

AN ADAPTED PHYSICAL EDUCATION SERVICE DELIVERY
SYSTEM UTILIZING AN INTERAGENCY
INSERVICE TEACHER EDUCATION MODEL

A DISSERTATION
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY
IN THE GRADUATE SCHOOL OF THE
TEXAS WOMAN'S UNIVERSITY
COLLEGE OF HEALTH, PHYSICAL
EDUCATION, AND RECREATION

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DECEMBER, 1981

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July 8 1981

We hereby recommend that the dissertation prepared under
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entitled AN ADAPTED PHYSICAL EDUCATION
SERVICE DELIVERY SYSTEM UTILIZING
AN INTERAGENCY INSERVICE TEACHER
EDUCATION MODEL

be accepted as fulfilling this part of the requirements for the Degree of Doctor
of Philosophy.

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ACKNOWLEDGEMENTS

Sincere appreciation is extended to Dr. Claudine Sherrill, advisor and chairperson of my dissertation, for her constant professional guidance, trust, and friendship. Gratitude is also offered to the other members of my dissertation committee: Dr. Barbara Gench, Dr. Chester Gorton, Dr. Joan Moran, and Dr. Jane Mott.

I wish to recognize the valuable support and assistance of Randy Foederer, Ertie Lou Rinehart, and Louis Glover from the Special Education Department at the Region X Education Service Center in Richardson, Texas. A sincere thank you is extended also to Nancy Megginson and Dennis Wyatt for their time, support, and suggestions.

Special thanks are extended to the teachers and children from the Allen, Anna, Frisco, Greenville, McKinney, Princeton, and Prosper Independent School Districts. The cooperative efforts of Dorothy Clark, Mike Cardwell, and Joe Smith are deeply appreciated.

Finally, I wish to thank my wife, Martha, for her patience, understanding, and inspiration during the past three years.

DEDICATION

TO MY DAD
AND THE MEMORY OF
MY MOTHER AND BROTHER

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CHAPTER I

INTRODUCTION

The implementation of Public Law 94-142, The Education For All Handicapped Children Act of 1975 (42 Fed. Reg. 42474 [1977]), has had dramatic effects on the delivery of special and regular education services, including physical education. Requirements, such as educating all handicapped children in the least restrictive environment, appropriate assessment, and development of individual education programs for all eligible handicapped students, have placed new demands and expectations on personnel in all education fields.

With the exception of special education, few academic fields prepare teachers to provide educational services for handicapped individuals. The demand for increased special education services has resulted, therefore, in the urgent need to train or retrain regular educators to assist in the planning and implementing of individual education programs for handicapped students (Altschuld & Downhower, 1980; Meyen, 1978; Warnat, 1978).

Inservice teacher education (ISTE) is one of the most widely used methods for preparing personnel for the delivery

of services to the handicapped (Baker, 1979; Burrello & Baker, 1979; Hutson, 1979; Martin, 1980). Although not a new concept, this training mode is presently a priority at both the federal and state levels (42 Fed. Reg. 42492 [1977]; Reynolds, 1980; Texas Education Agency, 1979). At the federal level, approximately 26 million dollars out of a possible 55 million budgeted for training personnel to work with the handicapped was spent on ISTE during the 1980-81 academic year (Martin, 1980).

Beyond the federal government's traditionally strong role in ISTE (Feistritz, 1979), Public Law 94-142 has mandated that each state develop and operationalize a comprehensive system of personnel development. Particular emphasis within this system of personnel development is placed upon extensive ISTE in the area of special education for regular educators (Altschuld & Downhower, 1980; Harvey, Saettler, & Ackerman, 1977; Schofer & McGough, 1977).

In light of the recent attention directed towards ISTE, several reoccurring issues must be resolved in order to facilitate effective and efficient comprehensive systems of personnel development at the state and local levels. It is often argued that most ISTE is ineffective, irrelevant, and poorly planned (Mangieri & McWilliams, 1976). Edelfelt (1975) noted a lack of a broad definitive scheme for ISTE.

Some teacher educators have described the potential positive impact of ISTE (Beck, 1978; Edelfelt, 1977; Ryor, Shanker, & Sandefur, 1979), while others have criticized its shortcomings (Ainsworth, 1976; Arends, Hersh, & Turner, 1978; Brimm & Tollett, 1974). Areas of recognized concern which must be carefully analyzed prior to implementation of ISTE programs include: (a) terminology (Edelfelt & Johnson, 1975; Joyce, Howey, & Yarger, 1976; Yarger, 1979); (b) definitions (Cruickshank, Lorish, & Thompson, 1979; Howey & Joyce, 1976); (c) ownership or governance (Ainsworth, 1976; Drummond, 1979); (d) purposes (Ryor, Shanker, & Sandefur, 1979; Wood & Thompson, 1980); (e) individual versus group ISTE (Beck, 1978; Harris, 1980; Hite & Howey, 1977); (f) technical assistance (Daniels & O'Connell, 1976; Trohanis & Jackson, 1980); (g) collaboration (Edelfelt, 1977; Howey & Joyce, 1978; Joyce & Showers, 1980); and (h) evaluation (Altschuld & Downhower, 1980; Hutson, 1979; King, 1977).

The area of special education service delivery on which this study focuses is adapted physical education. This emphasis stems from the fact that special education, as defined in Public Law 94-142, includes physical education as a required part of each handicapped student's individual education program (42 Fed. Reg. 42480 [1977]).

In recognition of the nationwide need to improve adapted physical education services for handicapped children and youth, the federal government has repeatedly included physical education as a training priority for which funding is available (Clelland, 1979; Dunn & Harris, 1979). Currently more federal monies in physical education personnel training are spent on ISTE than preservice projects. According to Hillman, Sayer, and King (1980), 41 of the 54 physical education for the handicapped training grants awarded to colleges and universities were for ISTE of regular educators.

Despite efforts to provide ISTE for physical educators, there exists a severe shortage of properly trained teachers (Bundschuh, Jackson, McLaughlin, & McLellan, 1980; Clelland, 1979; Karper & Weiss, 1980). In Texas alone, it is estimated that for each of the next 3 years, an average of 300 adapted physical education teachers will be needed (Texas Education Agency, 1980). Until colleges and universities can produce sufficient numbers of adapted physical education specialists, public schools and agencies will have to continue to train presently employed teachers for new roles, tasks, and competencies. It appears that ISTE is the most feasible and cost effective way to meet these

personnel needs (Dunn & Harris, 1979; Karper & Weiss, 1980; Siantz & Moore, 1978).

In the past, ISTE in adapted physical education has often relied on workshops, ranging in length from 3 hours to 2 days, in an attempt to prepare personnel (Bundschuh, Jackson, McLaughlin, & McLellan, 1980; Cowden, 1980; Winnick & Jansma, 1978). Authorities in the field of ISTE question the impact of such short programs (Ainsworth, 1976; Hutson, 1979; Siantz & Moore, 1977). If ISTE is to be effective and result in change in teacher performance, it must be planned and implemented cooperatively by persons conducting the training and those ultimately responsible for direct service delivery (Burrello & Baker, 1979; Joyce, Howey, & Yarger, 1976; Joyce & Showers, 1980). An ISTE model is needed to facilitate such cooperative, long-range planning for the immediate implementation of adapted physical education programs in public schools.

Purpose of the Study

The purpose of this study was to ameliorate existing deficiencies in public school adapted physical education service delivery through an ISTE approach utilizing the resources of three levels of agencies: (a) a regional education service center; (b) a university; and (c) local school districts.

Statement of the Problem

The problem of the study was to design and field-test an interagency ISTE model for improved adapted physical education service delivery within the Region X Education Service Center area of Texas. The model included the following components: (a) needs assessment; (b) interagency planning; (c) formal inservice teacher education in adapted physical education; (d) adapted physical education service delivery to handicapped students; (e) on-site monitoring and individualized ISTE; and (f) model evaluation (see Figure 1). Personnel from each of seven selected school districts received five all day sessions of formal ISTE in adapted physical education and a minimum of four on-site monitoring visits (2 hours each) during which ISTE was individualized.

The interagency ISTE model for improved adapted physical education service delivery was evaluated through both formative and summative techniques. Formative evaluation focused on the service delivery component of the model. The Adapted Physical Education Service Delivery Monitoring Form was completed cooperatively by the investigator and trainee. Summative evaluation entailed pre- and posttest administration of the Adapted Physical Education Service Delivery Knowledge Test and pre- and posttest judges'

COOPERATING AGENCIES

IHE-TWU

Region X
ESCLEAs Within
Region X

Components of Model

- | | |
|---|---|
| 1. APE Needs
Assessment | OSE Requirement and Priority
TEA Requirement
ESC and LEA Need |
| 2. Cooperative
Interagency
Planning | Based on Expressed and Assumed Needs
Designed to Meet All Requirements
Appropriate Content and Delivery |
| 3. Formal
APE ISTE | Conducted by Investigator
Five Formal Sessions |
| 4. APE
Service
Delivery | Implemented by Trainees (Subjects)
Assisted by Investigator and ESC Consultant
Monitored by Investigator and Judges |
| 5. On-Site Monitoring
and Individualized
ISTE | Four Sessions
Assist in APE Program Development
and Implementation
Formative Evaluation of Implementation |
| 6. Evaluation
of Model | Formative by Investigator (Knowledge)
Summative by Investigator and Judges |

Figure 1. Adapted physical education interagency ISTE model.

ratings on the Adapted Physical Education Summative Status Scale. Based upon the findings, a conclusion was drawn concerning the effectiveness of the model in initiating and/or improving adapted physical education service delivery.

Limitations of the Study

The study was subject to the following limitations:

1. The equivalent of 7 days of ISTE spaced over a 4-month period.
2. The 11 subjects selected to receive ISTE.
3. The validity and reliability of the data collection instruments.
4. The extent to which the investigator could control external variables which could have affected field-testing of the interagency ISTE model in adapted physical education.
5. The potential bias exhibited by the investigator while judging subjects service delivery.

Hypotheses

The following hypotheses were tested at the .05 level of significance: (a) there is no significant difference before and after ISTE in trainees' knowledge of adapted physical education as measured by the Adapted Physical Education Service Delivery Knowledge Test and (b) there is

no significant difference before and after the ISTE in quality of the trainees' service delivery as determined by judges' ratings on the Adapted Physical Education Summative Status Scale.

Definitions and/or Explanations of Terms

For the purpose of clarification, the following definitions and/or explanations of terms were used in this study:

Adapted Physical Education Service Delivery

The process of providing handicapped students with physical education as part of their individual education program. This procedure included: (a) identifying students eligible for adapted physical education; (b) determining present level of motor performance; (c) developing the adapted physical education component of the individual education program; (d) designing the instructional program; (e) instructing the students; and (f) evaluating the adapted physical education program in order to determine its effectiveness.

Motor Assessment

Limited to motor ability as measured by the Project ACTIVE Motor Ability Tests -- Levels I and II (Vodola, 1978) and the Basic Movement Performance Profile (Fait, 1978).

Adapted Physical Education Component of the Individual Education Program

That part of the handicapped student's individual education program which describes the specific adapted physical education services he/she received. This component included, but was not limited to, the following: (a) present level of motor performance; (b) long-term goals and behavioral objectives; (c) specific instructional strategies and materials utilized in delivery of adapted physical education services; and (d) criteria for determining whether the goals and objectives were attained.

Inservice Teacher Education (ISTE)

A planned program of learning opportunities afforded to staff members of school districts and related agencies for purposes of improving performance in already held or assigned positions (Texas Education Agency, 1978). In this study trainees met together at the Region X Education Service Center for 2 days in February, 2 days in March, and 1 day in April. The purpose of this formal ISTE was to present the following content: (a) role and scope of adapted physical education; (b) federal and state adapted physical education requirements and guidelines; (c) adapted physical education as it relates to the Admission, Review, and Dismissal committee in local education agencies; (d) motor assessment procedures; (e) development of the adapted

physical education component of the individual education program; and (f) strategies and techniques for instruction. After the first 2 days of formal ISTE, trainees began immediate application of knowledge by initiating an adapted physical education service delivery system in their school districts. To assist in the implementation of service delivery, the investigator visited each trainee in his/her own school setting four times during the 4-month experimental period.

Inservice Teacher Education Trainee

A certified special and/or physical education teacher who was or would be responsible for providing adapted physical education services to handicapped students.

Model

A structure or construct which unifies and makes sense out of facts which are interrelated, interdependent, and/or assumed, thereby organizing these elements to produce an encompassing synthesis or generalization. Application of a model should produce measurable changes (Lockhart, 1972). In this study, these potential measurable changes were in the status of adapted physical education service delivery in selected local education agencies.

