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## Chapter 3

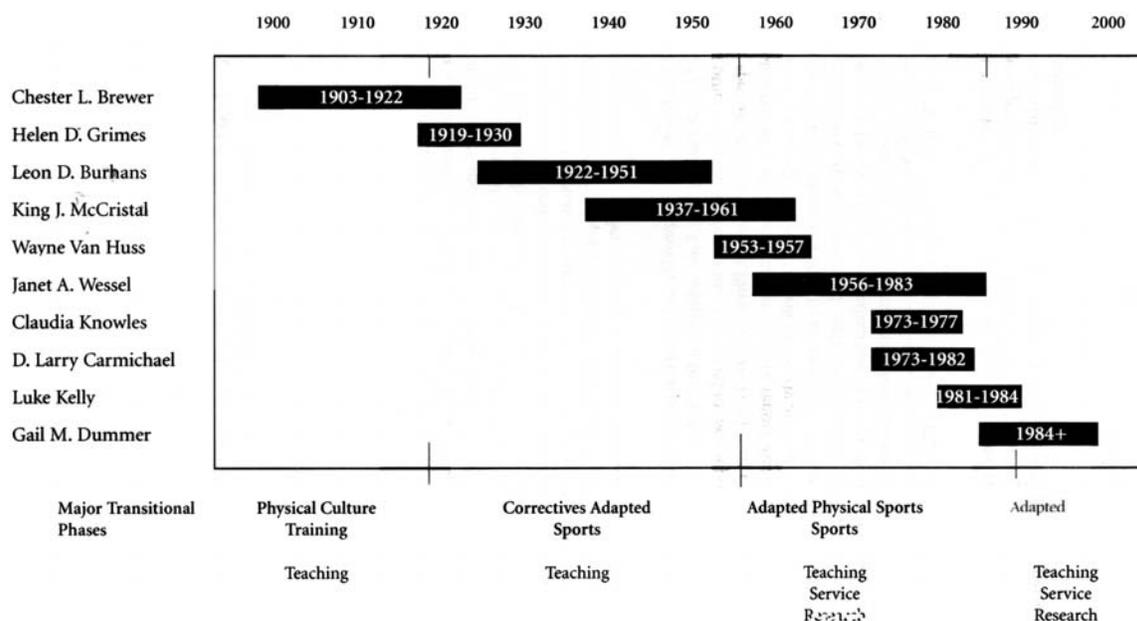
### History of Teaching and Research in Adapted Physical Activity

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#### Overview

This chapter is presented in chronological order from 1900-present. This time period has been divided into four major transitional phases: Physical Culture and Training, Adapted Sports and Correctives, Adapted Physical Education, and Adapted Physical Activity. Teaching, service and research are described in each major phase. The course descriptions for the courses listed in the teaching narrative are provided in the various bulletins of the college and in the MSU Descriptions of Courses for the years 1900-1999. Figure 1 depicts the four major transitional phases, time periods, and faculty who taught courses in Adapted Physical Activity, as this area is named today in the Department of Kinesiology. Service and research activities were not undertaken until the late 1960s.

**Figure 1. Faculty Teaching in Adapted Physical Education with Major Transitional Phases: 1900-Present**



We hope that this report not only provides an historical perspective for the Centennial Celebration of the Department of Kinesiology but that it also will be meaningful for students and others who are interested in, or involved in, developing and organizing an academic specialization in Adapted Physical Activity with an emphasis on teaching, service, and research. We found that writing this report was more difficult than we had foreseen. In reading this report it will be clearly apparent there is a very thin line between personal reflections and objectivity. In particular, Janet Wessel's research journey from women's studies conducted with colleagues in the Human Energy Research Laboratory to adapted physical education is not a straight line. Both the journey and Wessel changed as events in the 1960s dramatically changed the field of adapted physical activity for persons with disabilities, and consequently, the history of Adapted Physical Activity at Michigan State University (MSU) in teaching, service, and research.

It is difficult to write this report without some introductory remarks describing Wessel's three major goals for coming to MSU in 1956, and the impact of these goals on the history of adapted physical activity at MSU. It becomes clearly evident that one thing leads to another.

### **Introductory Remarks (By Janet A. Wessel)**

#### ***Coming to Michigan State in 1956***

Coming to Michigan State University in 1956 was based on the acceptance of three major goals by the "powers that be". With discussion and some changes, these goals matched the vision and needs of the College of Education and the Department. They were considered my work profile: Goal 1—An Adapted Physical Education Program of Studies; Goal 2—A Physical Therapy School; and Goal 3—Half Time Research. The first step toward the development of an Adapted Physical Education Program of Studies was the development of a foundations course in Physical Education and an alliance with the Health Center to better serve students with disabilities.

#### ***The Foundations of Physical Education Course--Accommodate All Students***

With the cooperation of the women faculty, a foundations course was designed and implemented in 1956 for all entering women students. The course was titled HPR 105 Foundations of Physical Education. In 1957, a workbook for college women was written for a course titled Movement Fundamentals. The workbook was published by Prentice-Hall. The Movement Fundamentals course was designed to contribute to each college woman's understanding of herself by guiding her to explore: (a) her physical self and her own capacities for movement; (b) the health benefits and well-being of regular physical activity, no matter what her age; (c) how physical activity can help her maintain and improve her bodily functioning and well-being; (d) designing personal fitness and active life style profiles, not only for the college years but for all the adult years; and (e) a resource of physical recreational activities, and their accessibility, for enjoyment as a spectator and as a participant. Women students with disabilities were

guided into regular instructional courses or the special Adapted Physical Education course under the supervision of the University Health Service and administered by a physical therapist. (The adapted physical education course was dropped in 1972).

Later the men's faculty became involved in writing a text and in designing a Foundations of Physical Education course required of all entering men students. In 1961, the women faculty and selected undergraduate physical education major students held weekly seminars to design and implement a closed circuit television foundation course. This work was supported by Dr. Brookover of the College of Education and resulted in the publication of the closed circuit television Foundations of Physical Education Course by the College of Education.

### ***Physical Therapy 1956-1968***

It was the intent of the Department with the cooperation of colleagues in the Health Center and the departments of anatomy and physiology, in alliance with different rehabilitation centers and surrounding hospitals, to establish an undergraduate degree with certification in physical therapy. The degree would involve three years of didactic curriculum with practicums on the MSU campus and one year of clinical work and study at an approved clinical center. Working with university colleagues and hospitals in Lansing, Grand Rapids, Flint, and other neighboring cities, this goal almost came to fruition. However, the university administration felt that the timing was not appropriate for the establishment of a School of Physical Therapy because MSU was involved in establishing medical schools.

With this avenue closed, another approach was undertaken to service university students interested in physical therapy. A program of studies was established in which the curriculum for the first three years was identical to that of the Physical Education Curriculum for Secondary Schools. However, during the fourth year, students took courses in the sciences (chemistry, physics, and mathematics) and in adapted physical education with practicums. Students received a degree and teaching certificate in Secondary Physical Education with the prerequisite requirements to enter an approved School of Physical Therapy. This program of studies was dropped around 1968.

### ***Women's Studies: Focus of Research 1956-1968***

The research studies involving women focused on aging in healthy women 20-79 years of age. Very little research had been reported on women in the United States. Most of the studies reported on women were done in Germany and Russia. Working with colleagues in the Human Energy Research Laboratory (HERL) and allied disciplines, several studies were undertaken. The purposes of these studies were: (a) to evaluate the influence of aging on selected anatomical, physiological and social parameters; and, (b) to explore the influence of body build, physical activity, nutrition, and asymptomatic sub-clinical conditions on functional responses to exercise. In 1966, an interdisciplinary proposal was submitted to the National Institute of Health, titled Aging in Healthy Women: 20-79 Years. A federal site team came to the MSU campus to review the proposal and meet grant personnel. Unfortunately, this proposal was not funded. (Note: The social and political health context for women was not recognized

at this time. In particular, gerontology and women's studies were not priorities. It was not until 1975 that The National Women's Health Network was formed in Washington, DC. The objective was to give voice in health policy and legislation for women. Six years later the National Black Women's Health Network was initiated. Finally recognizing that there are medically relevant differences between the sexes, the National Institute of Health established the Office of Research on Women's Health in 1990. The future is now for a Center of Women's Health studies in HERL.)

