing of the airways in addition to expectoration. This is the stage at which the complication of emphysema and/or heart failure occurs.

Pulmonary Emphysema is a destruction of the walls of the alveoli of the lungs. This destruction results in overdistention of the air sacs and loss of lung elasticity. Like the asthmatic, the person with emphysema has difficulty expelling air. Whereas the normal person breathes fourteen times a minute, the emphysematous person may breathe 20 to 30 times a minute and still not get enough oxygen into the blood stream. The characteristic high carbon dioxide level in the blood causes sluggishness and irritability. The heart tries to compensate for lack of oxygen by pumping harder, and possible heart failure becomes an additional hazard.

Students with COPE tend to restrict their activities more and more because of their fear of wheezing and dyspnea. This inactivity results in muscle deterioration, increased shortness of breath, and increasing inactivity -- a vicious cycle.

BIBLIOGRAPHY

Evans, Hugh. Lung Diseases of Children. New York: American Lung Association, 1979.

Fisher, Lucille, "New Frontiers in the Treatment of Asthma in Children." American Lung Association Bulletin 62 (June 1976) 2-5.

Fitch, Kenneth. "Exercise -Induced Astham and Competitive Athletics," Pediatrics 56 (Supplement, 1975) 844-46.

Jackson, Vicki. Asthma: A Comprehensive Approach Through Exercise, ed. by Claudine Sherrill. Callas: American Lung Association, 1975.

Verma, Sanjiv and John Hyde. "Physical Education Programs and Exercise-Induced Asthma." Clinical Pediatrics (August 1976) 697-705.

Williams, H.E, and P.E. Phelan. Respiratory Illness in Children. Osford: Blackwell Scientific Publications, 1975.

DEAF AND HEARING IMPAIRED

Hearing loss can be discussed in terms of the three attributes of sound: intensity, frequency, and spectrum or timbre. Classifications of hearing impairment for educational purposes are made only in terms of intensity, or the perception of loudness and softness. The unit of measurement which expresses the intensity of a sound is the Decibel (db). Normal hearing is extablished as the zero level in decibels. A sound at the 0 level is barely audible. For normal conversation to be heard from a distance of ten to twenty feet, the loudness may vary from 35-36 db, depending upon the highness of the pitch. This is the normal threshold of hearing for daily living activities. When the intensity of sound ranges above 100 dbs, the sound may become painful. Students with 30 db or more loss are generally fitted with hearing aids. They cannot hear conversational speech from a distance further than three feet and may miss as much as 50 percent of class instruction if they cannot see the lips of the speaker. If the loss is of high frequency type, they may exhibit a slight speech defect. Students within the Mild classification of hearing loss can hear loud conversation within a three feet range, but often misunderstand meanings. They generally have defective speech, expecially with s, z, sh, ch, and j sounds. They do not hear clearly even with the amplification provided by hearing aids. Students within the Marked classification are considered partially or educationally deaf. Although they retain residual hearing, special training is needed for language acquisition. With a hearing aid, they can hear loud

noises such as an automobile horn or a barking dog. With amplification, they may also hear words spoken several inches from their ear. Students within the Severe classification cannot hear words even with the amplification of a hearing aid. They may be able to distinguish some noises from others if they are close by.

The Adapted Physical Education instructor should review the medical records of the deaf or hearing impaired students enrolled in APE classes in order to provide an appropriate program and to determine how to communicate within the designated classification of hearing loss.

The instructor must ascertain that the learning environment is conducive to the reception of symbolic language. The lighting must be adequate for lip reading, and the person giving instructions must be close enough so that minute movements of the lips and tongue can be perceived. When instruction occurs out of doors, care must be taken that the deaf student is not facing the sun when trying to read lips. Large hand signals should accompany all verbal instructions and whistle blows. The instructor should position himself so that he is always within the deaf student's view.