Interagency Inservice Teacher Education Model

A model that utilizes resources from three levels of educational agencies: (a) an institution of higher education; (b) an intermediate education unit; and (c) local education agencies and cooperatives. This model is illustrated in Figure 1.

Formative (Process) Evaluation

An evaluation procedure concerned with monitoring the implementation of new strategies in order to gain continuous feedback from those affected by the changes. It should allow for continuous adaptation of strategies and should help the planning of further implementation to ensure continuing responsiveness to emerging problems and needs (Baker, 1979). In this study, formative evaluation was performed by the investigator at the time of each on-site ISTE session and at the end of the experimental period. The Adapted Physical Education Service Delivery Monitoring Form was used to obtain formative evaluation data.

Summative (Outcome) Evaluation

The process of assessing or judging the consequences of implementing a new strategy or program. The major criterion for assessing the outcome of a strategy or program is whether the actual state of affairs is closer to the desired state of affairs than it was before the strategy or

program was implemented (Baker, 1979). In this study, summative evaluation entailed the use of two instruments: (a) Adapted Physical Education Service Delivery Knowledge Test--a 50-question test designed to measure knowledge of ISTE trainees in the area of adapted physical education service delivery and (b) Adapted Physical Education Summative Status Scale--a 25-item scale designed to evaluate quality of adapted physical education service delivery by a teacher. Three judges administered this scale prior to and immediately after the experimental period.

CHAPTER II

REVIEW OF RELATED LITERATURE

An extensive investigation of the literature in all areas of ISTE revealed that this study did not duplicate any past work. The scope of the investigation necessitated the review of ISTE literature in several fields. This chapter, therefore, contains a synthesis of literature from the following areas: (a) Inservice Teacher Education in General; (b) Inservice Teacher Education in Special Education; and (c) Inservice Teacher Education in Adapted Physical Education.

Inservice Teacher Education in General

Literature in the area of ISTE is voluminous. This section contains critiques of major contributions to the field which have important implications for planning, implementing, and evaluating ISTE programs.

Harris and Bessent (1969) presented an early text designed to assist supervisory practitioners in the development and implementation of ISTE programs. The need for such programs was based upon the following assumptions:

(a) preservice preparation is rarely ideal and is primarily introductory in nature; (b) social and educational change render current practices obsolete or relatively ineffective in a short period of time; (c) coordination and articulation of instructional practices require changes in people; and (d) other factors such as staff morale stimulation and motivation are often neglected.

Division of the text resulted in the coverage of three specific areas of ISTE: (a) development of a conceptual framework for programs in instructional areas and problems of program design; (b) procedures and techniques for employment of a laboratory training technique with teachers; and (c) selection of appropriate delivery activities. Included within the conceptual framework section of the text was a definition of ISTE. Inservice education

. . . is concerned with . . . planned activities for the development of instructional staff members as professional practitioners, in such ways as to have a reasonably direct impact upon the quality of instruction offered in the school or college. It emphasizes instruction for development of staff members and is distinguished from the larger function of instructional supervision. (Harris & Bessent, 1969, p. 2)

This definition served as a guide for understanding the four generalizations of ISTE proposed by Harris and Bessent. These themes included: (a) ISTE is a process for change; (b) changes through ISTE take place in an organized context; (c) ISTE is a process for planned change; and (d) ISTE is one of several organizational changes and takes place through personnel development. Emphasis was placed on the development of ISTE programs that do not suffer from the traditional problems of not relating programs to genuine needs of staff members, failure to select appropriate activities for program implementation, and attempting to implement programs with insufficient staff and other resources to assure effectiveness.

In conclusion, Harris and Bessent accentuated the importance of stating goals and performance-based objectives related to desired outcomes of ISTE programs. A variety of delivery methods were detailed including: lecture, illustrated lecture, demonstration, observation, role-playing, and brainstorming. Each of these was assessed in relation to whether it contributed toward desired program outcomes on a continuum of objective levels including: knowledge, comprehension, application, synthesis, values, attitudes, and adjustment.

Brimm and Tollett (1974) conducted a study in Tennessee to determine attitudes of teachers toward the types of ISTE they experienced. A sample of 646 teachers, representing each of the 147 school districts in the state, was used in the study. The opinions of respondents were recorded on a 34-item inventory which utilized a Likert-type scale.

Results of the study indicated that the teachers had several areas of strong agreement regarding what they considered valuable ISTE. A statement regarding the need for individualized ISTE was agreed or strongly agreed with by 89% of the respondents. Participation in graduate courses, research, travel, professional reading, and writing were viewed as acceptable methods of ISTE. Most of the teachers (90%) felt strongly that ISTE should improve classroom performance of teachers.

Weaknesses of present ISTE programs, as reported by these teachers, included: (a) lack of relevant programming; (b) inadequate planning; (c) need for clearly stated goals and objectives; and (d) insufficient planned follow-up. These shortcomings were highlighted by the fact that 44% of the teachers agreed with the statement that most ISTE programs are virtually useless and that 63% agreed with the statement that most teachers do not like to attend ISTE.

Brimm and Tollett concluded their report with recommendations for persons responsible for planning and implementing ISTE programs. Among these were: (a) individual teacher needs should be determined; (b) specific goals and objectives should be formulated and follow-up activities planned to ensure attainment of these objectives; (c) teachers should assist in planning ISTE; and (d) emphasis should be placed on improving teacher performance in the classroom.

Edelfelt and Johnson (1975) edited a text published by the National Education Association entitled Rethinking Inservice Education. The contributors included teacher organization staff members, university professors, state education department officials, superintendents of school districts, teachers, and staff development consultants. They were charged with the following tasks related to ISTE: (a) enhance capabilities and understanding of ISTE; (b) identify problems and issues related to ISTE; (c) reexamine and redefine its purposes; (d) examine roles and responsibilities of various agencies; (e) identify promising new approaches and models; and (f) develop recommendations for improvement of ISTE. Edelfelt and Johnson defined ISTE as "any professional development activity that a teacher undertakes singly or with other teachers after receiving

her or his teaching certification and after beginning professional practice" (p. 5). Additionally, two assumptions were presented in order to offer direction to the reformation of ISTE: (a) teacher organizations should exert initiative in reconceptualizing ISTE and (b) collaborative efforts should be undertaken in the reconceptualization of ISTE.

The introductory chapter detailed the bleak status of present ISTE practices. It was noted that: (a) programs often do not help teachers improve their skills in instruction or become more adept at planning and organizing curriculum; (b) programs often focus on introducing new curriculums, improving existing programs, or following new fads or trends; (c) formal graduate work is largely divorced from the specifics of the teacher's job; (d) ISTE takes place on teachers' own time and frequently at their own expense; and (e) it is seldom based on teacher need and is often conducted in a manner that negates the principles of good teaching and learning. Despite these condemnations, the authors reported that teachers desire quality programs that remediate the discrepancy between what exists and what is needed.

In a section of the report devoted to determining responsibilities of various agencies in designing ISTE,

Bottoms (1975) proposed that democratic procedures be utilized. Specific suggestions were offered for effective interaction among local school systems, state departments of education, institutions of higher education, and professional organizations. Educators should be encouraged to acquire competencies to implement activities directed toward specific needs of students and to improve their own goals of personal growth. The section on collaborative efforts concluded with mention of the ethical responsibilities of each agency to develop procedures necessary to offer input regarding ISTE decisions. Finally, it was recommended that the development of ISTE should be based on valid principles of management, planning, and learning.

Edelfelt and Johnson concluded their work by presenting a lengthy synopsis of recommendations designed to assist development of ISTE programs and stimulate further research in the area. Recommendations included: (a) ISTE should be planned collaboratively; (b) ISTE should be recognized as an essential element of the educational process; (c) ISTE should be based on personnel, school, and student needs; (d) ISTE should be interfaced with curriculum development and instructional improvement; (e) ISTE should be planned locally by the people to be affected; (f) ISTE should be built into the regular school day; (g) ISTE should be

field-based; (h) various incentives for participation should be explored; (i) ISTE should be individualized; and (j) a state support system should be developed to promote and support ISTE.

A comprehensive series of nationwide studies investigating various issues related to ISTE were undertaken through a cooperative venture between the National Teacher Corps and the National Center for Educational Statistics (Joyce, Howey & Yarger, 1976). The Project resulted in the publication of a series of five monographs containing a synthesis of data and information concerned with the complex aspects of ISTE (Brandt, Mesa, Nelson, March, Rubin, Ashworth, Brizzi, Whiteman, Joyce, Howey, & Byer, 1977; Joyce, Howey, & Yarger, 1976; Joyce, McNair, Diaz, & McKibbin, 1976; Nicholson & Joyce, 1976; Yarger, Boyer, Howey, Weil, Pais, Warnat, Bhaerman, Luke, Darland, & Joyce, 1977). Sources of data used to complete the studies included: (a) existing related literature; (b) statements by experts concerning major issues involved in reconceiving ISTE; and (c) opinions of over 1,000 persons, including teachers, administrators, school board members, community members, congressional representatives, state department of education officials, and higher education personnel.

Joyce et al. (1977) reported that despite great dissatisfaction with the present status of ISTE there may be as many as 250,000 persons who are engaged as instructors of ISTE in the United States. This figure represents an 8:1 ratio among teachers and ISTE providers. The failure of ISTE could not be attributed, therefore, to lack of time and energy investments. Two major concerns were reported: (a) the varieties of training options needed to be interfaced closely with needs of teachers and school districts and (b) the problems related to optimal time and place of ISTE have not been solved.

The first of these concerns, lack of structural interfacing, resulted from insufficient interaction between the four major dimensions that linked to form the operating structure of ISTE. These critical dimensions or systems were: (a) governance system--composed of the decision making structures which legitimize activities and govern them; (b) substantive system--composed of the content and process of ISTE and pertains to what is learned and how it is learned; (c) delivery system--made up of incentives and includes motivation, access, and relevance to the role of the individual professional; and (d) modal system--consisting of the forms of ISTE, ranging from sabbaticals abroad to intensive on-site institutes. It was believed

that if ISTE was to be truly effective, all of these subsystems must be jointly incorporated to create one concrete guiding structure.

Within the discussion of the substantive (content and process) subsystem, Joyce et al. (1967) noted that one-shot workshops or other limited ISTE activities did not adequately prepare teachers to implement individual education programs for handicapped students. Additionally, the severe shortage of appropriately trained ISTE leaders in the field of special education was noted. Finally, the authors recommended that future thrusts should explore more efficient and effective collaborative (linking) governance structures.

Schneider (1976) developed an ISTE model for elementary teachers. Purposes of the investigation were to: (a) analyze the ISTE needs of a sample of 528 teachers and principals and (b) evaluate the effectiveness of the proposed ISTE model through the use of a 40-item Likert-type scale.

The model was based on a survey of literature in the fields of teacher education and ISTE. Three components were utilized: (a) input from the participants regarding their own perceived needs; (b) involvement of the participants in all areas of planning, implementing, and

evaluating; and (c) continuity over time through the use of incentives, services of an ISTE specialist, and negotiated contract provisions.

The findings of a questionnaire revealed that teachers and principals indicated a positive response to student centered concerns and a negative response to classroom administrative concerns. Schneider concluded that: (a) ISTE activities planned solely by principals would probably be ineffective in meeting the needs of teachers; (b) a program which included the proposed components would constitute a successful program; and (c) the proposed model could provide a framework for building and modifying programs to meet perceived needs of similar populations.

McLendon (1977) conducted a study to develop guidelines for providing direction to ISTE programming efforts sponsored by the Texas Education Agency. The investigation was designed to determine the extent of agreement on principles underlying effective ISTE programming existing among specific education groups in the state. Thirty principles regarding effective ISTE were identified, divided into four clusters-planning, situational design, content, and support-and incorporated into a Delphi questionnaire distributed to 618 potential participants. Of this number, data provided by 299 teachers, principals, supervisors,

education service center employees, and state education agency personnel were analyzed.

Results indicated that principles, positional groups, size of districts, and geographical areas had little effect on degree of consensus. Total agreement existed among all five groups of subjects with the exception of whether a change in teacher classroom performance skills or student learning should be the primary means of determining successful ISTE programs. A high level of agreement was found on situational design while support received a lower level of agreement. The findings indicated that educators in Texas were in agreement with 29 of 30 principles identified as underlying effective ISTE practices. .

Zigarmi, Betz, and Jensen (1977) conducted a statewide study to determine teachers' attitudes toward and experiences with ISTE. A secondary purpose was to examine teachers' perceptions of the usefulness of various types of ISTE. Questionnaires were distributed to a random sample of teachers representing all school districts in the state with a total of 1,239 responding.