Studies on women were undertaken by faculty and graduate students despite the lack of funding. One such study was to design and develop a Physical Activity Recall Record. This study was funded by American Public Health. As studies were completed from 1956-1968, the MSU Research and Development Office provided financial support to present papers at various professional organizations. Presentations were made at International Gerontology Congresses hosted by the Wingate Institute in Israel; and by Vienna, Austria, Rome, Italy, and Hanover, Germany. Other papers were given at conferences in the United States such as those of the American Medical Association, the Regional Center on Aging at Duke University, and by our own professional organizations. Figure 2 contains a list of selected publications on movement fundamentals and women's studies for the period 1957-1970.

### ***The Battle Creek Curriculum Project***

I left the environment of the Human Energy Research Laboratory around 1968 because the focus of the research changed. I had no personal interest in using animals as subjects. In reviewing the literature, I did not find one study that used female rats, only male rats. My colleagues in the Laboratory did listen and brought in some female rats, but I'm not sure how long this lasted. There was too much activity in the cages. So one thing leads to another.

In 1968, I had the opportunity to become a member of the Battle Creek Curriculum Project. Working on the Battle Creek Curriculum Project highlighted the need not only for a systems approach, but also for a scientific basis for designing instructional materials and programs. The project was funded by the Michigan Department of Education for three years (1968-1971). The goal of the project was to develop a K-12 physical education curriculum and resource materials based on research and the "best" evidence available for health, fitness, and active life styles. The project was unique because it involved Michigan State University and Battle Creek Public school faculty working together to develop a relevant and meaningful physical education curriculum for the Battle Creek Public schools. The Michigan State faculty included Wayne Van Huss (Director), Vern Seefeldt, Arthur Steinhaus, Ione Shaddock, Janet Wessel, and Harry Webb. Later, Robert Johnson and Paul Vogel served as directors of the project, along with other faculty participants from the Battle Creek Public Schools.

**Figure 2. Selected Publications on Movement Fundamentals and Women's Studies 1960-1970 by Wessel and Colleagues**

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### **Movement Fundamentals**

- Wessel, J. (1957, 1960, 1970). *Foundations of physical education: Movement fundamentals*. Englewood Cliffs, NJ: Prentice Hall.
- Wessel, J. (1957,1960). As we view a new approach in the college instructional program for women. *The Foil*, 25, Dorann, NJ: Delta Psi Kappa.
- Wessel, J. (1960, November). A new approach in the college required program. *JOHPER*, 31, 17-21.
- With B. Massey, & J. Black, (1960). *Kinesiology of weight training*. Dubuque, IA: Wm. C. Brown Company.
- Wessel, J. (1963). *Teaching physical education by closed circuit television*. Educational Publication Services, College of Education, Michigan State University, East Lansing, MI.
- Wessel, J. (1963). *Fitness for the modern teenager*. New York: The Ronald Press.
- With C. MacIntyre. (1970,1977). *Body conditioning for women*. Boston: Allyn & Bacon.

### **Women's Studies**

- Wessel, J. (1957, May 1). Importance of good nutrition and exercise in the aged. Contributor (Panel Report). *Journal of the Michigan State Medical Society*, 56, 589.
- Wessel, J. (1959). Activity patterns in daily living: Implications for maintaining positive health. *Annual Convention of American Medical Association*, Atlantic City, NJ.
- With R. Nelson & E. Dillon. (1960). Frequency distribution and standards of anthropometric and physical performance measures for college women. *Research Quarterly*, 32, 244.
- With A. Ufer, W. Van Huss, & D. Cederquist. (1963). Age trends in various components of body composition and functional characteristics of women aged 20-69 years. *Annals of the New York Academy of Science*, 110, 608-622.

- With H. Montoye, & H. Mitchell. (1965, September). Validation of physical activity recall record. *American Journal of Public Health*, 55, 1430-1436.
- With H. Webb. (1965). Body image, culture, and females in sport. *Proceedings of First International Congress of Sports Psychology*. Rome, Italy.
- With A. Small, W. Heusner, & D. Cederquist. (1966). Functional responses to submaximal exercise in women 20-69 years. *Journal of Gerontology*, 21, 161-181.
- With A. Small, W. Van Huss, & D. Cederquist. (1966). Influence of age on exercise adaptation in women on submaximal workloads. *Federation International Medicine, Sportina*.
- With A. Small, W. Van Huss, W. Heusner, & D. Cederquist. (1966). Influence of physical activity on functional responses to submaximal work and body composition in women, 20-69 years. *Proceedings, 7th International Congress of Gerontology*, Vienna, Austria.
- With A. Small, W. Van Huss, D. Anderson, & D. Cederquist (1968). Age and physiological response to exercise in women 20-69 years of age. *Journal of Gerontology*, 23, 269-278.
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In 1968, I received a clarion call from the Superintendent of Special Education. He said, "So we bring the disabled out of the state institutional placement, particularly the mentally retarded." "We place them in schools in the community." "Help me!" "Get out of your ivory tower or I will hire a ballet dancer!" So I did! This began my teaching, service, and research activities in Adapted Physical Education. I focused on curriculum and instructional programs for students with disabilities attending public schools.

## **Adapted Physical Activity: Teaching**

### ***Physical Culture and Training 1900-1920***

The purpose of the physical culture or physical training program was preventive, developmental or corrective in nature. The regular work of the department was devoted to lectures on hygiene and corrective exercises for any students who were defective physically. Emphasis was placed on abnormal foot conditions, poor body mechanics, heart disturbances, malnutrition, and infantile paralysis.

**Instructional Courses.** Physical Training and corrective physical work were required for freshmen, sophomore and junior men where the physical examination showed the need for such corrective exercises. Women were given a careful physical examination

at the beginning of each fall term. Suggestions for special exercises, if needed, were based on the outcome of the examination.

**Undergraduate Courses.** The first advanced courses in physical training were offered during the 1920-1921 school year. One of the courses, Physical Diagnosis, was a medically oriented training course. This course, separate for men and women, emphasized diagnosis, physical and medical examinations, the application of corrective gymnastics, and physical and medical remedial work. The focus of the work included health, body building, and the correction of unnatural and hampered positions of the body.

### ***Corrective Physical Education and Adapted Sports (1920-1950)***

There were several title and course changes during the period from 1920 to 1950. During this period, there was transition from medically oriented physical training and calisthenics to adapted sports and corrective or therapeutic gymnastics. Factors that precipitated this transition were: (a) the introduction of sports into the public school physical education curriculum and the culture of the country; (b) the return of veterans from World War II with medical emphasis on the potential of sports in rehabilitation pointing out that some disabilities such as spinal cord injuries and amputations could not be corrected; and (c) the introduction of wheelchair sports.

**Instructional Courses.** Separate instructional activity courses were offered for the men and women. Medical and physical examinations by the Health Service were required of all freshmen. Students excused from regular physical education classes because of disability were given specially adapted work in Adapted Sports for men and Corrective Gymnastics for women.

**Undergraduate Courses.** Separate professional courses in adapted physical education were offered for men and women. The required courses for undergraduate men included Anthropometry and Physical Examinations, and Corrective Gymnastics. By 1940, Corrective Gymnastics was changed to Adapted Sports. The courses for women included Physical Examinations and Measurements, and Therapeutic Gymnastics. The courses for men and women included practical laboratory work under supervision. The purpose of the men's and women's courses were to acquaint students with certain atypical postural or foot conditions, and with procedures and activities for the correction, protection, care and maintenance, or improvement of such atypical conditions.