Many authorities recommend that hearing aids be removed during Physical Education. This generalization seems appropriate only for team sports with body contact. It should be remembered, however, that a hearing aid amplifies all noise, not just word sounds. As a result, deaf students may react negatively to prolonged noise and have frequent tension headaches.

Deaf students should not be expected to enjoy excercises which demand postures in which the body is bent over and the vision is limited. There is a tendency for deaf student to keep their head up while touching toes. In aquatics, many deaf students prefer swimming with the head, or at least the eyes, out of the water. Underwater lights can be used for signaling when deaf students learn standard strokes and synchronized stunts.

In most deaf educational settings, total communication is used: the combination of signing and spoken words. To function optimally, APE teachers must learn sign language.

Since the inner ear governs the functions of both hearing and balance, a hearing loss often affects balance. Impairment of balance occurs most frequently when the hearing loss is caused by meningitis. In such cases, the destruction is primarily in the semicircular canals rather than in the cerebellum. Deaf students have also been found inferior in locomotor coordination or dynamic balance as measured by the Heath Rail Walking Test.

Deaf students with balance problems whould be given special instruction on the kinesiological prinicples of equilibrium. Movement exploration sessions may be developed around the following themes:

1. Center of Gravity. What is it? How do your movements affect it? In what movements can you keep the center of gravity centered over its supporting base? In back of it? To the side of it? What activities lower your center of gravity? Raise it?

2. Broad base. How can you adapt different exercises so that the supporting base is larger than normal: In what directions can you enlarge your base: In which direction should you enlarge your base when throwing? Batting? Serving a volleyball? Shooting baskets?

Deaf students can learn to compensate for poor balance by

maintaining a mechanically favorable body position. Activities such as walking on tin can stilts provide practice in learning to use vision and kinesthetic cues as compensatory measures. Games and relays performed with the eyes closed or blind-folded are contraindicated for the deaf. Activities should be provided which inhance vision and kinesthesis. All forms of dance increase body awaremenss as well as the Oriental exercise systems and martial arts.

The use of perceptual-motor activities planned specifically to improve balance is controversial. No research has been reported which shows that the balance of deaf students can be improved by specific activities other than exposure to the previously described activities and a well-rounded Physical Education program with specific programming in tumbling, gymnastics, and trampoline.

There is also a clearly indicated relationship between deafness, speed, timing, and general motor behavior. Although little research has been done in this area, neurologically, there is some evidence that the senses of time and temporalness are dependent upon the same areas of the brain as is auditory perception.

Persons with severe hearing losses often walk with a shuffling gait. This characteristic is not limited to those with semicircular canal deficits. Therefore, it is assumed that the inability to hear the sounds of movement is the cause, not brain or ear damage. When needed, heel-toe gait practice should be presented and methods of reinforcing the correct walking pattern must be found since the student cannot hear the difference between picking the feet up and dragging them. The heel-to-toe

walk can be reinforced visually by practicing walking toward mirrors. Visual training, however, tends to result in the habit of watching the feet. Proprioceptive training, with emphasis upon the difference in the feel of walking on heels and toes is recommended.

Because of their unique communication problems, the deaf and hard of hearing tend to mix socially with persons like themselves. Although many are superb athletes and could certainly compete on integrated teams, most belong to sports organizations especially for the deaf: International Committee of the Silent Sports, organized in France in 1924; the American Athletic Association for the Deaf (AAAD), founded in 1945; and the Deaf Skiers Association founded in 1968. The AAAD promotes state, regional and national basketball and softball tournaments and prepares athletes for participation in the World Games for the Deaf and activities of the International Committee of the Silent Sports.

The following guidelines should be followed to establish rapport with the fifty deaf student attending MSAC in the APE class setting:

1. Always position yourself where the deaf student can see you.
2. Do not talk nor give directions while writing on the blackboard or facing away from the deaf student.
3. Do not raise your voice when speaking to a person with a hearing aid.
4. When outdoors, position yourself so that you rather than the deaf student faces the sun.
5. When a student indicates that he/she does not understand your instructions, rephrase your sentences hoping that the student can perceive sounds of a different frequency or letters more visible on the mouth than those originally used.
6. Allow students with hearing losses to move freely about the gymnasium in order to be within seeing and hearing range.