Types of ISTE were placed into five general categories: (a) workshops, (b) college/university courses; (c) faculty meetings; (d) observation of and assistance from other teachers; and (e) professional reading. Analysis of the

data revealed 1-day workshops and after school workshops were the most commonly used types of ISTE. These, however, were judged to be the least effective. The type of workshop viewed as most desirable was the 2-week intensive session. Respondents considered faculty meetings to be the least useful of all 21 types of ISTE, especially those planned solely by administrators. Although only one-third of the respondents had participated in observations of or assistance from other teachers, this method was judged as highly useful. Other types of ISTE such as professional organization meetings and readings were rated as moderately beneficial.

The profile of desirable ISTE characteristics was highlighted by six components. Commonalities of preferred ISTE approaches were innovativeness, design in accordance with teacher interests, opportunity for choice and personalization, long-term experiences, peer teaching or teacher idea exchange, and shared ownership. Least desirable practices included sessions conducted by outside consultants unfamiliar with local situations, faculty meetings planned by administrators, presentations by educational salespersons, and programs that lacked follow-up services.

Bieber (1978) gathered and analyzed data concerning ISTE at the elementary school level in Washington State.

Emphasis was placed on five areas: (a) effect of school board policy statements on ISTE in local school districts; (b) coordination and decision making responsibilities; (c) program methods and times; (d) sources of funding; and (e) ISTE program criteria. Data were obtained from 357 elementary school teachers, principals, and education service district personnel through an investigator-designed questionnaire. Chi-square statistics were used to analyze the data.

Findings indicated that the importance of written statements of ISTE policy was related directly to the size of the district. Large districts had more definitive written policy statements. Coordination and decision making duties related to ISTE programs were usually undertaken by central office personnel. The design of ISTE and time of participation often differed from those requested by teachers. Respondents preferred individualized and small group training which occurred during released time at the beginning of the school. Bieber concluded by suggesting general criteria for successful conduct of ISTE programs: (a) flexible design; (b) teacher involvement; (c) cooperative effort; (d) coordination and planning; (e) operation by objectives; (f) relevance to the participants; and (g) appropriate time for conduct.

Fairall (1978) conducted a study for the purposes of devising an ISTE planning model and defining the term comprehensive inservice education for use in the El Paso, Texas Public Schools. In order to operationalize the investigation, two similar units of El Paso Public School administrators, counselors, and teachers were given the task of constructing comprehensive long-range ISTE plans. Upon completion, the plans were sent to a random sample of educators in Texas who were requested to rate each on a Comprehensive Inservice Education Rating Scale. Three null hypotheses were proposed by Fairall: (a) there will be no significant differences in ratings for the plans given by educators in large, medium, or small sized school districts and universities; (b) there will be no significant difference in ratings for the plans given by superintendents, principals, directors, consultants, or university professors; and (c) there will be no significant difference in ratings of the plans developed through interactive processes and those developed through nominal group processes.

Results of the study indicated a significant difference in ratings given by personnel in small school districts. No differences were found among various professions or the two development approaches. Fairall concluded that Texas educators appeared to possess similar thoughts concerning

comprehensive ISTE plans; there even may be elements of idealism along with practical considerations because university professors and public school officials judged both plans equally acceptable.

Howey and Joyce (1978) analyzed four basic problems associated with the multidimensional process of ISTE. These problem areas were labeled as: (a) conceptual; (b) legal-political-economical; (c) organizational-logistical; and (d) personal-psychological. Investigators indicated that the concept of ISTE has not been well articulated. This has resulted in a wide range of personal interpretations. While affirming that its major objective was improved instruction for students, the authors suggested the following categories of ISTE: (a) job-embedded; (b) job-related; (c) general professional; (d) career credential; and (e) personal. It was found that this typology assisted in determining who should be ISTE instructors and who should finance various forms of ISTE.

In relation to the legal-political-economic issue, there was a general plea for collaborative efforts among all potential contributors including taxpayers. It was noted, however, that not all ISTE efforts required collaborative governance methods. Critical issues which Howey

and Joyce considered detrimental to successful collaboration included: (a) lack of skill in cooperative decision making; (b) vested interests inhibiting open communication; (c) lack of conceptual framework to organize parties effectively; and (d) insufficient financial support for effective collaboration to develop. Legal issues, such as the implementation of least restrictive environment concepts in Public Law 94-142, were also mentioned as examples of the ever increasing amount of legislative and judicial decisions which influence ISTE efforts.

Structural-organizational modifications deemed necessary for contemporary ISTE programs included: (a) strategies which periodically released the teacher during the course of the instructional day to engage in some form of ISTE and (b) structural alterations in the relationship between school and nonschool personnel in order to make on-site staff development a reality. Howey and Joyce estimated that 75% of the teachers favored these strategies, but only 20% had opportunities to participate. Job-embedded types of ISTE were judged to be highly desirable.

Finally, the importance of involving individual teachers in the determination of the outcomes of ISTE was noted.

The personal-psychological dimension of ISTE was believed critical because of the deteriorating school conditions and diminished esteem afforded the teaching profession. Teachers should be encouraged to upgrade their knowledge and skills continually and to participate actively in planning for such improvement.

Nur (1978) studied the concept of local decentralization in the area of ISTE. Experiences and attitudes of teachers and community members from 25 communities across the United States were compared with those of 1,825 randomly selected teachers and 771 community members in the states of California and Georgia. Data were collected through the use of a questionnaire from the Inservice Teacher Education Concepts Project, sponsored by the National Center for Education Statistics and Teacher Corps (Howey et al., 1977). The structure of the ISTE program was a set of four interlocking systems: (a) governance; (b) substantive; (c) delivery; and (d) modal.

Results of the study indicated that collaborative governance was associated with increased ISTE activity. Subjects participating in the special cooperative program had more opportunities for collaboration and a wider range of ISTE activities than did the California and Georgia groups. The cooperative program participants developed

more successful solutions to delivery problems and generated more varieties of substance and process than did the comparison groups.

The Texas Education Agency (1978) published a document entitled A Review of Inservice Education in Texas as a response to the staff development priority adopted by the Texas State Board of Education in 1976. Designed to assist in the development of a comprehensive method of planning ISTE, the document encompassed a detailed review of findings contained in three dissertations (Creekmur, 1977; Killough, 1977; McClendon, 1977) conducted in the state of Texas concerned with ISTE practices. In addition, the comprehensive works of Lawrence (1974) and Joyce et al. (1977) were included along with an overall analysis by Harris.

The Texas Education Agency (1978) also presented a definition of ISTE which contained three critical components: (a) learning opportunities are afforded; (b) purposes are defined and related to improving performances; and (c) planned programs provide assurance of accountability for predetermined outcomes. It was emphasized that the main thrust of ISTE should be for the improvement of learning opportunities for students. The Texas Education Agency recommended, therefore, that ISTE be implemented according to presumed relationships among the following:

(a) staff needs; (b) training; (c) performance of staff; (d) instructional program; and (e) student learning.

Research findings were synthesized into the following six categories related to ISTE: (a) personnel; (b) situational design; (c) planning; (d) evaluation; (e) content; and (f) funding. Recommendations were presented within each of the categories and a valuable listing of principles underlying effective ISTE was included. These principles were divided into four categories: (a) planning; (b) situational design; (c) content; and (d) support. The report concluded with recommendations for further study in the specific areas of evaluation, collaborative planning, incentives, and accurate needs assessment.

Guskey (1979) studied the conditions under which ISTE changed teachers' attitudes and perceptions as well as their actual teaching behaviors. The main assumptions of the investigation were: (a) that evidence of positive change in cognitive learning of students is a critical variable between inservice education and perceptual and behavioral change in teachers and (b) the degree of positive change in student cognitive learning determines the degree of perceptual and behavioral change in teachers.

Subjects in the 5-month study were 98 public school teachers who taught classes in 13 subject areas from grades

2 to 12. The basis for an ISTE program was mastery learning of instructional techniques; 30 of the subjects participated in the program. After completion of the training, 15 trainees taught two equivalent classes of students--a control group in which the teacher used instructional procedures previously employed and an experimental class in which the teacher used newly acquired mastery learning instructional techniques. Cognitive learning outcomes of the students were determined by a comparison of the control and experimental groups. Pre-inservice and post-implementation comparisons were made among teachers who obtained positive change in their students, teachers who obtained little or no change in their students' learning outcomes, teachers who participated in the ISTE but did not implement the new instructional techniques, and teachers who served as the control group.

Multivariate statistical procedures revealed that the degree of positive change in student learning determined the degree of change in teachers' perceptions of responsibility for student learning, feelings of adequacy in teaching situations, and positive feelings toward teaching activities. These findings were not evidenced by teachers who did not experience positive change in their students'

cognitive learning, or among teachers who did not implement the new instructional techniques. Guskey concluded that ISTE experiences alone have little effect upon the perceptions or behaviors of experienced teachers. When teachers found that they had greater influence upon the learning of their students, however, these perceptual and behavioral changes were likely to result.

Hewitt (1979) investigated perceptions of Michigan public school administrators (K-12) toward certain parts of ISTE. Research questions were designed and served as a basis for collecting data via a questionnaire sent to a stratified random sample of school administrators. Specific research questions designed by Hewitt included: (a) what are the perceptions of administrators with respect to the preferred ISTE delivery system; (b) what are the perceptions of administrators with respect to the preferred governance structure of ISTE; (c) what are the perceptions of administrators with respect to other aspects of ISTE; and (d) are there any demographic factors which significantly affect perceptions of a defined group of administrators towards ISTE.

Results of the data analysis revealed that the administrators desired to be more involved on a cooperative basis with teachers in the planning and delivery of ISTE.

Overall, administrators indicated that more ISTE was needed, especially in the area of reading. Hewitt drew the following conclusions from analysis of the perceptions of Michigan administrators towards ISTE: (a) teachers are the most important resource personnel for ISTE; (b) released time for teachers is the strongest incentive for teacher participation in ISTE; (c) ISTE costs are primarily borne by school districts; (d) teachers and administrators should be the main participants in evaluation, goal setting, and decision making related to ISTE; (e) ISTE is in a state of fair health; and (f) teachers do not receive too much ISTE.

Payne (1979) conducted a study designed to develop, implement, and evaluate an individualized approach to ISTE. Design of the program was based on current trends which indicated that staff development activities, to be effective, must be based upon teacher needs and interests, be job-related, and have a supportive facilitative element. Evaluation information was desired at three levels (a) that participants' attitudes toward ISTE and self-direction in learning would show a positive increase; (b) that participants would diagnose their own needs, design a learning plan, complete learning activities, and implement desired change within their classrooms; and (c) that the

per-participant cost of the model would be cost efficient when compared with more traditional methods of staff development.

Implementation of the Individualized Staff Development Model took place in four elementary schools in Fulton County, Georgia, public school system. All subjects were pretested on attitudes towards ISTE and on independence in learning. Following explanation of the program, all volunteers were divided into two groups, control and treatment. The treatment group participated in the ISTE program and the control group was given an opportunity to participate the following quarter. Participating teachers took part in the following six phases: (a) explanations and exercises in self-directed learning; (b) individual needs/interests assessment; (c) problem definition and formulation of learning activities; (d) submission of a written learning contract; (e) completion of learning activities; and (f) evaluation and on-job assessment.

Despite results indicating ineffectiveness of the ISTE program in changing attitudes of participants toward ISTE or increasing subjects' self-direction in learning, evidence existed which supported the management and quality control systems of the model. Cost analysis of the study demonstrated that the per-participant cost of the ISTE program

was more efficient than traditional approaches. Payne concluded that individualized approaches to staff development were feasible, operational, and a viable option for continued professional growth.

Perez (1979) designed a study to compare centralized (district-based) and decentralized (school-based) ISTE programs with respect to the desirable program characteristics, degree of teacher involvement, and job satisfaction. Utilizing the Monte Carlo randomization technique, 125 Texas public schools were selected yielding 1,400 potential respondents. Of the final 1,011 respondents, 886 were teachers. A questionnaire was administered by mail, requesting subjects to describe their respective ISTE programs and to indicate their participation in decision making and their degree of freedom in making their own decisions regarding ISTE. Respondents were also requested to record the frequency of their administrators' involvement in order to classify forms as centralized or decentralized.

Analysis of the data revealed that more than two-thirds of the teachers were not consistently involved in planning or delivering ISTE. Over one-third of all respondents were not satisfied with the ISTE program being conducted and only one of every 12 teachers was enthusiastic

about ISTE. From his findings Perez concluded that decentralized ISTE programs were almost non-existent.