**Graduate Courses.** A graduate course for men titled Physical Education for the Physically Handicapped was introduced in 1945. The title of the first graduate adapted physical education course for women was Workshop in Therapeutics.

### ***Adapted Physical Education (1950-1980)***

This time period involved a transition from therapeutic gymnastics and adapted sports to adapted physical education. The student population served in public schools changed dramatically to include individuals with all kinds of disabilities. Instrumental

in this change was the social-political climate in the United States. It was the legal battles of parents, advocates that fought to ensure services for all children with disabilities, and the vision of educators that brought about Public Law 94-142, The Education for All Handicapped Children Act of 1975. Passage of this law changed the face of special education and adapted physical education in U. S. public schools. Individuals with disabilities were removed from residential institutional schools and placed in community schools. The result was increased public school enrollment of students with disabilities, particularly those with mental retardation. At first, the education of children with disabilities took place in separate classes or schools in the local community. Later there was a major shift to educating children with disabilities in the least restrictive environment, a regular education initiative. The least restrictive environment movement was followed by one that focused on inclusion. The inclusion movement required that students with disabilities to be educated in regular class settings.

In 1967, federal legislation was enacted to support training in physical education so that students with disabilities could be appropriately served. These support funds did not become available until 1970. With these support funds, colleges and universities began developing majors in adapted physical education in order to prepare teachers who could address the needs of students with disabilities in school programs. The support funds were used primarily to develop graduate level specializations in adapted physical education. The legislation was enacted in 1967 and in 1970 the federal government provided funds for research and demonstration projects, specifically in physical education for individuals with disabilities.

**Instructional Courses.** In the 1950s, separate instructional courses, Adapted Sports for men and Individual Gymnastics for women, continued to be offered for students who were excused by the College Health Service as unable to take the regular activity courses for physical reasons. The development of HPR 105 Foundations of Physical Education as a required course for all entering women students in 1956 and for all entering men students in 1957 permitted students to assess their own physical potential and to plan their involvement in future activities. Student guides were provided to facilitate the successful inclusion of students with disabilities in regular instructional activity courses. In 1960, a course titled HPR 112 Adapted Physical Education was developed in cooperation with the Health Center Medical Staff. It was designed for both men and women students with physical disabilities and for students who were temporarily injured or incapacitated. The course, run as an outpatient clinic, was under the supervision of the University Health Service and administered by a physical therapist. HPR 105 and HPR 112 were removed from the curricular offerings of the department when the university dropped the physical education requirement for undergraduate students in the early 1970s.

**Undergraduate Courses.** Courses from the previous time period continued to be offered in the early 1950s. The men took Adapted Sports while the women took three courses--two Therapeutics Gymnastics courses (one with a practical laboratory) and a course titled Physical Diagnosis and Examinations. In 1955, the physical education professional courses offered by the men's and women's programs became co-educational. A new course, Survey of Rehabilitation and Therapeutic Care, replaced

the two therapeutic gymnastics courses in 1960. This course was designed for rehabilitation counselor trainees and teachers who were preparing to work in the field of special education. It was dropped in the late 1960s. The same year, Adapted Sports was replaced by Adapted Physical Education. The latter course was offered until 1965, then resurrected in 1972. In 1974, it was re-titled Physical Education and Recreation for the Handicapped with a prerequisite requirement of 100 volunteer hours working with handicapped children and youth arranged through the MSU Student Volunteer Office. In 1977, Cadet Teaching: Remedial Motor was added to the curriculum.

**Dual Major in Physical Education and Special Education.** Prior to 1980, when the State of Michigan began to offer a teaching credential called Teacher Approval in Physical Education for the Handicapped, there were no state or federal special education funds available for a local school district to hire a teacher in adapted physical education. A solution to this situation was explored in 1958. By working with special education colleagues at MSU (Dr. C. Mange, Dr. D. Burke, and Dr. L. Alonso) and the State Department of Education (Special Education Service Area), a dual major in adapted physical education and special education was established in the College of Education at MSU. With the dual major teaching credential, it was possible for undergraduate students to fulfill state and federal requirements as a special education teacher. Consequently, federal and state funds could be used by local school districts to hire physical education teachers to teach adapted physical education in their schools.

**Therapeutic Recreation.** In 1978, the Department of Health, Physical Education and Recreation (HPR) initiated a three-course program in Therapeutic Recreation. Funding for this program of studies was provided by a Professional Physical Education Training Grant from the Bureau of Education for the Handicapped. The program was transferred to the Department of Park and Recreation Resources in 1981 when the recreation faculty and recreation program in the HPR department was relocated there.

**Graduate Courses.** The two graduate courses offered in the 1940s, Physical Education for the Handicapped and Workshop in Therapeutics, continued to be offered in the early 1950s. The course, Physical Education for the Physically Handicapped Individual, was added to the women's program in 1954. When the men's and women's graduate programs were combined in 1955, this course and Advanced Therapeutics continued to be offered at the graduate level. However, a new course, Body Dynamic and the Postural Complex, replaced Advanced Therapeutics in 1960. It was renamed Posture and Anthropometry in 1965, but was dropped from the curriculum by 1972. A course, Trends and Techniques in Rehabilitation, offered by the department from 1956-1959 emphasized the programs of rehabilitation agencies for all ages. Several courses in adapted physical education were added to the curriculum during the 1970s so that by 1978, five different graduate courses in the area of disabilities were offered by the department.

**Professional Training Grants 1972-1986.** Figure 3 provides a listing of professional training grants in adapted physical education awarded to Michigan State University, College of Education, Department of Health Physical Education and Recreation 1972-

1986. These grants were funded by the U.S. Department of Education, Office of Special Education Programs (Formerly Bureau of Education for the Handicapped 1966-1980) in the Office of Education, U.S. Department of Health, Education and Welfare.

In addition to the training grant support, contractual services were offered for in-service training of school staff and/or for providing graduate students as teachers in adapted physical education at the school and/or district level. With the creation of the Field Service Unit in Physical Education for Special Populations, the contractual funds obtained were deposited in the College of Education Continuing Education Division. If local or district teachers desired college credit, MSU also provided this service. In addition, it provided ongoing supervision of the implementation of the adapted physical education instructional program at the school sites.

**Figure 3. List of Professional Training Grants Funded for Adapted Physical Education 1972-1986**

Years	Number of Projects	Project Director	Project Title	Funding Support*
1972-1980	3	J. Wessel	Leadership Personnel in Adapted Physical Education Master, Ph.D.	\$210,000
1979-1980	1	J. Wessel	Regular Physical Education Teachers: Inclusive School Programs	\$61,000
1983-1986	3	J. Wessel/L. Kelly	Postdoctoral Leadership I CAN Validated Program At Michigan State University	\$104,000
		J. Wessel/B. Holland L. Kelly	At Arizona State University At University of Virginia	

\* Percentage of the total funds includes overhead costs for MSU research, college and department.

### ***Adapted Physical Activity (1980- Present)***

**Instructional courses.** During the "adapted physical activity" era, students with disabilities continued to enroll in the physical activity courses offered for the general student body. To facilitate the successful inclusion of students with a disability, in 1990, Dr. Gail Dummer and Lynn Forsblom prepared the Guide to Service/Activity Courses in the Department of Physical Education and Exercise Science. To help students make informed choices about their participation, this guide includes a thorough description of each activity course as well as the accessibility features of the facilities and outdoor fields where activity courses are taught. In addition, the guide describes ways in which the Department is prepared to accommodate students with disabilities, such as moving courses to accommodating facilities, helping to identify a personal assistant if needed, and providing assistance to the course instructor. This information is published on the Department of Kinesiology web site.