8. Whether or not you understand a student's attempt to speak, give the child some response to reinforce his or her efforts at the mastery of speech.

BIBLIOGRAPHY

Berges, Shirley A. "The Deaf Student in Physical Education." Journal of Health, Physical Education, and Recreation 40 (March 1969) 69-70.

Carlson, Robert B. "Assessment of Motor Ability of Selected Deaf Children in Kansas." Perceptual and Motor Skills 34

Eichstaedt, C.B. and P. Seiler. "Communicating with Hearing Impaired Individuals in Physical Education. Journal of Health, Physical Education, and Recreation 49 (May 1978)19-21.

Lindsey, Dianne, and Janet O'Neal. "Static and Dynamic Balance Skills of Eight Year Old Deaf and Hearing Children. American Annals of the Deaf 121 (February 1976) 49-55.

Pannella, Lou. "Motor Ability and the Deaf: Research Implications." American Annals of the Deaf 124 (June 1979) 366-72

Schmidt, Sharon, and John Dunn. "Physical Education for the Hearing Impaired: A System of Movement Symbols" Teaching Exceptional Children 12 (Spring 1980) 99-102.

Shapira, W. "Competing in a Silent World of Sports." The Physicain and Sports-Medicine 3 (November 1975) 99-105

Stewart, Larry. "Hearing Impaired/Developmentally Disabled Persons in the United States: Definitions, Causes, Effects and Prevalence Estimates." American Annals of the Deaf 123 (June 1978) 488-95.

BLIND AND VISUALLY IMPAIRED

Visual handicaps are defined in terms of visual acuity as measured by a Snellen chart. The lines of progressively smaller letters are read by a person sitting or standing at a distance of twenty feet from the chart. Sharpness or clearness of vision is designated as a numerical ratio. There are approximately forty blind students attending MSAC, and each blind student's record should reflect one of the following classifications:

20/200 LEGAL BLINDNESS. The ability to see at 20 feet what the normal eye can see at 200 feet. This classification qualifies the student to receive assistance under state and Federal programs.

3/200 to 10/200 MOTION PERCEPTION. The ability to see at 3 to 5 feet what the person with normal vision sees at 200 feet. This ability is limited almost entirely to motion.

Less than 2/200 LIGHT PERCEPTION. The ability to distinguish a strong light at a distance of 3 feet from the eye but inability to detect movement of a hand at the same distance.

Lack of visual perception TOTAL BLINDNESS. This is the inability to recognize a strong light which is shown directly into the eye.

Most blindness in young people is attributed to birth defects, while infectious diseases, tumors, and injuries are minor causes of blindness in youth. The cause of a student's blindness does not affect physical education programming. The student who is totally blind has few, if any, restrictions in Physical Education. Nothing can worsen the vision, and the student can participate fully in any physical activity. The student who is gradually losing visual acuity constitutes a greater problem. Such a visually impaired student may fear falling, being hit in the eye by a ball, or other accidents which can rob him/her of his/her remaining vision. These fears are generally unfounded.

Visually impaired students are aften encouraged to master

academic and vocational skills which will be needed in the future. Many local agencies for the blind provide such instruction as well as the schools, but few offer opportunities for participation in physical recreation and development of lifetime sports skills. Unless partially sighted and blind students develop recreational skills that will help them to remain a part of the community, they are likely to become increasingly lonely. No amount of academic success and vocational independence can substitute for the social values derived from informal play. Special instruction should be provided in such activities as swimming, horseback riding, skating, bowling, dance and gymnastics so that students that are losing their sight can keep up socially as well as academically.