Harris (1980) authored a comprehensive resource book for persons providing leadership in ISTE. Detailed and practical methods for planning, implementing, and evaluating programs for instructional staff development were presented. Guidelines for both group and individualized ISTE programs were reported with specific attention focused upon the problems of designing experiences for increasing acceptance levels, knowledge, and instructional improvement among trainees. Harris directed more emphasis toward formally planned ISTE programs than informal workshop presentations. The text stressed the concept that ISTE existed primarily for the purpose of serving teachers as a vehicle for improved personal performance.

Harris emphasized the clear distinction between ISTE and other approaches to improvement of instruction. A discussion was provided which delineated specific characteristics of various methods of facilitating instructional change including: (a) improving curriculum goals and objectives; (b) improving instructional resources; (c) improving instructional tools; and (d) improving work conditions. Harris (1980) offered the following definition of ISTE:

Inservice teacher education is any planned program of learning opportunities afforded staff members of schools, colleges, or other educational agencies for purposes of improving the performance of the individual in already assigned positions. (p. 21)

Harris' contribution was especially valuable because of topical coverage and refinement in the areas of ISTE program goals, performance objectives, activity-impact relationships, and longitudinal designs. Finally, the critical process of systematic evaluation was explored including construction, explanation, and interpretation of various instruments and techniques.

Joslin (1980) conducted a meta-analysis of research evidence related to ISTE in order to determine the efficacy of various ISTE practices. An attempt was made to answer the following research questions: (a) what are the variables associated with effective ISTE; (b) what patterns of variables increase the effectiveness of ISTE programs; (c) using a meta-analysis technique, can the overall effectiveness of ISTE programs be measured; and (d) what findings derived from a statistical review of the literature have implications for staff development. Information from 137 research reports published between 1965 and 1978 yielded 902 sets of data. These data represented a

sample of over 32,000 teachers who received ISTE treatment and approximately 15,000 control subjects. For the purposes of the study, the main unit of analysis was the effect size calculated for each set of data. This effect size was the difference between the means of the experimental and control groups measured in standard deviations of the control group.

Results indicated that, in all types of ISTE treatment, the teacher scoring at the 50th percentile of the treatment group would be equivalent to a teacher at the 68th percentile of the untreated group. ISTE programs shown to be particularly effective included: (a) programs planned to achieve concrete objectives related to subject matter content; (b) programs planned around highly structured formats such as training programs, minicourses, laboratory experiments, and institutes; (c) programs in which the participant engaged in self-instruction; (d) ISTE experiences planned to take place within a local district either during the working day or after hours; and (e) programs planned around a treatment that had been field-tested or used extensively. Joslin (1980) concluded that ISTE was effective in changing teacher achievement, skills, and attitudes. Attempts to change students through teacher participation in ISTE programs were, however, of questionable effectiveness.

Special Education Inservice Teacher Education

The amount of ISTE literature in the field of special education has increased tremendously over the past 10 years. This has occurred largely as a result of state and federal mandates to provide comprehensive educational services to all eligible handicapped individuals. These charges have made it necessary to train and retrain teachers to provide educational services to exceptional students. It is likely that this trend will increase in the coming years as more and more emphasis is placed on developing comprehensive systems of personnel development as mandated by Public Law 94-142.

Soloway (1974) investigated changes in reaction, knowledge, and attitudes toward mainstreaming which resulted from a special education ISTE program for 74 regular classroom teachers (K-6) in the Santa Monica Unified School District in California. Participants, separated into experimental and control groups, were placed into subgroups. One subgroup possessed past experience in mainstreaming educable mentally retarded (EMR) and educationally handicapped (EH) students. The other subgroup had no such experience.

The study was separated into two parts: (a) Experimental condition 1 (E1) and (b) Experimental condition 2

(E2). In both E1 and E2, subjects were administered the EMR/EH Placement Survey and the Rucker-Gable Educational Programming Scale (Rucker & Gable, 1974). Experimental condition 1 was not, however, exposed to the special education ISTE program prior to completion of the dependent measures.

Results in regard to E1 revealed that regular teachers with no experience in integrating students exhibited more favorable attitudes toward integration than those teachers who possessed experience. It was found also that teachers who had more than two special education courses, without regard to past integration experience, felt more favorable toward integration than teachers without the coursework. In E2, the participants in the special education ISTE program revealed significantly more favorable reactions and attitudes toward integration of EMR and EH children than the control teachers who were not involved in the ISTE program.

Boote (1976) investigated various aspects of special education ISTE programs for regular education teachers. Specific purposes of the study were: (a) to survey the nature of ISTE programs in special education utilized in the Philadelphia area; (b) to determine perceived needs of teachers and principals for ISTE programs related to

mainstreaming; and (c) to determine what types of programs would be most useful. A sample of 136 teachers and 50 principals from randomly selected schools completed a questionnaire.

Analysis of the respondents' answers revealed the following findings: (a) the mean estimates for ISTE were 25.8 hours for regular education and 1.7 hours for special education; (b) programs were not highly structured; (c) the primary person responsible for planning and conducting the programs was the principal; (d) programs were mostly lecture in format; and (e) graduate courses were only a minor part of ISTE.

Specific recommendations included: (a) equal allocation of time among the ISTE topics of teaching, identification of exceptional students, resources, and behavior management; (b) variety of presentation methods to allow for practice, simulation, brainstorming, and other vehicles to enhance participation of trainees; and (c) distribution of emphasis on handicapping conditions to include those needed by teachers. Finally, results indicated that principals exhibited less desire to change current ISTE programs than teachers.

Kuik (1976) studied the effects of ISTE on the attitudes and behaviors of teachers involved in the development

of strategies for integrating handicapped children into regular classes. Subjects participating in the experimental project were 100 teachers from elementary and junior and senior high schools. Pre and post data were collected from a control group of 78 teachers from other schools within the same district. An instrument designed by the investigator was utilized to gather pre and post ISTE data.

Analysis of the data revealed a significant difference at the end of the study between the two groups in knowledge of and attitudes toward alternative placements for handicapped children. Only one of the experimental subgroups did not demonstrate a significant improvement in knowledge of Michigan's Mandatory Special Education Act in contrast to the control group which showed no gains in knowledge. Kiuk concluded that ISTE programs utilizing organizational development strategies and tactics, such as those in his study, can be an effective means of creating change in the knowledge of school personnel.

Schorn (1976) conducted an investigation to determine if regular classroom teachers' attitudes concerning integration of handicapped children could be influenced by ISTE practicum experiences. A total of 49 regular classroom teachers from three South Carolina school districts participated in the study. The practicum experiences consisted

of four formal visitations during one academic year at each subject's school. The consultations were structured around specific problems that individual subjects were encountering with exceptional children they taught. Emphasis during the individualized on-site visits was placed on assisting the teacher to identify and utilize resources and skills and to incorporate these into classroom strategies with handicapped students. Schorn attempted to answer three research questions: (a) how have the ISTE practicums affected teachers' attitudes toward exceptional students; (b) did the practicums have differential effects in the three districts; and (c) under what conditions were the practicums appropriate.

Attitude change was measured by the Rucker-Gable Educational Programming Scale (Rucker & Gable, 1974) which provided data on the subjects' attitudes toward, knowledge of, and appropriate placement for various types of handicapped students. All subjects, experimental and control, were administered this inventory prior to and at the completion of the academic year.

Schorn summarized the results in the following manner: (a) the practicum contributed significantly to positive teacher attitude gains toward integrating emotionally disturbed students but not mentally retarded children

in the three schools; (b) in only one school did the attitudes toward moderately mentally handicapped students increase positively; and (c) a different outcome resulted from implementation of the practicum ISTE concept at each of the three schools. Findings of this study supported the potential of individualized on-site ISTE experiences.

Mathey (1977) designed and implemented a 2-day ISTE workshop for regular teachers (K-6) to investigate the effects of participation on attitudes toward and willingness to mainstream exceptional students into their classrooms. The main thrust of the workshop was related to self-feelings and disability characteristics and classifications of handicapping conditions. The subjects were 31 teachers in an experimental group and 29 teachers in a control group, from Wayne County, Michigan. Data collection instruments used in this study were the Rucker-Gable Educational Programming Scale (Rucker & Gable, 1974) and the Data Survey (designed by the investigator).

Results of the study indicated that teachers participating in the ISTE workshop demonstrated a significantly greater willingness to integrate learning disabled, visually impaired, and hearing impaired children into classes than the control group. A greater acceptance of

severely handicapped and mentally retarded children was revealed also on the part of the experimental teachers.

Becker (1979) implemented a 5-week ISTE program (two $\frac{1}{2}$ hour sessions a week) with elementary school teachers to field-test a special education curriculum guide designed to assist in the maintenance and integration of exceptional children into the regular classroom. Specifically, an attempt was made to answer two research questions: (a) will teachers participating in an ISTE program concerning integration of mildly handicapped children exhibit a more improved attitude toward mainstreaming than teachers enrolled in an introductory special education class and (b) will inservice trainees improve their ability to identify student behaviors that are potential sources of learning strengths and weaknesses in young children.

Results indicated that no significant differences existed in attitudes between the control and experimental groups at the end of the study. Becker indicated, however, that qualitative questions revealed that the ISTE group was influenced positively by the activities involving acceptance and understanding of handicapped students. The findings regarding each group's ability to identify learning strengths and weaknesses revealed no significant difference between the groups. Experimental group teachers did feel,

however, that their ability improved in locating individual strengths and weaknesses in learning characteristics.

Porterfield and Brown (1979) developed, implemented, and evaluated an ISTE program designed to aid teachers in special education in the compliance with certain mandates of Public Law 94-142. One hundred special education teachers participated in a pilot study to investigate potential design and implementation problems and to provide evidence for revision of the program. Pilot participants met for nine consecutive Saturdays and were presented content in five competency areas: (a) major provisions of Public Law 94-142; (b) assessment; (c) annual goals and short-term instructional objectives; (d) conferencing and consultation skills; and (e) resources for working with parents. Data collected following completion of the pilot project were used as a basis for developing the ISTE program used in the subsequent experimental research.

The resulting experimental ISTE program, conducted over 3 consecutive days, was utilized with a sample of 185 special education teachers. Following completion of the program, trainees expressed satisfaction with the ISTE program and showed positive increases in ratings of personal competency. In addition, examination of completed individual education programs, prior to and after

training, revealed a significant increase in the number of adequate ratings.

Wood (1979) examined the attitudes of teachers toward exceptional children and the effects of three experimental special education ISTE programs. A total of 126 subjects from 3 school districts in Mississippi participated in 1 of 3 experimental ISTE programs; (a) affective training; (b) cognitive training; and (c) placebo training. Attitudes were measured by a 7-point bipolar adjective scale.

Analysis of the posttest data revealed that the most effective ISTE program for changing classroom teachers' attitudes was the affective workshop. It was revealed also that no significant difference was found between the cognitive and placebo programs with regard to changes in attitudes. Wood reported that anticipated assistance from a special education resource teacher by a regular classroom instructor increased the likelihood of positive attitudes toward exceptional students.

Rafford (1980) examined the impact of a special education ISTE model on the attitudes of school personnel toward special education and central office personnel involved in special education ISTE. A secondary purpose of the study was to ascertain the model's impact on the awareness of

special education programming and knowledge of related laws and terminology. Subjects in the study were the elementary and secondary school teachers from the Wayne-Westland Community School District in Indiana. The ISTE program content was presented through a series of sessions beginning in October, 1978, and concluding in February, 1979. Prior to the ISTE program, a 4-part questionnaire was given to the subjects. The questionnaire was designed to gather data related to the following research concerns: (a) will there be a significant improvement in the attitudes of school personnel toward mainstreaming as a result of the ISTE program and (b) will there be a significant increase in the awareness of building level personnel of available special education services and related knowledge as a result of the ISTE program. Upon completion of a 5-month ISTE program, the same test was administered to determine if any significant changes had occurred.

Findings of the study included: (a) the only group of professionals who demonstrated a significant change in attitude toward special education were classroom teachers, and (b) the participating group as a whole revealed a significant improvement in awareness of terminology about the areas of least restrictive environment, educational placement and planning committees, and Section 504 of

Public Law 93-380, the Rehabilitation Act of 1973 (42 Fed. Reg. 22676 [1977]).

Adapted Physical Education Inservice Teacher Education

The appearance of ISTE literature in the area of adapted physical education is a relatively new occurrence. With few exceptions, all reports of ISTE in physical education are related directly to Public Law 94-142 mandates. The following synthesis of literature includes research as well as descriptions of on-going ISTE programs in adapted physical education.