**Undergraduate courses.** The required course in adapted physical activity for undergraduate physical education majors from 1972-1992 was HPR 452 - Physical Education and Recreation for the Handicapped. Although there were several minor acronym, title, and content changes during that time period, the core content focused on "selecting and sequencing learning activities of school age children with handicapping conditions that require special physical education programs or adapted activities in the regular program." HPR 452 included a lab component in which students learned to teach physical education skills to children with disabilities.

Major revisions to the undergraduate adapted physical activity course were adopted in 1992 when MSU made a transition from the quarter system to the semester system. These changes included a new course number (PES 465), a new course title (Physical Activity for Special Populations), an increase in instructional time from 3 quarter credits to 3 semester credits, and a change from the primary focus on school physical education to "teaching physical activity in school and community settings for persons with disabilities and youths at risk." The lab component of the course, now called the Sports Skills Program, was expanded to provide additional teaching and coaching opportunities for undergraduate students and to provide more effective service to persons with disabilities in the greater Lansing community. The required undergraduate course was revised again in 1997 and 1998. The current course title and description are: KIN 465 - Adapted Physical Activity: "Teaching and coaching physical activities for persons with disabilities."

Until the time of semester transition, it was possible for undergraduate students to pursue a dual major in physical education and special education, and thereby fulfill the requirements of the Teacher Approval in Physical Education for the Handicapped, a teaching credential offered by the State of Michigan. The dual major became an impractical venture in 1992 when much of the content of the special education program was infused into teacher education courses, with the revised requirements for teacher certification in special education requiring 5-6 years of study. Instead of a dual major, students seeking the Teacher Approval in Physical Education for the Handicapped now complete a set of specified courses in kinesiology and special education, as well as practical experience in teaching physical education to students with disabilities. Students receive academic credit for their field teaching experiences through KIN 466 - Practicum in Adapted Physical Activity (variable credit), a course added to the curriculum in 1990.

**Graduate courses.** At the conclusion of the 'adapted physical education era" (e.g., the late 1970s) at MSU, there were five graduate-level courses in adapted physical activity:

- HPR 809 - Orientation to Physical Education and Recreation for the Handicapped
- HPR 818 - Compensatory and Remedial Motor Education
- HPR 819 - Physical Education and Recreation for the Mentally Handicapped
- HPR 840 - Physical Education and Recreation for the Physically Handicapped
- HPR 842 - Training and Consultation Techniques

The content of each of these courses was concerned with the delivery of adapted physical activity services in public school systems. The HPR 819 and HPR 840 courses were taught on a regular basis, with HPR 809 and HPR 842 taught less frequently, usually when grant funding was available to support faculty salaries.

Like the undergraduate curriculum, the menu of graduate-level courses underwent significant revisions at the time of the 1992 semester transition. The former orientation and training/consultation techniques courses were dropped. The former HPR 819 and HPR 840 courses were merged into PES 865 - Curriculum and Instruction in Adapted Physical Education, a course that focuses on "design of curricula and implementation of instruction in physical education for students with disabilities." A new course, PES 866 - Research on Sports for Athletes with Disabilities is concerned with the "performance capabilities of athletes with disabilities" with emphasis on "research on areas such as exercise physiology, sport biomechanics, sport psychology, sport sociology, motor development, and motor learning." Whereas the former Physical Education and Recreation for the Mentally/Physically Handicapped courses included lab components, PES 865 and PES 866 do not. Another new variable-credit course, PES 867 - Practicum in Adapted Physical Activity, provides students with the opportunity to earn academic credit for field experiences. Finally, special topics in adapted physical activity may be taught via a new doctoral-level course, PES 960 - Current Issues in Motor Behavior. With the change in the department title to Kinesiology in 1998, all current courses carry a KIN acronym.

**Rationale for changes.** The most profound change in both the undergraduate and graduate curriculum is the shift from adapted physical education to adapted physical activity. Related changes to course content include an increased focus on the performance capabilities of athletes with disabilities and more attention to service delivery in community sports and clinical rehabilitation settings. One reason for these curriculum revisions is the changing needs of persons with disabilities. The inclusion movement that started with public demand, laws, and educational policies for the inclusion of persons with disabilities in the public schools in the 1970's and 1980's eventually led to demands for their inclusion in community sport and recreation programs as well. Elite athletes with disabilities are currently "pushing the envelope" even further; they want access to the coaching and facilities available through the national sports governing bodies that are affiliated with the United States Olympic Committee. Disability advocates not only want change; they want to be change agents as expressed by the slogan, "nothing about us without us."

New federal laws provide additional impetus for the shift to adapted physical activity. The Americans with Disabilities Act, adopted in 1990, requires that public services, such as places of exercise, make reasonable accommodations for persons with disabilities, including changes in service delivery, signage, communication systems, employment policies, and buildings. The Olympic and Amateur Sports Act, adopted in 1978 and revised in 1998, facilitates the participation of persons with disabilities in sports by providing access to the programs conducted by national sports governing bodies, recognizing the role of disability sports organizations, and supporting the participation of athletes with disabilities in the Paralympic Games.

Another factor that led to the focus on adapted physical activity rather than adapted physical education is the changing nature of the student body at MSU. The career interests of kinesiology majors have become more varied. For example, the percentage of undergraduate majors pursuing careers in teaching dropped from 100% in 1985 to 17% in 1995, and increased again to 26% by 1999 (Lynn Forsblom, personal communication, April 16, 1999). Although these data reflect in part the number of positions available to kinesiology majors in the MSU teacher certification curriculum, the data also reflect the changing job market. In addition to career in teaching in public school systems, kinesiology majors are interested in careers as researchers, coaches, program directors, sport administrators, sport journalists, athletic trainers, physicians, physical therapists, occupational therapists, cardiac rehabilitation specialists, personal trainers, and fitness leaders in community sports programs.

The establishment of the Sports Skills Program represents another major change to the curriculum. In this program, undergraduate students enrolled in KIN 465 - Adapted Physical Activity provide coaching and instruction in selected sports skills to persons with disabilities from the greater Lansing area. Students who have successfully completed KIN 465 and who have an interest in careers related to adapted physical activity may apply for the Janet A. Wessel Teaching Assistantship, with responsibility for serving as supervisors in the program. Approximately 4 teaching assistants, 50-55 undergraduate students, and 60-70 persons with disabilities participate in the Sports Skills Program each semester. The goal of the program is to prepare persons with a disability to participate in sports programs offered by schools, community agencies, and sports organizations.

The Sports Skills Program (the laboratory component of KIN 465) helps to implement the focus on adapted physical activity. More undergraduate students can be accommodated in the Sports Skills Program than in the laboratory component of the former HPR 452. This is an important consideration given that the number of undergraduate kinesiology majors has increased from 111 in 1985 to 420 in 1999 (Lynn Forsblom, personal communication, April 16, 1999). Perhaps more important, the Sports Skills Program includes opportunities for both coaching and teaching - students are not "forced" into experiences that prepare them for public school teaching careers. Students who enroll in the new practicum courses (KIN 466 and KIN 867) may request placements in educational, clinical, or community settings that allow them to explore career options related to adapted physical activity.

Course materials for KIN 465 - Adapted Physical Activity and KIN 866 - Research on Sports for Athletes with Disabilities have been published on the world wide web at <http://ed-web3.educ.msu.edu/kin465> and <http://ed-web3.educ.msu.edu/kin866>, respectively. These web-based materials appeal to the learning styles of computer-literate students. After the current web sites are refined in response to student feedback, these courses may be adapted for distance learning technologies. MSU is ready for the future!