Although widespread individual differences exist among the blind, certain characteristics appear more often than in the sighted population. Foremost among these are stereotyped behaviors defined broadly as mannerisms resulting from repression on the innate need to move. The most common of these are (1) rocking backward and forward, (2) putting fist or fingers into eyes, (3) waving fingers in front of the face, (4) whirling rapidly round and round, and (5) bending the head forward. These mannerisms can be prevented or at least minimized through the provision of vigorous daily exercise.

Perhaps more than any other disability group, blind students need extensive experiences in creative dance or spontaneous movement. The traditional visually oriented instructional approach should be adapted to the predominantly haptic perception of most blind students. Creativity in movement is elicited

through discussions of muscular sensations, kinesthetic experiences, touch impressions, and cognitive considerations of the self rather than the environment as the central reference point. The blind student's choreography is subjective rather than objective. He/she tends to invest movement with feeling rather than to concertrate upon such visual outcomes as good forms, proper space relationships, and group composition.

When planning movement exploration activities for the blind, the Physical Education instructor must realize that space is interpreted unconventionally by haptic minded persons. Whereas the visually oriented student perceives distant objects as amaller than those nearby, the blind student does not differentiate between the foreground and the background. The size of objects is not determined by nearness and farness, but rather by their emotional significance to the student attempting to imagine what something might look like.

Blind students experience difficulty in conceptualizing boundaries. Having no visual field to restrict them, their space is as large as their imagination. They tend, however, to think in parts rather than wholes since realistic conceptualization is limited to the amount of surface they can touch at any given time. In order to familiarize themselves with the gymnasium, they may move from one piece of apparatus to another, feel the walls, discover windows and doors and creep on the floor, but never are they completely certain what the unified whole feels or looks like. Three dimensional models similar to doll houses should be made available of the gymnasium and swimming pool, and activity areas. Small dolls with movable joints can also be used to teach movements.

Blind students should be provided with a GUIDEWIRE stretched from one end of the playfield or gymnasium to the other to enable them to meet such challenges as, "Run as fast as you can." The student can hold onto a short rope looped around the guidewire or follow the fuidewire with their fingers. Window sash cord stretched at hip height is probably best for this purpose. A knot at the far end of the rope warns the runner of the finish line. It is also possible for a blind student to improve running efficiency or master a new locomotor skill by grasping the elbow of a sighted partner, but the ultimate goal should always be self-confidence in independent travel.

Blind and visually handicapped persons, for the most part, are inferior in physical fitness to their sighted peers. Performance of partially sighted students tends to exceed that of the totally blind. Studies on cardiovascular fitness of blind persons have shown them to be equal to sighted persons or to have low fitness which can be significantly improved with treadmill and bicycle ergometer training.

The American Foundation for the Blind has catalogs of special equipment which can be ordered. Each year improvements are made in sound-source balls and audible goal locators which facilitate the teaching of ball skills. Electronic balls with beepers are gradually replacing balls with bells. Balls should be painted orange or yellow for the partially sighted.

Outside softball diamonds should be of grass with mowed baselines or have wide asphalt paths from base to base and from the pitcher's mound to the catcher. Inside, guidewires can be constructed from base to base. Boundaries for various games are marked by a change in floor or ground surfaces which can be per-

ceived by the soles of the feet. Tumbling mats can be placed around the outside periphery of the playing area to mark its dimensions.

Braile can be used on the swimming pool walls to designate the changing heights of the water. It can be used also on gymnasium floors and walls as aids in determining the colors, shapes, and sizes of targets.

Portable aluminum bowling rails, nine feet long and three feet high are available through the American Foundation for the Blind. These rails are easily assembled and broken down for transportation to different bowling alleys.

For the most part, however, equipment does not need to be adapted to the special needs of the blind. The activity area should be quiet enough to facilitate use of sound and well lighted to enhance use of residual vision.