Harris (1977) investigated the extent to which physical education personnel in Oregon understood the intent of Public Law 94-142 and how impact of compliance with the law was perceived. Harris also developed a set of compliance procedures and concept papers for physical education personnel whose responsibility included serving handicapped individuals. The investigation was part of a larger statewide study by the Oregon Department of Education; the study was designed to develop a set of procedures for recommended use by local school districts. Harris used a 12-item questionnaire to obtain the desired research information. The questionnaire was employed to solicit the following data: (a) personnel background information, including the status of ISTE received by individual subjects; (b) knowledge

of the requirements of Public Law 94-142; and (c) beliefs regarding the impact of compliance with Public Law 94-142. Before and after field-testing the procedural package, data were collected from 120 subjects who provided or administered physical education services including administrators, teachers, and counselors. Field-testing of the procedural package occurred in five selected regional school districts during the months of March and June of 1977. In addition to Harris, four consultants assisted in field-testing the procedural package in each district. Arrangements were made between the investigator and each school district for the provision of approximately 17 days of consultant time.

Harris reported that a total of 99 (76%) questionnaires were returned on the pre-survey and 60 (46%) on the post-survey. With regard to the requirements of P.L. 94-142, 30% of the subjects on the pre-survey and 42% on the post-survey demonstrated knowledge. A total of 50% of the personnel answered 3 of the 6 knowledge items after the experimental period.

With regard to the impact of compliance with P.L. 94-142 upon physical education programs in Oregon as perceived by physical education personnel before implementation of the procedural package, most expressed a positive belief about compliance with the law for mildly handicapped

but were neutral for the severely handicapped. After implementation of the procedural package, school personnel in general believed that compliance with the provisions of P.L. 94-142 would have a beneficial effect when considering mildly handicapped students, but tended toward negative belief when considering the severely handicapped. The differences between the pre- and posttest perceptions concerning the impact of compliance with P.L. 94-142 for physical educators teaching different conditions (teaching mildly vs. severely handicapped) was not significant. Most of the administrators and counselors were knowledgeable of the intent of the law, whereas 40% or fewer physical education and classroom teachers were knowledgeable.

In conclusion, Harris stressed the need for intensive inservice training for physical education teachers if they are to become knowledgeable about P.L. 94-142 and develop more positive beliefs about its impact. The need for district level adapted physical education specialists was noted in order to assist in assessment, development, implementation, and evaluation of IEPs, as well as to provide inservice training for regular physical education personnel.

Hillman (1978) reported the personnel preparation recommendations of a national advisory group composed of authorities in adapted physical education and therapeutic

recreation. The paper summarized the results of a 2-day meeting in Washington, D.C., sponsored by the Bureau of Education for the Handicapped. Hillman noted that both personnel preparation and research were needed in order that services related to Public Law 94-142 be properly implemented.

Several specific guidelines for future ISTE in adapted physical education were presented. These included: (a) ISTE for educational policy makers; (b) ISTE for instructional personnel; (c) ISTE for community management personnel; (d) preparation of physical educators for rural areas; (e) retraining and ISTE for trainers of teachers; and (f) ISTE for paraprofessionals, volunteers, and parents.

Jansma (1978) presented evaluation information related to Project Outreach (Winnick & Jansma, 1978), an ISTE program designed to provide trainees with competencies necessary to implement the physical education mandates of Public Law 94-142. A total of 64 physical education directors and teachers attended 1 of the 5 2-day ISTE institutes during the period from July, 1977, to February, 1978. These programs were held in different geographic regions within New York State: (a) downstate; (b) capital district; (c) central; (d) southern tier; and (e) western. Information was reported relative to the participants'

opinions of inservice education experience and attitude changes regarding physical education for the handicapped. In order to measure attitude change, the 26-item attitude inventory was administered to trainees prior to and following participation.

Analysis of the data revealed a very favorable rating by trainees for the inservice education experience. When such factors as "selection of speakers", "quality of presentations", "topics selected", and "sequence of sessions" were considered, a grand mean rating of 6.12 (7 high) was attained. Results also indicated that trainees' attitudes toward integrating handicapped students into regular physical education increased significantly (.05) as a result of participation in Project Outreach. More importantly, a 4-month follow-up administration of the attitude survey revealed that the significant positive attitude changes persisted.

Jones (1978) investigated the current and desired status of preservice and inservice training in physical education for the handicapped in the state of Texas during the 1977-78 academic year. Findings relating to inservice training were based on 100% return of questionnaires from the special education directors of the 20 regional educational service centers.

Jones reported that: (a) very little time was given to inservice training in physical education for the handicapped during the 1977-78 academic year; (b) training materials most often available for use through the education service centers were I CAN and Special Olympics; (c) special education directors had little knowledge of the physical education activities for the handicapped in the public schools; and (d) training in activities believed by adapted physical education authorities to be beneficial to the handicapped was often neglected. Jones stated that 95% of the special education directors in the education service centers voiced the opinion that there was a great need for ISTE in physical education for the handicapped.

Jones concluded that there was a severe discrepancy between the current and desired status with regard to ISTE for teachers of handicapped in the state of Texas. It was believed that training was not receiving the attention necessary to provide physical education services in accordance with Public Law 94-142 mandates, other state laws, and professional guidelines in physical education for the handicapped.

Vodola (1978) published a monograph which described research studies based on Project ACTIVE (All Children Totally Involved Exercising). Competency-based teacher

training in Project ACTIVE was examined to determine the extent to which it provided teachers with minimal skills, strategies, and attitudes necessary to initiate physical education programs designed to meet the needs of handicapped children.

During the 1973-74 school year 88 New Jersey teachers and paraprofessionals participated in 3 separate Project ACTIVE teacher training studies. The 3 pools of subjects were assigned to experimental and control groups. All subjects were pre- and posttested on a 25-item scale designed to evaluate the attainment of Project ACTIVE implementation competencies. Experimental group subjects participated in either 10 or 6 4-hour ISTE sessions on consecutive Saturdays. Control subjects did not participate in the adapted physical education ISTE program provided by the Project ACTIVE staff.

Results of the 3 individual studies indicated that the experimental groups receiving Project ACTIVE competency-based training achieved scores that were significantly superior to the control groups in both the cognitive and psychomotor areas. Vodola concluded that: (a) participants in Project ACTIVE's training program demonstrated proficiency in those skills, knowledges, and attitudes necessary to provide individualized-personalized physical education

programs for handicapped children, and (b) the competency-based teacher training process was a viable means of providing trainees with skills necessary for organizing and administering a physical education program to students who exhibit a variety of disabilities.

Bird and Gansender (1979) investigated the level of preparedness of 912 public school physical educators in Virginia to meet the physical education guidelines of Public Law 94-142. A 40% return of a questionnaire resulted in data from 137 elementary, 100 junior high, and 125 high school physical education teachers. In order to assess preparedness, questions were asked concerning: (a) educational attainment levels; (b) knowledge of handicapping conditions; (c) competencies to perform various program related tasks; and (d) training in physical education for the handicapped.

Data concerning educational attainment revealed that 96% had earned undergraduate degrees; 26%, master's degrees; 3%, educational specialist degrees; and 40% had earned 1 to 3 credits of coursework covering physical education for the handicapped. Only 12% of the graduate level persons had earned 1 to 3 credits in physical education for the handicapped. From 79% to 96% of the respondents had had no practicum experiences in working with the handicapped.

Knowledge of 26 handicapping conditions was measured by responses on self-rating items in reference to "nature and causes" and "motor needs and tolerances". Results indicated that over 70% of the physical educators had little or no knowledge of 5 conditions, over 50% had little or no knowledge of 9 conditions, and over 30% had little or no knowledge of 23 conditions.

In relation to programming competencies, respondents were asked to rate their abilities to perform 24 tasks specifically related to planning, implementing, and evaluating physical education programs for the handicapped. The findings revealed that between 24% and 48% of the subjects had little or no ability to perform a given task. No task received more than 40% of its ratings in the good or excellent categories. It was found, however, that subjects rated their competence higher than their knowledge on both the nature and causes and the motor needs and tolerances of handicapping conditions.

Bird and Gansender concluded that preservice and, more importantly, ISTE must be increased in order to provide physical educators with specific skills and knowledge necessary to plan and implement appropriate experiences in physical education for handicapped students. In addition, the investigators indicated that considering 66% of their

sample was trained out-of-state at the preservice level, it was reasonable to suggest that this general conclusion would apply to other states.

Clelland (1979) described the federal government's involvement in the evolution of both preservice and inservice personnel training in adapted physical education since the passage of Public Law 90-170, the Mental Retardation amendments of 1967 (42 U.S.C. 2698-26986). This act amended the Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1967 (42 U.S.C. 2661-26986). Title V of this 1967 act was entitled "Training of Physical Educators and Recreation Personnel for Mentally Retarded and Other Handicapped Children". The publication included several recommendations submitted by professional study groups during the 1970s supporting the need for adapted physical education ISTE and linkage projects between local education agencies, institutions of higher education, and others involved with physical education service delivery.

Hurley (1979) conducted a study to compare two methods of ISTE in diagnostic-prescriptive physical education for the handicapped utilizing the I CAN model and materials designed by Wessel, Vogel, Knowles, and Green (1976). One method, Intensive Inservice Training, consisted of a 1-day

workshop, 5½ to 6 hours in length, followed by 3 consultant on-site visitations. The second method, Limited Inservice Training, was composed of a 2-hour orientation to diagnostic-prescriptive teaching with no follow-up consulting. Physical and special education teachers ($\underline{n} = 40$) from 19 states in 3 regions of the country participated in the investigation.

Each of the subjects in the 2 training methods implemented the I CAN model with severely handicapped children and youth for a total of 32 class periods. Data relating to the teachers' performance were obtained following implementation of the 32 periods through the use of 2 evaluation instruments. These instruments, the Component Mastery Test and the Summative Status Report, measured knowledge of the I CAN program and extent of each teacher's implementation, respectively.

Analysis of the data revealed no significant differences in mastery of content between trainees who participated in the two methods. No significant difference was found between special education and physical education teachers with regard to knowledge of the I CAN components as measured by the Component Mastery Test. A significant difference did exist between groups in actual implementation of the instructional program as measured by the

Summative Status Report. This difference favored subjects who received the Intensive Inservice Training. Those teachers who received consultant on-site follow-ups obtained significantly higher implementation ratings than those who did not.

Spragens (1979) developed and evaluated a 1-day training session entitled Model for Inservice Workshop: Physical Education in the Least Restrictive Environment. The workshop was designed for training classroom, physical education, and special education teachers who were responsible for planning and conducting physical education classes in which children with handicapping conditions were or would be assigned.

Content presented at the workshop included information concerning requirements of Public Law 94-142, physical education curriculum areas, and specific activities appropriate for children with various handicapping conditions. The workshop placed emphasis upon proper implementation of the least restrictive environment concept in physical education. In addition, a practicum experience with handicapped children was included in order to highlight the importance of proper appraisal and prescriptive techniques in adapted physical education programming.

Eighty-five subjects from several school districts in three regions of Texas participated in the 1-day workshops during the 1978-79 academic year. Included among these participants were 16 classroom teachers, 18 physical education aides, and 5 individuals of unknown responsibility. Evaluation of the workshop was based on data derived from pre- and posttest administration of two instruments designed by Spragens. These measures were entitled Knowledge and Understanding Quiz and Opinions Mainstream Planning Inventory. Additionally, effectiveness of the model was judged by individuals with extensive ISTE training experience.

Three hypotheses concerning the ISTE training model were examined, resulting in the following findings. The workshop model was judged effective for ISTE of teachers of mainstreamed physical education by ISTE experts, ISTE trainers, and judges of models. Participation in the workshop significantly improved the knowledge of trainees about physical education activities for handicapped children as measured by the Knowledge and Understanding Quiz. The training resulted in attitude improvements of teachers toward handicapped students as measured by the Opinions Mainstream Planning Inventory. Spragens concluded that it was possible to use a system-model approach to construct

an educational model for ISTE of persons delivering physical education, to use the model as a basis for workshops, and to evaluate it.

Dunn and Harris (1979) edited a monograph which described several theoretical and practical methods of providing ISTE in the area of adapted physical education. Reports contained in the document were originally presented at a 2-day meeting held at the Oregon State University on June 15 and 16, 1978. The conference, entitled "Inservice Physical Education and Public Law 94-142", was designed to allow authorities in the area of adapted physical education to communicate their strategies and ideas for the delivery of ISTE programs. Selected papers in the Dunn and Harris monograph are reviewed on the next few pages.

Cooper and Churton (1979) presented a brief description and extensive evaluation information related to a physical education for the handicapped ISTE program developed at the University of Southern Mississippi. The intent of the program was to field-test various ISTE delivery systems and eventually develop a model which would produce evidence of instructional program changes and improved motor performance on the part of exceptional children. Trainees participating in the program were special education teachers in the southern part of Mississippi.