## Adapted Physical Activity: Service

### *Professional Service Activities 1970-1984*

**Local Community and State of Michigan.** Local and state service activities in adapted physical education from 1970 to 1984 were focused on providing consultant services, working on committees, and participating on state projects. Two activities during this time period are especially noteworthy. First, in the 1970s, a Michigan consortium of colleagues in adapted physical education that included Wessel worked with the Michigan Department of Education, Special Education Area, in establishing criteria for Teacher Approval in Physical Education for the Handicapped. Second, members of the I CAN Project at MSU (discussed later) became involved with Michigan's Educational Assessment Program (MEAP) and with the Four State Physical Education Essential Performance Objectives Project. One document, *Essential Performance Objectives in Physical Education*, was prepared for the Michigan Department of Education, Specialist Division, and another document for the Four State project. These activities triggered the involvement of personnel in the Department of Kinesiology in the Michigan Exemplary Physical Education Programs Project (MEPEPP) in the 1980s. During this time period, Wessel served in a variety of advisory and consultant capacities at the state and local level. Several of these were with the Special Education Service Area in the Michigan Department of Education. She also served for eight years as Vice Chairperson of the Governor's Council on Physical Fitness and Health. For her service contributions, she received numerous certificates of appreciation and the Honor Achievement Award from the Michigan Association for Health, Physical Education and Recreation. It was through her efforts that adapted physical education became associated with the department and Michigan State University.

A Field Service unit in Physical Education for Special Populations was created to provide needed curriculum and instructional services at the community level. Working cooperatively with the school and intermediate school districts, and with the College of Education Continuing Education Services, contractual services were arranged to provide graduate students as instructors under the supervision of faculty. If local school or intermediate district teachers desired college credit, workshops and implementation schedules for the school sites were designed. Faculty directed the workshops and supervised the implementation of the instructional physical education program in special classes and/or the inclusion of the program in regular classes at the school sites.

Several school community outreach activities were undertaken in the 1960s and early 1970s in collaboration with an Intern Program in Flint, Michigan, conducted by Dr. E. Melby in the College of Education. When funds became available for a doctoral student internship in Adapted Physical Education, Pat Austin, the first woman Ph.D. graduate student in the department, received the internship. The objective was to design, teach, and establish an instructional program in physical education for students with disabilities at the Durnat Turi Mott School. This was a one-year project the was very effective and ongoing. The film "And So They Move" was developed and

disseminated with the support of personnel in the Instructional Material and Media Center at MSU.

Upon request of the School for the Blind in Lansing, Michigan, and Dr. L. Alonso, Special Education Professor in the College of Education, workshops were conducted for teachers at the School to adapt the I CAN Instructional resource materials and system for their physical education instructional program. Films were taken of students demonstrating locomotor and object control skills to assist teachers and parents in observing and assessing the students' motor performance. The parents and teachers were then shown how to use the data to plan lesson activities. Materials were written based on I CAN curriculum. Lou Tutt, a graduate student, deserves special recognition for his work with the deaf-blind students.

A service course was offered for teachers and staff at Battle Creek Ann J. Kellogg School for the Handicapped. The purpose of the course was to involve the teachers, physical therapists, and staff in designing and implementing an instructional physical education program for the students at the school.

**National and International.** As the work of Wessel in adapted physical education at Michigan State University Service became known at the national level during the 1970s and early 1980s, she was invited to assume leadership roles on committees of federal agencies and professional organizations; to serve as an advisor and consultant on various projects; and, as a reviewer of articles for journals and grant proposals for agencies of the federal government. For example, she was appointed by the U.S. Commissioner of Education to serve on the National Advisory Committee for the Handicapped; and she was a member of the National Diffusion Network for the U.S. Office of Education. She also served as an advisor to the Joseph P. Kennedy Jr. Foundation regarding research priorities in programming and evaluation. She was grant and field reviewer for the Office of Special Education in the U.S. Department of Education; and was a member of the Editorial Board for the *Research Quarterly*, the flagship research publication of the American Association for Health, Physical Education and Recreation (AAHPER). For her dedication and achievements in adapted physical education, Wessel received several prestigious awards, including the R. Tait McKenzie Award for "outstanding contribution to the welfare of man through service to the education profession" (AAHPER) in 1983, and the William A. Hillman Distinguished Service Award from the National Consortium in Physical Education and Recreation for the Handicapped for "improving the quality of services for persons with disabilities" in 1991.

The influence of the programmatic work in adapted physical education at MSU has had international impact. Information about the I CAN curriculum model has been shared with the international community through various presentations, workshops, and institutes. Presentations have been made in cities such as London, England, Brisbane, Australia, and Trois-Reverieres, Quebec, Canada. Workshops were conducted in Bogota, Columbia and the Virgin, Islands. However, the greatest impact has been in Costa Rica where various teacher-training institutes have been conducted and the I CAN curriculum has been translated in Spanish.

## ***Professional Service Activities 1984-Present***

**Local Community and State of Michigan.** At the local and state level, outreach efforts have focused on collaborative curriculum development efforts with local K-12 school district personnel and on the provision of instruction/coaching in sports skills to persons with disabilities through the Sports Skills Program. Dummer, through her involvement with the Michigan Exemplary Physical Education Programs Project (MEPEPP) from 1988-1993, has collaborated with teachers, administrators, and community leaders in K-12 school districts to develop or refine the core physical education curriculum, and in other districts, to refine the adapted physical education curriculum. Students with disabilities in these school districts now benefit from a system-wide core curriculum that facilitates inclusion and the development of individual educational program (IEP) goals and objectives. A related MEPEPP project on the evaluation of K-12 physical education programs (Dummer, Reuschlein, Haubenstricker, Vogel, & Cavanaugh, 1993) gives attention to the inclusion of students with disabilities and to the quality of instruction provided to these students. In addition, from 1989-1991, Dummer served on a committee of the Michigan Department of Education that developed essential outcomes in adapted physical education. She also provided leadership in adapted physical education for the Michigan Association for Health, Physical Education, Recreation and Dance.

The MSU Sports Skills Program (the laboratory component of KIN 465) represents a major service to the greater Lansing area. Approximately 60 children, youth, and adults with disabilities have participated in the program each semester since fall 1992. Participants receive coaching or instruction from undergraduate kinesiology majors in sports skills that they select. Some participants enroll in the Sports Skills Program for fun, others to improve skills needed in school physical education classes, and others to prepare for competitive sports. Each year several participants go on to compete in scholastic sports or in events conducted by disability sports organizations. The Sports Skills Program is likely to have a long-range impact given that the MSU students who work in the program are likely to provide quality services to persons with disabilities in the future as they pursue their careers in kinesiology-related fields.

**National and International.** Dr. Dummer has been particularly active in the development of competitive sports opportunities for persons with disabilities. She and her colleagues have established programs and competitions in the sport of swimming that provide a model for other sports organizations to follow. These programs are guided by a goal of vertical integration in which the national sport governing body assumes greater responsibility for elite athletes with disabilities while the disability sports organizations provide the major support to recreational and developing competitive athletes. Related outreach activities for Dummer include:

Working with the Adapted Swimming Committee of USA Swimming to educate coaches, officials, and local sports administrators about inclusion and coaching issues. Products of these efforts include officiating guidelines published in the USA Swimming rule book, a videotape about inclusion in competitive swimming, and an adapted swimming page on the USA Swimming web site.

Directing training camps for swimmers with disabilities at the United States Olympic Training Center in 1994, 1995, and 1997. The camp agendas focused on swimmer development, coach education, and research on swimming stroke technique. Perhaps more importantly, swimmers at this series of camps (and their coaches) began to view themselves as swimmers first, disabled second, with less concern about who represented which disability sport organization.

In addition to her work in swimming, Dummer has continued the influence of the department in adapted physical education at the national and international level in other areas. For example, she was selected as a member of the National Standards Committee, and as a National Test Administrator, for the Adapted Physical Education National Standards Project, a project sponsored by the National Consortium on Physical Education and Recreation for Individuals with Disabilities. She also served as President-elect of the North American Federation on Adapted Physical Activity (NAFAPA) from 1996-1998, and now serves as President (1998-200). She also was Director of the 1994 NAFAPA Symposium.