Physical Education with sighted students is recommended. Except for ball handling activities, blind students can participate with few adaptations. Success depends in large part upon the ability of the instructor to give precise verbal instructions. Falls, scratches, and bruises should be disregarded as much as pollible so blind students are allowed the dignity of recovering without oversolicitous help. Physical assistance should not be given unless requested. In tandem walking, for example, the blind student should hold onto the upper arm of the sighted partner, not visa versa. Sighted persons, of course, bear the responsibility for making their presence known and should state their name when initiating a verbal exchange rather than assume that the blind student has an infallible auditory memory. When activities are practiced in small groups, the leader should as-

certain that blind students know the names of their classmates, the approximate space allocated to each, their place in the order of rotation if turns are taken, and the direction of movement. Sight is not required for success on the trampoline, parallel bars and other pieces of apparatus; for tumbling, free exercise, and dance; for weight lifting, fitness activities, swimming; nor for many sports.

An understanding of national and international athletic opportunities provides insight into programming for the blind students at MSAC. While blind students can participate in many integrated activities, they should be given optimal training in areas where they are most likely to excel.

While athletics for the blind have been well organized within the residential school network for years, the movement gained new impetus with the formation of the United States Association for Blind Athletes (USABA) in 1976. National championships are held every year, with international competition occurring every fourth year in conjunction with the Olympic Games. Sanctioned sports for the national games include swimming, track and field, wrestling, goal ball, women's gymnastics, winter sports (downhill and cross-country skiing), and others as selected by the USABA Board.

In competition other than wrestling, blind athletes compete against others with similar visual abilities according to the following classifications:

CLASS A - The totally blind; those possessing light perception only but having no visual acuity and/or those with 3° or less in visual field.

CLASS B - Those possessing hand movements but with a visual acuity of no better than 20/400 and/or those with 3+° to 10° in visual field.

CLASS C - Those with visual acuity from 20/399 through 20/200 and/or those with 10+° to 20° in visual field.

Track events include 60 or 100 meter, 200, 400, 800, 1500, 3000 and 10,000 meter runs conducted separately for A,B, and C athletes. In the shorter runs, guidewires and individual lanes are used. Beginning with the 800 meter run, Class A athletes run with partners and Class B and C athletes can run with or without partners. In such partner runs, the blind person must always precede the sighted partner who utilizes a nonelastic rope or cloth no more than 50 centimeters in length as a contact tether.

Field events include the standing or running long jump, standing triple jump, high jump, shot put, javelin and discus. Special events include the penrathlon and the 10,000 meter road run.

The gymnastic events for women include floor exercise, balance beam, uneven bars, vaulting, and all round. A 0.5 deduction is made for aid by a coach or spotter during competions. Added safety is provided by an extra layer of mats and padding covering all exposed metal parts os apparatus.

Goal ball is a game created in Europe especially for the blind Veterans of World War II. The only required equipment for the game is a bell ball. Each team consists of three players wearing helmet, mouth piece, elbow pads, and a blindfold. All field markings must be five centimeters in width and made of a distinctive texture for easy player orientation. Games are ten minutes in duration, with five minute halves. Each team tries to roll the ball across the opponent's goal while the other team tries to stop them. A thrown ball may bounce, but it must be rolling before it reaches the opponent's throwing area or it becomes an infraction. The entire team helps with defense. The arriving ball can be warded off in a standing, cowering, kneeling or

lying position with any body part or the whole body. Many adapted games and drills of this nature can be designed to give sighted students a novel experience as well as excellent training in auditory perception.

Beep Baseball is played by blind persons throughout the United States and supported and facilitated by the Telephone Pioneers, an association which can be contacted through the local telephone company.

The rules call for a regulation size baseball diamond with grass mowed to an approximate height of two inches. Grassy areas are used because they affect sound distribution and make the ball easier to locate. The ball, which is available through the Telephone Pioneers, is a regulation softball, 16 inches in circumference, with a battery operated electronic sound device inside. A regulation bat is used. Bases are 60 inches tall, with the bottom part make of a 36 inch tall pliable plastic cone and the top part made of a long cylinder of foam rubber. A speaker is installed in each base.