Unlike several descriptions of existing ISTE programs in the area of physical education for the handicapped, the University of Southern Mississippi provided practical strategies necessary for proper implementation of a staff development plan in public schools. Included among these were: (a) paying travel and subsistence for teachers; (b) holding training during regular school days on released time; (c) contracting with public school administrators to ensure needed support over at least 1 year; (d) providing materials in the form of teacher kits; (e) implementing follow-up services for teachers; (f) requiring lesson plans and program implementation; and (g) making of regular university or continuing education unit credit available.

In addition, Cooper and Churton were greatly concerned with widespread acceptance of the belief that by exposing ISTE trainees to knowledge, skills, and understandings that somehow this competency was automatically acquired and resulted in improved programs offered to students. Therefore, formal evaluation methodology, the Discrepancy Evaluation Model (Provus, 1971), was utilized to carefully design and evaluate each component of the proposed model.

The design of the program necessitated three types of evaluation: (a) pre-stated evaluation questions as part of

the Discrepancy Evaluation Model; (b) use of a Likert-type scale to measure teachers' responses to delivery strategies used; and (c) teachers' reaction to various descriptions which have previously been identified to reflect positive or negative reactions to ISTE (Cooper & Churton, 1979). Analysis of the evaluation data led to the following conclusions: (a) more involvement on the part of administrators was necessary to promote support of the program at the local level; (b) teachers felt they learned more when they were involved in activity (lecture-demonstration-activity-all integrated); (c) teachers indicated follow-up services to be essential to ISTE efforts; (d) specific knowledge in the designated areas was developed among trainees; (e) teachers responded very favorably to videotaping of their programs and use of this as feedback and to promote discussions; (f) teachers suggested they receive ISTE materials prior to the sessions for study of concepts to be covered; and (g) teachers indicated need for more interaction among teachers (small group work and individual interactions with the program staff).

In conclusion, Cooper and Churton synthesized their evaluation data and formulated a definition of ISTE in physical education for the handicapped. This definition states that ISTE is "a system of informing decision makers

and educating teachers in basic understandings and skills pertaining to planning, implementing, and evaluating a comprehensive adapted physical education program for schools in Mississippi" (p. 106). The key component which should be emphasized is evaluation, including follow-up services to insure proper implementation.

DiRocco (1979) outlined general guidelines for developing a physical education for the handicapped ISTE model in public school districts. Current and anticipated factors such as implementation of Public Law 94-142, decreases in student enrollment, geographic considerations, negative attitudes of teachers, and unwillingness to enroll in graduate study were presented as rationale for the initiation of local ISTE programs. DiRocco suggested that a model include the following components: (a) assessment tools employed to determine teacher needs; (b) resource materials to be utilized within the training program; (c) ISTE delivery strategies; and (d) subject material to be utilized within the training program. Emphasis within the model was placed upon maximizing attainment of individual needs.

The needs assessment component of the model stressed the importance of evaluating each teacher's knowledge of handicapping conditions, its effect on motor performance, and implications in terms of physical education methods

and programs. Additional areas recommended for assessment were teachers' knowledge of state and federal legislation, local special education procedures, related services techniques, behavior management strategies, and attitudes toward the handicapped. DiRocco suggested cooperative efforts between districts and teacher training institutions in designing these needs assessment instruments.

Appropriate resource materials in the area of physical education for the handicapped was deemed an important component of the model. The availability and use of the following resources were recommended: (a) films of programs illustrating teaching methods, facilities, and equipment; (b) films depicting civil rights or attitudinal issues in terms of the handicapped; (c) textbooks and other printed materials; (d) motor assessment tools; and (e) agencies, associations, and individuals from which teachers could obtain information concerning the handicapped.

Proper planning and implementation of delivery strategies was deemed the most important component of the ISTE model. Techniques suggested and explained included: (a) summer institutes; (b) peer tutoring (team teaching); (c) individual programming; and (d) practicum experiences in situations where districts do not presently serve handicapped students in physical education.

Finally, curriculum content to be utilized within the ISTE was suggested. The following areas should be presented in detail: (a) handicapping conditions; (b) teaching techniques; (c) legal requirements; (d) facility and equipment requirements and adaptations; (e) least restrictive environment concept; (f) role of recreational services; (g) accountability; and (h) the physical educator's role in the educational placement and curriculum planning of each handicapped student.

Horgan (1979) described an ISTE model in physical education for the handicapped, Project Stop-Gap, developed at Temple University; it was implemented with teachers in southeastern Pennsylvania. The model was viewed as a novel approach since it utilized cooperative efforts between local educational agencies and the University.

ISTE sessions were designed to incorporate both theory and practical application in order to enable trainees to develop and implement a competency-based physical education program. The model was composed of 10 discrete curricular areas including mental retardation, early childhood, specific learning disability, hearing impaired, visually impaired, emotionally disturbed, orthopedically handicapped, multi-handicapped, and other health impaired. Each of these curricular areas contained the following components: (a) entry level assessment; (b) didactic presentation;

(c) practical application/demonstration; (d) discussion and debriefing; (e) practical application/mastery session; and (f) exit level assessment.

The ISTE model operated in such a way that currently employed physical education teachers from participating local education agencies were able to receive graduate level university credit as a result of successful participation in the competency-based program. These local education agency trainees served as resource specialists for the project and, more importantly, developed and implemented the project's curriculum in their respective school settings.

In addition to the collaborative efforts between the local educational agency personnel and Temple University faculty, Horgan noted the importance of an area ISTE curriculum committee. This interdisciplinary advisory group included: (a) physical education teachers from the public schools; (b) parents of handicapped children; (c) a Temple University special educator; (d) an early childhood/pre-school representative; and (e) three at-large representatives chosen from any of the categories mentioned.

Lange (1979) rendered an account of a physical education for the handicapped ISTE program implemented in rural areas of Idaho. Planning and implementation of the program were collaborative efforts among personnel from both the

University of Idaho and the Idaho State Department of Education, local education agency physical education and special education teachers, and out-of-state consultants with expertise in the areas of adapted physical education and special education. Two general goals of the program were described: (a) to provide the greatest number of teachers possible with a minimum of foundational information relative to physical education for special education students and (b) to initiate a more comprehensive plan of action for provision of appropriate physical education.

Development of the ISTE program was comprised of three related phases: (a) a needs assessment conducted with all physical education and special education teachers in the state; (b) a special study institute in physical education for the handicapped organized to examine the initial needs assessment information; and (c) dissemination of a survey to determine specific content areas in which teachers felt they needed training and evaluation of the results. Implementation of the ISTE program in the rural state of Idaho necessitated the selection of seven sites in order to involve the largest number of teachers and limit travel inconvenience. A college or university facility was utilized at each of the sites for presentation purposes. In addition to the on-site programs throughout

the state, intensive summer institutes were offered to teachers at the University of Idaho. Content of the ISTE program, derived from needs expressed by the teachers and areas considered important by the project staff, included the following: (a) physical education programming as it relates to Public Law 94-142 requirements; (b) motor assessment procedures; (c) relationships between physical education and special education; (d) classroom management; (e) task analysis; (f) child study team concept; and (g) evaluation procedures. Project staff or outside consultants were selected to present the specific topic areas according to individual expertise.

Objective evaluation data related to the ISTE program were limited to information regarding participant responses to the appropriateness and effectiveness of specific training sessions. Teachers were requested to provide the project staff with constructive feedback concerning topics and delivery methods for future workshops. Citing outcomes such as attendance by 240 teachers despite the rural population distribution, opportunities for teachers to receive instruction from a variety of personnel without traveling excessive distances, and the active participation of handicapped students, administrators, parents, and aides, Lange subjectively deemed the rural ISTE model in adapted physical education quite successful.

Loovis and Taylor (1979) presented a collaborative, field-based ISTE model to implement physical education services to handicapped students in parts of Illinois. The model described was guided by three underlying themes derived from an extensive review of literature concerned with ISTE methodology. These themes included: (a) federal, state, and local agencies are seeking ways to promote more efficient utilization of teachers and other resources for effectively dealing with pressing educational reform; (b) teachers are insisting that they be given the opportunity and freedom to be involved in deciding, planning, and implementing their own ISTE activities; and (c) there is a trend toward cooperative ISTE efforts which include persons from universities, school districts, and agencies sharing resources in a collaborative or consortium type of arrangement.

In their ISTE approach, Loovis and Taylor involved the University of Illinois, a school district, and one school within the district which served only handicapped students. ISTE trainees included physical educators, regular education classroom teachers, special education teachers, and principals. Implementation of the model was designed in such a way that each principal received 50 hours of training and each teacher 125 hours.

Delivery of ISTE content was divided into 8 cycles, with the entire program lasting approximately 10 months. The model was designed so that each cycle's content built upon that of the previous one. Initially, the ISTE experiences were classroom (lecture) oriented. Gradually, each cycle contained less formal classroom time and more field-based work in the trainee's classroom. In an effort to utilize research findings related to effective ISTE, Loovis and Taylor incorporated the following principles into their delivery procedures; (a) ISTE experiences must increase the likelihood that teachers will become more independent rather than dependent; (b) continuing professional development experiences that provide repeated short-term learning experiences are preferable to single episodes; (c) ISTE programs should capitalize on teachers' abilities to teach one another; (d) most ISTE activities should take place in natural school settings; and (e) programs of continuing professional development should provide teachers with skills to accurately assess the quality of their teaching.

The ISTE content was divided into two general categories. First, physical education concepts and activities required for students of all ages and handicapping conditions were presented in detail for regular classroom teachers, special education teachers, and principals. Physical

educators received a review of this material. Secondly, the training included content material designed to provide trainees with the following competencies: (a) assessment and evaluation of physical and motor behavior of handicapped students and (b) development, implementation, and formative evaluation of physical education programs for handicapped students. It was desired that at the conclusion of the ISTE program each trainee would have acquired the knowledge and skills necessary to implement physical education to handicapped students in the least restrictive environment.

Cowden (1980) designed, implemented, and evaluated a series of ISTE workshops in adapted physical education for public school administrators. The workshop content was developed to provide philosophical and motivational strategies for program assessment and development, curriculum content components, and management and delivery systems for school district services in adapted and developmental physical education. Additionally, state and federal legislation was discussed to ensure that public school administrators were aware of requirements related to adapted and developmental physical education. Cowden placed emphasis on establishing realistic objectives and guidelines for facilitating role changes necessary for implementing programs of adapted physical education.

Subjects participating in the study were 25 administrators from the Fort Bend Independent School District in south Texas. Administrators attended 3 sessions, totaling 9 hours. Immediately prior to and 4 weeks following the workshop sessions, participants completed a questionnaire. This questionnaire, designed by the investigator and entitled The Administrators' Opinion Survey, was constructed to gather information concerning present services and conditions, beliefs as to what constitutes ideal program implementation, and intent of the respondent to implement.

Results of the pre- and posttests were analyzed by a paired t test. A significant difference at the .01 level was found for the degree to which services/conditions existed. Despite an overall increase in posttest means, the t values for the degree of importance of adapted physical education and the strength of intent to implement adapted physical education programming were not significant ($p < .05$).

Cowden noted several positive outcomes of the administrators' ISTE program that could not be measured statistically. For example, following the completion of the experimental period, it was decided by the administrative personnel to require physical education teachers to serve

on Admission, Review, and Dismissal committees. More noteworthy was a decision to employ an adapted physical education specialist in the district. Cowden concluded that the content and procedures developed for the ISTE of public school administrators in adapted physical education were appropriate.

Hall (1980) described an adapted physical education ISTE model for college/university faculty members in regular physical education. The concept of the program, Project Infuse, was to incorporate content concerning handicapped children into existing required physical education courses at the undergraduate level. General physical education teacher preparation courses such as tests and measurement, growth and development, kinesiology, motor learning, exercise physiology, and methods/curriculum were selected for the infusion of pertinent characteristics related to handicapped individuals. It was projected that through this generic undergraduate preparation, future physical education teachers would be able to meet the demands placed upon them in mainstream situations.

Prior to infusing adapted physical education content, various concerns were addressed in formal planning sessions between the project staff and individual faculty members. Faculty members were provided with ISTE experiences in the

areas of: (a) legislation related to the education of handicapped children; (b) characteristics of specific handicapping conditions and implications for teaching physical education; and (c) research data in related educational domains concerning various exceptionalities and the practical implications of this knowledge base. Faculty ISTE was completed with a practical experience involving handicapped individuals. Further developmental assistance, as needed, was offered to each faculty member by a graduate assistant and/or faculty member with Project Infuse.