Dummer is frequently called upon to review grants for the Office of Special Education Programs in the U.S. Department of Education. She is a long-standing member of the Editorial Board of the *Adapted Physical Activity Quarterly*, and regularly reviews manuscripts for this publication, as well as for the *Journal of Physical Education and Recreation*. In addition to serving as an occasional reviewer for other journals, she is sought by publishing companies to review textbook manuscripts and other educational materials.

## **Adapted Physical Activity: Research**

### ***Research: Curriculum and Instruction 1970-1985***

Colleagues and collaborative efforts played a very important role in adapted physical activity research efforts. This was true not only for the women studies conducted in the early 1960s, but also for the I CAN Programmatic Research and Demonstration Projects in the 1970s and 1980s. Research agendas are influenced by social and political policies. A significant research program begins when the researcher sees a problem that has personal interest and meaning, but the problem also relates to larger questions or problems, An individual researcher's ideas respond to national concern through analyses of local community needs and activities as described in the following paragraphs.

The I CAN Programmatic Research and Demonstration Project began as the result of a problem. Individuals with disabilities were taken out of state institutions in Michigan (and later in the nation). They were placed in the local school community with little or no delivery system for instructional physical education. This problem had personal meaning and interest. At the same time it related to a larger problem-- national concerns for individuals with disabilities and the effectiveness of physical education programs. The interplay between policy and research was enhanced when Wessel was appointed to the National Advisory Committee for the Handicapped by the U.S.

Commissioner of Education during the time Public Law 94-142 was enacted. Since that time, Wessel has had the opportunity to work with professionals in national and state governmental educational agencies such as the Rehabilitation, Special Education and Physical Education Service Areas. These experiences made her acutely aware of the political/legislative process and the need to gain knowledge and understanding of different events and situations in Michigan, the nation, and particularly at the federal level that impacted on the individual with disabilities and physical education.

***I CAN Programmatic Research and Demonstration Project***

Research and demonstration physical education grants became a reality with the establishment in 1966 of the Bureau of Education for the Handicapped (BEH) at U.S. Department of Health, Education, and Welfare (HEW); and, with a federally mandated legislative base for adapted physical education service delivery in public school programs for students with disabilities. Working closely with special education personnel at the district and state levels, and at MSU, numerous proposals were written and submitted to The BEH. The I CAN project was funded by the BEH (1971-1979). Funds for disseminating the I CAN program and materials (1979-1 989) were made available by the State of Michigan and the U.S. National Diffusion Network.

The importance of bringing in money for Project I CAN Grants and contractual studies cannot be overstated. The I CAN programmatic research, demonstration, validation and diffusion projects provided funds for quality research, the delivery of service to teachers and students with disabilities, and the support of graduate students and staff. The funds available for the I CAN Research and Demonstration Projects and Diffusion 1971-1989 are summarized in Table 1.

***Table 1. List of Professional Training Grants Funded for Adapted Physical Education 1972-1986***

Dates	Number of Grants	Funding Source	Total Funds
1971-1978	8	Bureau of Education for the Handicapped Materials Center Peabody College  I CAN Diffusion	\$1,057,134
1979-1981	1	State of Michigan Department of Education Recognition Division	\$45,569
1981-1989	2	U.S. Department of Education National Diffusion Network Division of National Replication  in HEW, U.S. Department of Education, Office of Special Education Programs	\$82,283
1978-1979	1	National Media	\$20,727

\*These figures were taken from files 1971-1989. The funds include overhead research costs for MSU, College of Education, and the Department.

The I CAN Project was designed to develop, implement, and evaluate the effectiveness of a performance-based K-12 physical education curriculum and instructional system for students with disabilities. To implement I CAN, it was also necessary to develop, and evaluate teacher training models and materials. The I CAN Curriculum and Instructional System were designed to:

- I Individualize Instruction
- C Create Social Leisure Competence
- A Associate All Learning
- N Narrow the Gap between Theory and Practice

Four basic questions needed to be answered. Would the instructional system and the resource materials be user-friendly? Would the teachers use the resource materials to implement the instructional system as intended? Would the students make educationally significant gains? Would the program materials and system be reproducible in other settings? With positive responses to these questions, the next step was to validate the I CAN Instructional System and Resource Materials as an exemplary school program and practices. First, we worked with the Michigan Department of Education. The state appointed an external evaluator to examine the instructional system, resource materials, and findings; and to review the operation of a demonstration program site at a designated school site in Grand Rapids. The result of this evaluation was positive, and consequently, I CAN was declared a validated and exemplary K-12 physical education program for students with disabilities. Funds became available in 1979-1981 for disseminating the I CAN program in the State of Michigan. Second, the Project Staff prepared an evaluation report on teacher performance data and student achievement data resulting from the training of the teachers and the implementation of I CAN by teachers as intended. The report was presented to the Joint Dissemination Review Panel (JDRP) in 1981 and again in 1985.

The JDRP was established to determine if educational programs that can be replicated have exhibited positive impacts via evaluation studies. With validated evidence of effectiveness such programs were approved and endorsed by the government to be decimated through the National Diffusion Network (NDN) with federal monies. Based on the evidence of effectiveness, the JDRP votes whether or not to validate a program for entry into the NDN and to receive federal dissemination funds. I CAN was endorsed in 1981 and again in 1985.

The JDRP used three criteria to judge the effectiveness for programs applying for validation:

1. Are the program effects statistically significant? (Are the student gain scores valid and reliable?)
2. Are the results educationally significant? (Is the size of the effect meaningful to quality of life and is the program cost-effective?)
3. Is the program transportable? (Can the program be reproduced in other settings by other implementers?)

In summary, the I CAN Instructional Resources Materials and System were and are now commercially published for dissemination. These materials would not have been possible without the support and assistance of personnel in the Instructional Material and Media Center at Michigan State University. A Spanish version of I CAN published by the University of Costa Rica became available April 1999. A selected list of I CAN publications is provided in Figure 4.

**Figure 4. Selected I CAN Publications: Books and Instructional Resource Materials: 1970-1999**

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#### **Books**

- Woodburn, Sharon, Sistantes, Pablo, & Fernandez, Harry. (1999). *Valoracion Y Actividades Interactivas para La education psicomotriz*. Universtidad National Heredia, Costa Rica. Spanish Translation Published by University of Costa Rica.
- Wessel, J., & Zittel, L. (1998). *I CAN Primary Skills K-3*, 2<sup>nd</sup> Edition. Austin, TX: PRO-ED.
- Wessel, J. & Zittel, L. (1995). *Smart Start: Preschool movement curriculum designed for children of all abilities*. Austin, TX: PRO-ED.
- Wessel, J. (1983). *Jump Start: A teacher handbook: Performance based learning and assessment of movement concepts and motor skills kindergarten through second grade*. (1983). Wessel Associates.
- Wessel, J., & Kelly, L. (1991). *I CAN implementation guide: Teaching the ABC model*. Austin, TX: PRO-ED.
- Wessel, J., & Kelly, L. (1986). *Achievement based curriculum development in physical education*. Philadelphia: Lea & Febiger.
- Wessel, J., Green, G., Knowlton, K., & Lessard, E. (1981). *I CAN adaptation manual: Teaching physical education to severely handicapped individuals*. Instructional Media Center, Michigan State University. East Lansing, MI.
- Wessel, J. (1977). *Planning individualized programs for all handicapped individuals: Examples from the I CAN physical education instructional resource materials*. Northbrook, IL: Hubbard.