A team is comprised of five totally blind or blindfolded players and two sighted players who act as pitcher and catcher. The sighted persons pitch and catch when their team is up to bat and act as spotters when their team is in the field. As spotters, their role is to call out the fielder's name to whom the hit ball is coming closest.

Batters are allowed five strikes at pitches balls. Except on the last strike, fouls are considered strikes. Batters must attempt to hit all pitched balls, with the option of letting two go by without penalty. When a fair ball is hit, the umpire designates which one of the two buzzing bases shall be activated. A

run is scored if the batter gets to the buzzing base before being tagged out. GAmes are six innings in duration with three outs per inning.

BIBLIOGRAPHY

Barraga, Natalie. Visual Handicaps and Learning. Belmont, California: Wadsworth, 1976.

Buell, Charles E. Physical Education and Recreation for the Visually Handicapped. Washington D.C.: American Alliance for Health, Physical Education, and Recreation, 1974.

Cratty, Bryant J. Movement and Spatial Awareness in Blind Children and Youth. Springfield, Illinois: Charles C. Thomas, 1971.

Emes, Claudia. "Creative Dance: A Valuable Process for Blind Children." Education of the Visually Handicapped (Fall 1978-79): 84-87.

George, Colleen, and Robert Patton. "Development of an Aerobics Conditioning Program for the Visually Handicapped. Journal of Physical Education and Recreation 46 (May 1975) 39-40.

Kearney, Stephen and Rosanna Copeland. "Goal Ball," Journal of Physical Education and Recreation 50 (September 1979) 24-26.

Lukoff, Irving. Attitudes Toward Blind Persons. New York: The American Foundation for the Blind. 1972.

United States Association for Blind Athletes Official National Sports Development Committee Athletic Handbook. Edited by David P. Beaver. Beach Haven Park, New Jersey: USABA, 1978.

CEREBRAL PALSY

Cerebral Palsy is a group of neuromuscular conditions caused by damage to the motor areas of the brain. About ninety percent of such brain damage occurs before and during birth. Almost all cerebral palsied persons have multiple handicaps including mental retardation, visual defects, hearing loss, convulsive disorders, The whole body may not be motorically involved. Six neuromuscular classifications are recommended by the American Academy for Cerebral Palsy: (1) Spasticity, (2) Athetosis, (3) Rigidity, (4) Tremor, (5) Ataxia, and (6) Mixed.

Spasticity which accounts for approximately 66 percent of the diagnosed cases of cerebral palsy is characterized by exaggerated stretch reflexes, a marked decrement in ability to perform precise movement, and increased hypertonicity. The exaggerated stretch reflex is responsible for the jerky movements of the spastic. It is caused by the failure of antagonistic muscles to relax when the prime movers initiate an action which opposes gravity. The antagonists resist any stretching by an explosive recoil sort of action which is sometimes called the clonus phenomenon. When the arm reaches forward or upward, for instance, it is often jerked back toward starting position by the antagonists. Likewise, when the spastic strives to maintain good posture with head, neck, and spinal column in extension, he/she is frustrated by the antagonists, which contract reflexly and result in undesired flexion postures. The spastic is less normal in appearance than persons with other types of Cerebral Palsy. If all parts of the body are involved, the following

characteristics may be observed:

HEAD AND NECK. There is a tendency toeard flexion with frequent changes of head position probably caused by visula disturbances. Strabismus is almost always present.

SHOULDER JOINT. The hypertonicity of the shoulder joint adductors draws the arm in toward the midline of the body. Reaching movements, as in the overarm recovery in the front drawl, may be severely limited. The muscles require very slow or static stretching exercises. Activities should be devised in which the arms remain elevated such as walking while holding on to a rope strung overhead. Hanging from stall bars may be helpful.

FOREARM. The forearm is maintained in pronation. To counterbalance this tendency, exercises should be executed in a supinated position. Turning door knobs, using keys, and manipulating a screwdriver are illustrative supination activities.