Implementation of Project Infuse content into the undergraduate courses was guided by the development of several competencies for regular physical education teachers working with handicapped students. Examples of these competencies included: (a) demonstrate knowledge and understanding of variations in physical growth and development; (b) demonstrate knowledge and understanding of physiological conditions that may limit or restrict motor performance; and (c) demonstrate knowledge of variations in learning and motivation as they affect the acquisition of motor skills. Physical education faculty members selected appropriate competencies which could be incorporated into their respective courses. Presentation of content to achieve the specific competencies was implemented in concentrated modules or, more preferably, throughout the course.

Stokes (1980) determined the current status of physical education for the handicapped in Louisiana as it related to requirements of Public Law 94-142. Personnel from 1,174 public and private special education programs in the state contributed data. Additionally, information from 17 universities and colleges was utilized in the study.

The long-term goal of the investigation was to remediate deficiencies or maintain current programming standards in physical education for the handicapped based on data obtained in the statewide needs assessment. Data were collected for the purpose of making judgments about the degree of agreement between what actually existed and what should be in existence as indicated by "program intents".

Results of the study were reported in the form of 13 "program intents" based on state and federal standards for the education of handicapped students, findings in relation to these intents, and corrective actions necessary to ameliorate existing deficiencies. Included among the "program intents" were the following: (a) percentage of special education programs providing physical education for the handicapped in accordance with the individual education program; (b) percentage of certified personnel providing physical education services to the handicapped; (c) instruments utilized to evaluate students in physical

education; (d) physical education programs evaluating handicapped students based on progress made on short-term objectives in the individual education program; (e) awareness of statutory requirements of Public Law 94-142 as they relate to physical education programs for the handicapped; and (f) percentage of programs providing physical education services that received ISTE in adapted physical education and related areas.

Results of the study had significance for ISTE of teachers responsible for providing physical education to handicapped students. It was found that 21% of the programs surveyed provided no physical education experiences to special education students. Personnel in only 68% of the physical education programs serving handicapped students evaluated student accomplishments according to progress made on short-term instructional objectives on the individual education program. Only 42% of the local programs provided ISTE in the area of adapted physical education. Specific ISTE needs highlighted in the questionnaire responses were: (a) individual education programs; (b) Public Law 94-142 mandates; (c) evaluation techniques; (d) physical education activities for the handicapped; and (e) diagnostic-prescriptive teaching in physical education for the handicapped. Finally, it was revealed that Louisiana

did not have an official preservice training program in adapted or special physical education at any of its colleges or universities. Stokes concluded that ISTE for teachers in the area of adapted physical education appeared to be a priority area at the state level.

Knowles (1981) studied the concerns of 15 physical education teachers in the Austin, Texas, area who participated in an individualized adapted physical education ISTE program. Subjects were exposed to a 7-week program designed to improve skills and knowledge necessary to individualize physical education for handicapped children. The ISTE program consisted of 7 formal 2½-hour group sessions and 4 individualized consultant visits. Content in the following areas was presented: (a) Public Law 94-142; (b) psychomotor assessment; (c) individual education programming in physical education; and (d) managing individualized instruction in the least restrictive environment in physical education. Training materials were adapted from the I CAN physical education curriculum program (Wessel et al., 1976).

The 35-item Stage of Concern questionnaire (Hall, George, & Rutherford, 1977) was used to measure teachers' concerns about implementing innovative individualized physical education. This Likert-type scale provided information related to teachers' perceptions of innovative

changes which might directly affect them. The seven stages of concern included on the scale were: (a) awareness, (b) informational, (c) personal, (d) management, (e) consequence, (f) collaboration, and (g) refocusing. Each subject completed the questionnaire prior to the first ISTE session and immediately after the last session. Knowles indicated that a hypothesized profile of concerns for nonusers of innovation would reveal highly intense scores in the awareness, informational, and personal stages with low intensity scores in the consequence, collaboration, and refocusing stages. Results of the investigation were presented in group and individual profiles. The pre- and posttest group profile revealed a pattern similar to the one hypothesized. Individual pre- and posttest profiles demonstrated varying results from teachers who successfully implemented individualized programs to those who had no interest in the implementation of individualized adapted physical education. Knowles concluded that: (a) implementation of innovative ideas takes time and that the 7-week ISTE program may not have been long enough to affect total change; (b) ISTE programs must be structured individually since all teachers adapted to change differently; and (c) participation in an intensive adapted physical

education ISTE does not guarantee acceptance and implementation of innovative individualized service delivery.

CHAPTER III

PROCEDURES FOLLOWED IN THE DEVELOPMENT OF THE STUDY

The intent of this study was to develop and field-test an interagency ISTE model designed to improve adapted physical education service delivery to handicapped students attending public schools. The procedures followed in the development of the study are delineated in this chapter under the following headings: Preliminary Procedures, Development of the ISTE Model, Development of Instruments, Selection of Subjects, Implementation of Model, Collection of Data, Treatment of Data, and Preparation of Final Report.

Preliminary Procedures

Prior to the development and implementation of the interagency ISTE model in adapted physical education, the investigator surveyed, studied, and assimilated information related to the study from available documentary and human sources. A tentative outline was developed and subsequently presented in a dissertation committee meeting at the College of Health, Physical Education, and Recreation at Texas Woman's University, Denton, Texas. A copy of the revised and approved outline was filed in the form of a

Prospectus in the Office of the Provost of the Graduate School at the Texas Woman's University, Denton, Texas.

The investigator applied for and received permission to conduct the study from the Human Subjects Review Committee at the Texas Woman's University, Denton, Texas. Permission was obtained also from administrators at the Region X ESC, Richardson, Texas, and from special education administrators in selected LEAs who served as supervisors for the subjects. Finally, each subject reviewed the content and potential risks involved in the study and officially agreed to his/her participation in the investigation. Copies of letters of approval and a sample subject permission form appear in Appendix A.

Development of the ISTE Model

Information related to the development and implementation of ISTE models was studied. Materials initially reviewed concentrated upon methodology of ISTE in general. The works of Burrello and Baker (1979), Edelfelt (1975), Harris (1980), Hutson (1979), Joyce, Howey, and Yarger (1977), Texas Education Agency (1978), and Yarger et al. (1977) provided authoritative references related to general ISTE practices.

Sources of information associated with ISTE in special education were examined also. The recent writings of

Altschuld and Downhower (1980), Baker (1979), Burrello and Baker (1979), Harvey et al. (1977), Martin (1980), Meyen (1978), Schofer and McGough (1977), Siantz and Moore (1977), and Warnat (1978) were surveyed and synthesized. Much conceptual and structural repetition was noted between the practices of general and special education ISTE.

The area of adapted physical education was the primary focus of this investigation. Reports of adapted physical education ISTE practices were therefore thoroughly inspected. These included published and unpublished accounts by Bundschuh et al. (1980), Clelland (1979), Cowden (1980), Dunn and Harris (1979), Hall (1980), Hurley (1979), Karper and Weiss (1980), Knowles (1981), Spragens (1979), Vodola (1978), and Winnick and Jansma (1978). Pertinent features related to governance, situational design, and content were analyzed and applied in the design of the proposed ISTE model.

Authorities stress the importance of planned collaboration during all phases of ISTE (Baker, 1979; Edelfelt, 1977; Howey & Joyce, 1978; Joyce & Showers, 1980; Yarger et al., 1977). Particular attention, therefore, was given to the processes of cooperative planning and needs assessment in the development of the model. Both deductive and inductive processes were utilized in determining the

components of the interagency ISTE model in adapted physical education. The components of the model included: (a) needs assessment, (b) interagency planning, (c) formal ISTE in adapted physical education, (d) adapted physical education service delivery to handicapped students, (e) on-site monitoring and individualized ISTE, and (f) model evaluation. A description of each of these components is located in Appendix B.

Development of Instruments

Evaluation is one of the most important aspects of ISTE (Altschuld & Downhower, 1980; Harris, 1980; Siantz & Moore, 1977). Types of evaluation usually included within ISTE programs are formative and summative (Baker, 1979). The evaluation component of the interagency ISTE model in adapted physical education was structured to result in constant feedback to the investigator. Evaluation instruments were designed to determine the effectiveness of the model through: (a) increased knowledge of subjects demonstrated in the area of adapted physical education service delivery and (b) improved adapted physical education service delivery to handicapped students.

The Adapted Physical Education Service Delivery Knowledge Test was developed by the investigator and reviewed

by members of the dissertation committee. These persons were considered experts in the fields of adapted physical education and/or evaluation and, thus, capable of determining construct validity. After recommended structural and content revisions were completed, the knowledge test was considered valid. Test-retest procedures were used to establish the reliability of the test. Administration of the test to 11 experienced adapted physical education practitioners resulted in a test-retest reliability coefficient of $r_s = .89$. This was calculated by the Spearman Rank Correlation technique. A copy of the test and the answer key are found in Appendix C. Included also are the raw data from the test-retest reliability study.

The Adapted Physical Education Summative Status Scale was designed to assess the quality of adapted physical education service delivery by an ISTE trainee. This instrument was modeled after the one used in the Michigan State University I CAN project (Hurley, 1979) and, thus, was assumed to have face validity. The investigator, the ESC adapted physical education consultant, selected experienced practitioners in adapted physical education, and an expert in the area of adapted physical education at the university level worked cooperatively in adapting the Michigan State instrument to the needs of the present

research project. A copy of the Adapted Physical Education Summative Status Scale appears in Appendix C.

The Adapted Physical Education Service Delivery Monitoring Form, modeled after the Michigan State University I CAN project (Hurley, 1979), served as an informal formative evaluation tool. More detailed than the Adapted Physical Education Summative Status Scale, it allowed for cooperative evaluation by each subject and the investigator during on-site individualized ISTE sessions. A copy of this form appears in Appendix C.

Selection of Subjects

The cluster sampling technique was utilized in this study. Criteria established to govern the selection of subjects for inclusion in the study were: (a) each ISTE trainee must be a certified physical education and/or special education teacher and (b) each trainee must be presently implementing adapted physical education or his/her schedule could be arranged to allow such implementation. Subjects who participated in the study were required to attend all 5 of the formal ISTE sessions, implement adapted physical education services for 2 handicapped students in their school district for at least 60 minutes a week for 14 weeks, and participate in a minimum of 4

on-site individualized ISTE sessions. The subjects for this study were 11 teachers certified in either special education or physical education from LEAs within the Region X ESC area. A table describing the subjects is located in Chapter IV.

Implementation of Model

The interagency ISTE model in adapted physical education was composed of several interdependent components. The needs assessment component of the adapted physical education ISTE model was composed of informal data collection techniques. Telephone conversations and personal discussion with ESC and LEA special education, physical education, and adapted physical education personnel provided substantial evidence that physical education for handicapped students either did not exist or was not being properly implemented. The validity of this charge was established by numerous similar observations reported by the investigator and the ESC adapted physical education consultant. The primary functions of the ESC consultant were, upon request, to provide diagnostic and direct services to LEAs. Considering the number of handicapped students in the ESC Region X area and the severe shortage of adapted physical educators, the demand for this consultant's services would seem overwhelming. The low level of awareness and/or

willingness to provide required adapted physical education services, however, kept requests for ESC consultant services to a minimum. This overall service delivery discrepancy between required state and federal mandates and existing conditions indicated a definite need for the inter-agency ISTE model in adapted physical education.

Individual meetings were then arranged by the investigator with administrative and direct service representatives from the Region X ESC and supervisory personnel from the LEAs. The purpose of these meetings was to present the proposed interagency ISTE model in adapted physical education and to solicit constructive feedback for possible additions and/or modifications.

A meeting was held initially with the representatives from Region X ESC. Cooperation from this agency was necessary to ensure the success of the project. In Texas these units provide most of the ISTE and technical assistance available to LEAs. The model was presented and found acceptable with minor situational design modifications by the ESC personnel. Acceptance of the model included agreement to provide financial, manpower, material, and facility resources for the duration of the project.

The investigator and ESC personnel then cooperatively identified LEAs who were in need of ISTE in adapted

physical education and were able to provide financial and manpower resources. A meeting was held with LEA supervisory personnel in adapted physical education and special education. The proposed interagency ISTE model was accepted, and the LEA personnel agreed to identify teachers who would benefit from and were in need of ISTE in adapted physical education. The LEA personnel agreed also to provide financial support for the project.

Initial planning and needs assessment were followed by completion of preparation for the formal ISTE sessions. The Region X ESC facility in Richardson, Texas, was selected as the site for the five formal sessions. Each of these sessions was 6 hours in length and comprised of a combination of lecture and participatory activities. These sessions took place on the following dates: February 26 and 27, March 26 and 27, and April 9, 1981. Detailed descriptions of these sessions appear in Appendix E.