#### **I CAN Resource Materials**

- Project I CAN Staff. *I CAN Instructional Resource Materials*. Austin, Texas: PRO-ED.
- Performance Based Assessment and Learning: Standard Based Curriculum

*I CAN Primary Skills. 1976. First Edition.*

Fundamental Skills: Locomotor and Object Control (73 Performance Objectives—POs)  
Body Management (23 POs)  
Health Related Physical Fitness (18 POs)  
Aquatics (16POs)

*I CAN Sport. Leisure and Recreational Skills. 1979, First Edition.*

Team Sports (21 POs)  
Dance and Individual Sports (27 POs)  
Backyard Games and Activities (17POs)  
Outdoor Activities (20 POs)

Project I CAN Staff. Films and I CAN Fundamental Motor Skills Videocassettes were developed by the Instructional Materials and Media Center and I CAN Publishers to help teachers analyze skills and to assess the performance of students. Two films also were developed for teachers.

Videotape: Locomotor and Rhythm Skills  
Videotape: Object Control Skills  
16 mm color film: I CAN Implementation System  
16 mm color film: And So They Move Performance Objectives: POs

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Recognition is due the many I CAN project faculty, staff and graduate students who made essential and valuable contributions through their hard work and dedication to the projects. Appendix A contains a listing of these individuals as well as other I CAN publications. Hopefully, the identification of Project Staff is complete. If not, an apology is extended to anyone who has been accidentally omitted.

***Research: Inclusion, Performance, and Sports 1985-1999***

The design, implementation, and evaluation of adapted physical education programs continue to define research efforts in the Department of Kinesiology. MSU faculty and graduate students used the principles established by the Michigan Exemplary Physical Education Programs Project (MEPEPP) to design physical education curricula for students with disabilities. To promote inclusion in sports and adapted physical activity programs other investigations were conducted to: (a) develop quality indicators and procedures for conducting a self-study of the quality of a district-wide K-12 physical education program; (b) improve performance of children with and without disabilities in an inclusive physical education setting; (c) demonstrate the efficacy of language in physical education lessons for preschool children with delays in cognitive and language development; and (d) improve motor performances for preschool children with disabilities with Montessori-style lessons.

Another line of research investigations focused on the participation of persons with disabilities in competitive sport programs in the context of inclusion in community sports and physical activity programs such as: (a) legal and philosophical bases for inclusion in sports; (b) assessment of the extent to which persons with disabilities actually do participate in sports and physical activity programs; and (c) qualitative

methods to determine athlete, coach, and community factors for successful inclusion of athletes with disabilities in selected sports, namely competitive swimming. Related studies have focused on the development of athletes: (a) biomechanical studies of the stroke techniques of elite swimmers with disabilities; (b) use of sport psychology techniques by athletes with disabilities; (c) acquisition of the wheelchair tennis serve; (d) running gait of recreational runners who are blind; (e) readiness to participate in sports related to fundamental motor skills of children and youth who are deaf; and (f) perceived and actual competence in selected basketball skills by adolescent boys with disabilities .

In addition to conducting, presenting, and publishing research, the faculty at Michigan State University has facilitated research on adapted physical activity by hosting Symposium 1994, the second biannual conference of the North American Federation on Adapted Physical Activity.

## Conclusions

### ***Needed Research***

Researchers need to provide legislators and policy decision-makers with validated, relevant information that addresses substantive evidence. Methodological rigor is basic for any study findings to be accepted as evidence on which to make program and policy decisions. The I CAN researchers and their work have been judged for the most part by their academic peers on technical aspects of their research. However, in the long run, the influence of their work will be evaluated in terms of its relevance in increasing the understanding of field test procedures, and in determining the effectiveness of program interventions, not only for students with disabilities, but what needs to be done to improve the program for all students to achieve stated outcomes. There is no doubt that researchers need to meet a double standard, relevance and rigor.

Other points need to be made. First, no "one shot" or individual studies can solve real problems in curriculum and instructional interventions in school programs. Second, what is needed for research to influence policy is the aggregation of solid and consistent evidence addressing a particular problem area by researchers. An example of this type of research effort is provided by the researchers, students, and staff of the Human Energy Research Laboratory. Without the support and cooperation of these researchers, the early Women's Studies investigations would not have been possible. Hopefully, this work will be carried on. The appropriate timing for funding these grants is now, with the Office of Health Studies for Women established in 1990 at the National Institute of Health.

In reviewing the literature, it is clearly apparent that there is an array of instructional physical education, sport activity programs, and teaching and coaching strategies for persons with disabilities. Many of these programs have strong advocates. Yet one can find little evidence that supports or confirms the effects of these programs. We need to address topics such as outcomes or criteria for evaluating effectiveness, e.g.,

content, time intensity of interventions/ interactions, long term consequences, conditions that contribute to differences in outcomes, and cultural and language differences that impact on students school experiences. An example of research responding to some of these issues is the work reported earlier in this report by Dummer and colleagues involved in the Michigan Exemplary physical Education project (MEPEPP) K-12, 1993. The physical education curricula that resulted from these projects were designed to promote inclusion tailored to the local needs and priorities.

We do need longitudinal strategies and methods, in depth studies, to determine appropriateness or effectiveness that determine decisions for sports and physical activity programming in schools and community, not just advocacy or availability. Furthermore, there is need to provide detailed guidelines in sampling and subject description for research. Particularly apparent are problems of sample heterogeneity; labels or definitions of conditions are not descriptive for the groups of individuals with a disability. The diversity of individual differences within the group needs to be examined with respect to outcomes. Labels used as operational criteria for research purposes are too ambiguous and sometimes controversial for school or district sites in the same state or in different states. Therefore, sampling imprecision is often considered a major limitation in research on disabled populations. What research strategies need to do is examine within group variations in response to the invention and how to account for the heterogeneity (individual differences) in outcomes, of individuals making up the study sample. How do researchers account for within sample variations? How do these variations impact on replicability, generalizability, and transportability?

### ***Program Design, Implementation and Evaluation***

Investigations need to be undertaken that focus on the effectiveness of program design, resource materials, implementation, and evaluation such as:

1. The effectiveness of teaching strategies, resource materials and curriculum models to facilitate inclusion of students with disabilities preschool, K-12, and higher education.
2. The effects are evaluated in terms of materials, teacher performance and student outcomes: students with and without disabilities in the inclusive community and school settings.
3. Long term studies need to be undertaken to determine the effects on the quality of learning as students progress toward stated outcomes and an active personal life style overtime.

What is needed to begin investigations of the effects of a program are sampling guidelines. Sampling methods are strategies that need to be established to account for the wide diversity of individual differences within groups, students with and without disabilities in the inclusive school and community physical activity and sports programs. These procedures should lead to generalizability and transportability of programs and materials to facilitate inclusion of persons with disabilities in sports and physical activity programs.

## ***Sports, Physical Activity Programs and Inclusion***

Investigations need to be undertaken that focus on facilitating the participation of persons with disabilities in community sports and physical activity programs such as:

1. Minimizing participation barriers: attitudes of potential participants, parents/guardians, and service providers.
2. Coaching strategies and models to facilitate inclusion of athletes with disabilities in individual, dual, and team sports.
3. Effectiveness of coaching strategies and inclusion models in terms of athlete outcomes. Benefits of physical activity for persons with a disability at all ages.

## ***Adapted Physical Activity: Past and Present***

Historically, and at present, MSU faculty and students in the Department of Kinesiology are “pushing the envelope” with respect to more effective ways to serve persons with disabilities in sport and physical activity programs from preschool, K-12, and higher education. This work is aligned with Michigan State University and the College of Education Heritage: Teaching, Service/Outreach, and Research.

**Teaching.** All undergraduate majors complete a course and related practicum experience (Coaching and teaching in the Sports Skills Program) that prepare them for a variety of professions in Kinesiology. All courses are contemporary in terms of course content and use of technology. Distance learning strategies have been initiated. Graduate programs are individualized for each student utilizing the resources of the university, the community, and the state. Appendix B lists Ph.D. graduates.