WRIST AND FINGERS. The hand is typically held in a fist. The flexors are hypertonic, and there is a tendency toward permanent shortening. A wrist drop is often present. GAmes should be devised which demand simultaneous extension of the fingers and the wrists. Hyperextension of the wrist, however, is contraindicated because it elicits the grasp reflex. In ball activities, the instructor must be ever warchful that the student does not throw, catch, or volley with a fisted hand. Pressing against the sides of a large ball held with both hands stretches the finger flexors. Likewise, pressing with an open palm against the wall, the floor, or someone's hands is desirable. Stunts such as the wheelbarrow, creeping, headstands, and animal walks which take part or all of the body weight on the hands are recommended.

HIP JOINTS. The flexors, inward rotators, and adductors at the hip joint are excessively tight. The hypertonic adductors pull the thighs toward midline causing the advancing leg to cross slightly in front of the other in a scissors gait. The overly strong inward rotators explain the tendency to walk pigeon-toed. Activities involving hip adduction like rope climbing are contraindicated. Yoga and other slow or static stretching exercises for the tight muscles are recommended. Those performed in a wide-stride sitting position with thighs rotated outward are particularly helpful.

KNEE JOINT. The hamstrings, which cause flexion at the knee joint, are often so tight that long leg braces are required to prevent severe flexion contractures. Occasionally a tendon transplant alleviates the problem. In milder cases, where surgery is not indicated, daily exercises from a long sitting or long lying position help to stretch the hamstrings.

ANKLE JOINT. The hypertonic gastrocnemius and soleus and tight Achilles tendon contribute to the tendency to walk on the toes. Activities which emphasize plantar flexion, or pointing the toes, are therefore contraindicated. Dorsiflexion exercises which stretch the Achilles tendon are recommended. Walking up an inclined box, landing properly on the trampoline, and the kicking steps employed in La Raspa are among the activities which main-

tain the feet in dorsiflexion.

BALANCE. Cerebral brain damage in itself does not cause balance problems as lesions in other parts of the brain might. The spatic tends to fall often, however, because the scissors gait utilized a narrow base for ambulation. Contractures at the hip, knee, and ankle joints throw the body out of alignment and lessen its stability. Walking on the toes leads to frequent falls in a forward direction. Beam walking should be attempted first on wide benches and/or boards. Barres, like those in ballet studios, are helpful in the maintenance of balance during standing exercises. The student may also hold onto the back of a chair for support. Even parallel bars are used by physical therapists in teaching the standing and walking balance prerequisite for ambulation.

BREATH CONTROL. The muscles of respiration are often affected. This makes teaching rhythmic breathing almost impossible. Many students prefer back strokes.

Many of the cerebral palsied have some degree of athetosis manifested in continuous overflow movement of involved body parts. The motion is slow, wormlike, involuntary, uncontrollable, unpredictable, and purposeless. Athetoid persons exhibit fluctuating muscle tone, sometimes hypertonic and sometimes hypotonic. Many athetoids lack the muscle control to stand, creep, or lift the head from a prone positions. Regular daily exercise is imperative as flexion contracture of the hamstrings are common to anyone forced to spend long periods sitting. Although many games can be played from a wheelchair, none fulfill the objectives of preventing the contracture deformities, maintaining strength, and increasing range of motion.

Warm-ups are not needed by athetoids whose muscle contractions keep them in a state of never-ending readiness. Instead, the emphasis should be upon relaxation and tension reduction. It is generally believed that athetosis ceases during sleep. During waking hours, the ever-present overflow of movement fluctuates with level of stress. Often the harder the student tries to relax, the more troublesome the movements become. Voluntary

relaxation, meticulously controlled movement, and the avoidance of stress constitute the traditional guidelines for planning physical education for athetoid students.