**Service/Outreach.** Participation in community sports and physical activity programs, persons with disabilities are leading the way. MSU faculty and students are contributing to the goals and programs that persons with disabilities believe to be important. Their participation in state, national and international conferences is highly recognized as well as collaboration with local community groups.

**Research.** Investigations on inclusion in sports and physical activity programs are focused on helping teachers, coaches, parents, and other service providers include persons with disabilities in programs that lead to a healthy lifestyle, personal satisfaction, and recognition for outstanding performances.

Interdisciplinary research in pedagogy, biomechanics, sport psychology, motor learning, exercise physiology, etc., promises to help students and athletes with disabilities achieve their goals and provide valuable research experiences for students at MSU. The design, implementation and evaluation of adapted physical education programs in public schools to more effectively serve students with disabilities in Michigan and the nation continue to define the research efforts.

## Appendix A

### Project I CAN Personnel and Publications

Faculty and staff members participating in Project I CAN during the years 1971-1983 in alphabetical order

Patricia Austin	Karen Knowlton
Kenneth Boyd	Gerald Nestor
Sandy Byrnes	Steve Peak
David Carmichael	Geralyn Plack
Goli Eden	Thomas Sampson
David Fuller	lone Shaddock
Eric Gordon	Sherry Swank
Mary Drake Green	Dale Ulrich
Regina Green	Paul Vogel
Bernard Holland	Jeff Walkley
Diane Hurley	Joanne Warner
Carole Jenkins	F. Jane Watkinson
Allen Katsimolis	Janet Wessel
Luke Kelly	Charles White
Claudia Knowles	

The work of the secretarial staff included many I CAN project responsibilities. Their contribution to the success of I CAN and their support of I CAN personnel cannot be overstated or in any way be measured.

Carole Brody	Jacqueline Peek
Sandy Klein	Sandra Sandberg
Virginia McCarron	

### Acknowledgements

Special recognition and "thanks" are given to the hundreds of teachers, students, and administrators involved in the development and dissemination of I CAN in the schools of Michigan, other states, and other countries.

The support and participation of colleagues in the Postdoctoral Leadership Training I CAN Programs were greatly appreciated.

Finally, I CAN would not have been possible without the support and "caring" of Gale Mikles, Department Chair; faculty in Special Education, and personnel in the Office of Research in the College of Education; the Office of the Provost at Michigan State University, and the Michigan Department of Education.

## Selected I CAN Professional Publications: Articles and Chapters

- Wessel, J. (1972). Physical education instructional program for the visually handicapped. *Physical Education and Recreation for the Visually Handicapped Monograph*. Educational Publication Services, College of Education, Michigan State University, East Lansing.
- With P. Vogel & D.L. Carmichael. (1974, October). Curriculum and instruction: Changing patterns in planning and research. The role of research, curriculum development and evaluation: Conversion of knowledge into practice in physical education for school settings. Methodologies for program implementation: Guidelines for the field-testing of prototype physical education curriculum for handicapped children and youth." *Proceedings of the Committee of Instructional Cooperation: Physical Education for the Handicapped with Implications for Research*, Iowa University, Iowa City.
- With C. Knowles. (1975, February-March). Studies related to moderately mentally retarded children and youth. *Challenge*, 10, 2.
- Wessel, J. (1975, November). Individually guided physical activity program for the exceptional individual. *Fourth National Conference Proceedings: Physical activity program and practices for exceptional individuals*. Champaign, IL: Human Kinetics.
- Wessel, J. (1975). I CAN: An alternative special education experience for handicapped children and youth. *University of Colorado School and University Review*, 5, 4.
- With P. Vogel. (1975). Project I CAN: Curriculum and instruction." In W. V. Mayer (Ed.). *Planning Curriculum Development*. University of Colorado Biological Science Curriculum Center, Boulder, CO.
- With R.K. Silverman & V. Tripodi. (1979, September). Adaptation of I CAN Primary Skills for deaf-blind children. *Journal of Visual Impairment Blindness*, 73, 7.
- With G. Green & P. Vogel. (1979, July). An evaluation based adaptation model: Modifying replicable programs for alternate population groups." *Journal of Special Education Technology*, 11, 4.

- Wessel, J. (1979). The design and validation of an objective-based instructional system: Acquisition of motor and leisure game skills for handicapped children and youth. *Eighth national conference proceedings, Physical activity programs: Practices for the exceptional individual*. Champaign, IL: Human Kinetics.
- Wessel, J. (1980). Improvement of physical education programs for handicapped children and youth. In J.S. Bosco & M.A. Turner (Eds.). Vol. 1. *Encyclopedia of Fitness and Sports*. Salt Lake City, UT: Brighton Publishers.
- With D. L. Carmichael. (1980, May). The adaptability of the I CAN objective based instructional program and system for all handicapped children and youth: Specific applications for the severely handicapped. *Journal of Special Education Technology*, 3:3.
- With P. Vogel. (1981, June). With B. Holland. (1985, June). *Joint dissemination I CAN evaluation report*. Joint Dissemination Review Network Panel, National Diffusion Network, U.S. Office of Education, Washington, DC: U.S. Office of Education.
- Wessel, J. (1981, December). Effectiveness of the I CAN instructional physical education program and system for handicapped children and youth: K-12: A summary evaluation report. *Canadian Journal of Applied Sciences*, 3:4.
- Wessel, J. (1982, May-June). Advancing school physical education for all handicapped children and youth: Project I CAN and the National Diffusion Network. *Counterpoint*. Fairfax, VA.
- Wessel, J. (1982, May). Objective based instructional program: Systems model for adapting instruction in physical education for handicapped children and youth. *Exceptional Education Quarterly*, 3:1.
- Wessel, J. (1989). Quality programming in physical education and recreation for all handicapped children and youth. *Annual Review of Adapted Physical Activities*. Champaign, IL: Human Kinetics.
- With B. Holland. (1989). *Project I CAN: Teacher and student performance data evaluation report*. Clearinghouse on Teacher Education. ERIC 309171.
- With B. Holland. (1989). *Project I CAN: Teacher and student performance data evaluation report*. Clearinghouse on Teacher Education. ERIC 309171.
- With B. Holland. (1989). *Project I CAN: Teacher and student performance data evaluation report*. Clearinghouse on Teacher Education. ERIC 309171.

With B. Holland. (1989). *I CAN ABC instructional physical education resource materials: Primary through secondary*. Washington, DC: Clearinghouse on Teacher Education. ERIC 309173.

Wessel, J. (1990). *Integrating the curriculum: Quality and relevance for children with special needs*. Washington, DC: Clearinghouse on Teacher Education, ERIC 30974.

Note: In addition to the publications listed above, numerous presentations on the I CAN project were made at professional meetings and conferences such as: (a) the American Association for Health, Physical Education, Recreation and Dance; (b) the American Association of Mental Deficiency; (c) the Association of Adults and Children with Learning Disabilities; (d) the Council for Exceptional Children; (e) the Association for Severely Handicapped; and (f) the National Media Materials Center for Severely Handicapped Persons.

## Appendix B

### Doctoral Students Who Completed Their Dissertations in Adapted Physical Education and Adapted Physical Activity: 1965- Present

#### Adapted Physical Education

1965 Patricia L. Austin <sup>1</sup>	1975 Mary D. Green
1966 Jean C. McIntyre	1977 Gerald M. Nestor E. Jane Watkinson
1967 Ione G. Shaddock	1981 Dale A. Ulrich
1971 Mildred M. Evans David A. Fuller	1986 Bernard V. Holland
1974 Paul G. Vogel Donald L. Carmichael	

#### Adapted Physical Activity

1987 Sarita R. Overton	1994 Kihong Kim
1989 Steven D. Smith	<u>Current Doctoral Students</u> Lorenzo Parker M. Kathleen Ellis Bomjin Lee
1993 Fiona J. Conner	

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<sup>1</sup> First woman Ph.D. graduate in the department.