Ataxia involves disorders of balance and proprioception. The term denotes poor motor coordination stemming from vestibular and kinesthetic inadequacies. Atasic Cerebral Palsy is believed to originate from cerebellar damage, and probably many persons have ataxis that are not so diagnosed. If motor awkwardness and problems of balance are not inherited from parents, it can be assumed that mild ataxia is present. Rigidity in Cerebral Palsy is associated with severe mental retardation. Tremors are involuntary vibrating movements which are usually regular and rhythmic. Most persons with CP exhibit symptoms of several types. Spasticity and athetosis almost always coexist with some body parts more involved spastically than others. When one tupe predominates, the CP is designated as mixed.

In order to understand the motor behavior of CP students, the instructor must learn about reflexes to explain the many bizarre involuntary movements. The Physical Education instructor should not subject CP students in APE to activities which elicit evolutional reflexes and/or encourage their persistence. Reflexes are involuntary and cannot be consciously stopped or controlled. The more self-conscious and embarrassed a student becomes about a reflex, the more exaggerated it is likely to be. The APE instructor should learn techniques for minimizing reflexes and/or for using them to elicit desired movement pattersn. For example, clenching an object to the fist can be used to increase muscle tone throughout the body, Turning the head to the left facili-

tates flexion of the right arm and the left leg. The best reference for therapy systems for CP students is contained in the Proceedings of a conference held at the Northwestern University Medical School in Chicago in 1966 found in the American Journal of Physical Medicine, volume 46, No. 1, February 1967, Baltimore, Maryland 21202.

Both international and national cerebral palsy sports competition evolved in the 1970s. Competitive events in the United Stated include swimming, archery, horseback riding, weight lifting, table tennis, wheelchair and ambulant soccer, billiards, bowling, rifle-shooting, and track and field events. CP Sports officially separated from activities sponsored by the wheelchair association in 1978 with the formation of the National Association of Sports for CP (NASCP). Since that year, NASCP Games have been held and many local and regional competions begun. The classification system measures functional capacity with tests of coordination, range and speed of movement, and whether or not the athlete is wheelchair bound, on crutches, or ambulant.

A growing body of research on fitness and CP indicates that CP students can engage in strenuous enough activities to significantly improve their cardiovascular endurance. In the past, the prevailing view was that competition was contraindicated for the CP person. Obviously, this is changing with the movement for athletic competition being led by CP persons themselves. CP students at MSAC should be given a good enough basic movement foundation that they can compete if they wish. They should be exposed to many and varied activities.

BIBLIOGRAPHY

Bobath, Karel. The Motor Deficit in Patients with Cerebral Palsy. ondon: Spastics International Medical PUblications, 1974.

Brown, Alan. "Review: Physical Fitness and Cerebral Palsy," Child: Care, Health and Development 1 (October 1975) 143-52.

Cruickshank, William, ed. Cerebral Palsy: A Developmental Disability 3rd. ed. New York: Syracuse University Press, 1976.

Gillette, Harriet. Systems of Therapy in Cerebral Palsy. Springfield, Illinois, Charles C. Thomas, 1969.

Hellebrandt, Frances, Joan C. Waterland, and C. Etta Walters. "The Influence of Athetoid Cerebral Palsy on the Execution of Sports Skills: Bowling." Physical Therapy Review 41 (February 1961) 106-13.

Huber Craig. "Coming of Age ....Cerebral Palsy Sports." Sports 'n Spokes 5 (July/August 1979) 17-18.

Lundberg, Ake. "Mechanical Efficiency in Bicycle Ergometer Work of Young Adults with Cerebral Palsy. Developmental Medicine and Child Neurology 17 (August 1975) 434-39.

National Association of Sports for Cerebral Palsy, USA Constitution, Rules, Classification, and National Records Sports Manual. New Haven, Connecticut: NASCP, Annual.

Robson, Peter. "Cerebral Palsy and Physical Fitnes.. Developmental Medicine and Child Neurology 14 (December 1972) 811-13.

Witengier, Mary. "An Adaptive Playground for Physically Handicapped Children." Physical Therapy 50 (June 1970) 821-26.