The overall time schedule for the formal ISTE sessions was distributed rather than massed, thereby allowing presentation of new information which could be applied and tested in the field before more advanced content was introduced. Arrangement of the formal ISTE sessions over a 3-month period maximized the value of the on-site

individualized sessions following each of the formal group meetings.

Adapted physical education service delivery to handicapped students was initiated in each subject's teaching site immediately after the first 2-day ISTE session. Each trainee was responsible for providing services to 2 eligible students. Appropriate special education referral procedures were adhered to in this process. Service delivery began with an individual motor assessment to establish the student's present level of performance in the motor ability area. This diagnostic information was then added to existing educational assessment data for presentation at the Admission, Review, and Dismissal committee meeting. An official determination to provide adapted physical education services was made at this meeting. The adapted physical education component of the IEP was also finalized.

Diagnostic-prescriptive teaching procedures, as advocated by Vodola (1978), were emphasized in the service delivery phase of the project. Content of the individual and/or small group (two to three) instructional sessions was directly related to strengths and weaknesses exhibited on the motor ability assessment. Each student received a minimum of 60 minutes of direct service in adapted

physical education. This time was separated into two or three short instructional sessions.

The purpose of the informal on-site sessions was to assist each subject with problem areas. This assistance varied from solving conflicts with schedules to administering motor assessment instruments to handicapped students. The diverse educational and experiential backgrounds of the subjects created a situation that made the on-site visitations one of the most critical components of the ISTE model. A schedule of these on-site visits is located in Appendix F.

Collection of Data

Formative and summative evaluation techniques were utilized to assess the effectiveness of the interagency ISTE model in adapted physical education. One primary concern was whether subjects would increase their knowledge of adapted physical education service delivery as a result of participation in the ISTE program. All subjects were, therefore, administered the Adapted Physical Education Service Delivery Knowledge Test prior to the first formal ISTE session and immediately after the last meeting. Another concern was whether subjects would improve their adapted physical education service delivery to handicapped

students. All subjects were, therefore, administered the Adapted Physical Education Summative Status Scale on a pre- and posttest basis. This summative evaluation scale was implemented by trained judges.

Judges selected to administer the Adapted Physical Education Summative Status Scale were persons with extensive teaching and consulting experience in adapted physical education. Judges included a regional ESC adapted physical education consultant, a doctoral student in adapted physical education with public school and university teaching experience, and the investigator. All judges were thoroughly familiar with the summative scale prior to actual administration with the ISTE trainees. Trial testings were performed in order to obtain a high degree of objectivity with the scale. Specific questions related to certain items on the scale were discussed and clarified.

The administration of the scale for research purposes took place during formal sessions. Subjects were notified by the investigator 3 to 4 days prior to pre- and posttest administration of the scale. Judges observed and interviewed each subject for approximately $\frac{1}{2}$ hour on each occasion.

Formative evaluation was conducted throughout the entire ISTE program. The investigator and each trainee

cooperatively reviewed and updated the Adapted Physical Education Service Delivery Monitoring Form during each on-site individualized ISTE session. Data related to these personalized evaluation forms are not presented herewithin. There is, however, a copy of this instrument in Appendix C.

Treatment of Data

Data were analyzed with appropriate statistical tests following pre- and posttest administration of the Adapted Physical Education Service Delivery Knowledge Test and the Adapted Physical Education Summative Status Scale. Descriptive statistics calculated included the range, mean, standard deviation, and standard error of the mean. The paired t -test (Glass & Stanley, 1970) was used to determine significant pre- and posttest differences on the Adapted Physical Education Service Delivery Knowledge Test. The nonparametric Wilcoxon matched-pairs signed-ranks test (Siegel, 1956) was utilized in order to examine pre- and posttest group differences on the Adapted Physical Education Summative Status Scale. The nonparametric Friedman two-way analysis of variance by ranks (Siegel, 1956) was used to determine if significant variability existed among the judges' rankings on the Adapted Physical Education Summative Status Scale. The

Kendall coefficient of concordance: ω (Siegel, 1956) was used to examine agreement among the judges' rankings on the Adapted Physical Education Summative Status Scale.

Preparation of Final Report

The process followed in the development of the final written report included writing the chapters, submitting them to members of the dissertation committee for suggestions and/or corrections, and revising each chapter in accordance with the recommendations of the committee. The results of the study were presented and interpreted, the conclusion stated, and recommendations for further studies were suggested. A bibliography and appendices were included at the end of the report.

CHAPTER IV

FINDINGS OF THE STUDY

The present study was initiated to develop and field-test an interagency ISTE model for improved adapted physical education service delivery to handicapped students in public schools. The data collected and analyzed are described in this chapter. Information is presented under the following headings: Description of the Subjects, Knowledge Concerning Adapted Physical Education Service Delivery, Quality of Adapted Physical Education Service Delivery, and Examination of the Hypotheses.

Description of the Subjects

The subjects in this study were four special education and seven physical education teachers from public schools within the ESC Region X area in Texas. Of these, three were men and eight were women. All subjects had earned bachelor's degrees in their respective teaching fields. Two physical educators and two special educators were in the process of completing graduate degrees in their area of teaching specialization while the investigation was in progress. The past training of the subjects in

adapted physical education varied. Two of the physical educators had completed a 3-hour course in adapted physical education as undergraduates, and two others had received some ISTE (approximately 5 hours) in adapted physical education during the past 2 years. None of the special educators had taken formal course work in adapted physical education, but two had received some ISTE (approximately 4 hours) during the past 2 years.

Data related to the subjects' ages and number of years experience accumulated in teaching were collected. Table 1 presents these data.

Analysis of Table 1 indicated that the mean age of the physical educators was 29.71 years, and the ages ranged from 27 to 36. The mean age of the special educators was 33.75 years; the ages ranged from 31 to 36. Physical educators had a mean of 5.86 years of teaching experience, whereas special educators had a mean of 6.50 years of teaching experience.

Table 1
Description of the Subjects by Ages and
Years Teaching Experience

Position	<u>n</u>	Range (min-max)	<u>M</u>	<u>SD</u>	<u>SEM</u>
Age					
Physical Educators	7	9 (27-36)	29.71	3.45	1.30
Special Educators	4	5 (31-36)	33.75	2.22	1.11
Teaching Experience					
Physical Educators	7	8 (3-11)	5.86	2.61	.99
Special Educators	4	3 (5-8)	6.50	1.30	.65

Knowledge Concerning Adapted

Physical Education Service Delivery

The first form of summative evaluation utilized in this study was the administration of the Adapted Physical Education Service Delivery Knowledge Test to each subject prior to and immediately after the completion of the five formal ISTE sessions. Approximately 10 weeks elapsed

between pre- and posttest administration. Table 2 is a presentation of the findings.

Table 2
Adapted Physical Education Service Delivery
Knowledge Test Pre- and Posttest Data

Test	<u>n</u>	Range (min-max)	<u>M</u>	<u>SD</u>	<u>SEM</u>	<u>t</u>
Pretest	11	8 (27-35)	31.45	3.42	1.03	4.80*
Posttest	11	18 (27-45)	37.91	5.63	1.70	

Note. Highest possible score = 50.

* $p < .001$.

A study of Table 2 reveals a pretest mean of 31.45 \pm 1.03 with scores ranging from 27 to 35. Posttest scores ranged from 27-45 with a mean of 37.91 \pm 1.70. A paired t -test (Glass & Stanley, 1970) was utilized to determine if a significant difference existed between the pre- and post-test means. Results indicated that subjects improved significantly in knowledge, $t(10) = 4.80$, $p < .001$. This served as evidence that the interagency ISTE model was an effective means of changing the knowledge of its participants.

Quality of Adapted Physical Education Service Delivery

The second form of summative evaluation utilized in this study was the pre- and posttest administration of the Adapted Physical Education Summative Status Scale. This 25-item Likert-type scale was completed by three judges who independently observed ISTE trainees in an adapted physical education setting before and after completion of ISTE training. Changes in teaching site assignments, class schedules, and the death of a handicapped child resulted in subject attrition; hence 9 rather than 11 subjects were administered the Adapted Physical Education Summative Status Scale.

To test for potential differences among judges' rankings on the Adapted Physical Education Summative Status Scale, the Friedman two-way analysis of variance by ranks (Siegel, 1956) was performed. Nonsignificant differences ($p = .05$) were found on the pretest ($\chi^2 = .72$) and on the posttest ($\chi^2 = .39$).

The Kendall coefficient of concordance: ω (Siegel, 1956) was used to determine the objectivity of judges' rankings on the Adapted Physical Education Summative Status Scale. Results revealed a pretest ω of .99, $\chi^2(8) = 23.76$; $p < .01$. Analysis of the posttest rankings resulted in a ω of .99, $\chi^2(8) = 23.76$; $p < .01$. These findings indicated a high degree of agreement among the judges in

evaluating the quality of adapted physical education service delivery received by handicapped children in this study.

To determine if the interagency ISTE model was effective in improving the quality of adapted physical education to handicapped children, the pre- and posttest group rankings on the Adapted Physical Education Summative Status Scale were subjected to the Wilcoxon matched-pairs signed-ranks test (Siegel, 1956). The results of this analysis are given in Table 3.

Table 3
Adapted Physical Education Summative Status
Scale Pre- and Posttest Data

Test	Pairs	Range (min-max)	<u>M</u>	<u>SD</u>	<u>SEM</u>	<u>T</u>
Pretest	9	76 (1-77)	18.48	24.54	8.18	
Posttest	9	59 (33-92)	58.55	18.10	6.03	00*

Note. Highest possible score = 100.

* $p < .01$.

Inspection of Table 3 reveals a pretest mean of 18.48 ± 8.18 ; the scores ranged from 1 to 77. This wide range resulted from the presence of one trainee who had had

past experience in adapted physical education service delivery. The next highest score on this pretest was 37. Posttest scores ranged from 33 to 92 with a mean of 58.55 ± 6.03 . The standard deviations of 24.54 on the pretest and 18.10 on the posttest illustrated the high variability present among the subjects.

Table 3 indicates that a statistically significant difference exists ($T = .00$, $p < .01$) between the pre- and posttest judges' rankings on the Adapted Physical Education Summative Status Scale. As a group, the ISTE trainees significantly improved their adapted physical education service delivery to handicapped children.

Examination of the Hypotheses

The present study was undertaken to develop and field-test an interagency ISTE model for improved service delivery in adapted physical education. This investigation was designed to examine the following hypotheses at the .05 level of significance:

1. There is no significant difference before and after ISTE in trainees' knowledge of adapted physical education as measured by the Adapted Physical Education Service Delivery Knowledge Test. REJECTED.

2. There is no significant difference before and after the ISTE in quality of the trainees' service delivery

as measured by the Adapted Physical Education Summative
Status Scale. REJECTED.

CHAPTER V

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

The availability and quality of educational services for handicapped individuals have increased substantially in recent years. Several distinct factors have contributed either directly or collaterally to this improved status. Notable among these forces has been the passage and subsequent implementation of Public Law 94-142, The Education For All Handicapped Children Act of 1975.

Demands imposed upon the providers of special education services at all levels as a consequence of Public Law 94-142 have been extreme. New management systems such as Child Find (Texas Education Agency, 1978) and improved student referral procedures have led to increased special education enrollments in LEAs. As a result many special education programs, including adapted physical education, are understaffed or implemented by untrained personnel. This problem was anticipated by federal authorities when Public Law 94-142 was drafted. Included in its final mandates therefore was the requirement that each state develop and operationalize a comprehensive system of personnel development (42 Fed. Reg. 42492 [1977]).

Enactment of these systems was aimed at ameliorating the shortage of appropriately trained persons who could meet the educational needs of handicapped individuals. Most states and LEAs, however, still have an immediate, unmet need for special education teachers despite implementation of these comprehensive systems of personnel development.

Required special education services to handicapped students in the area of adapted physical education have suffered also because of insufficient and untrained personnel. The inclusion of physical education as part of special education service delivery in Public Law 94-142 created an immediate, and still unmet personnel preparation emergency. This problem was intensified by insufficient teacher training efforts in adapted physical education prior to passage of Public Law 94-142. The urgent need for extensive adapted physical education training at both the preservice and inservice levels is well documented (Bird & Gansneder, 1979; Dunn & Harris, 1979; Hillman, 1978; Winnick & Jansma, 1978).

Current state manpower projections specify that 300 adapted physical educators will be needed each year for the next 3 years to meet demands in Texas (Texas Education Agency, 1980). It is reasonable to assume that existing

college/university teacher training programs cannot adequately prepare such a large number of persons within the next 5 to 10 years; alternate methods of teacher training must be pursued.

The use of ISTE in adapted physical education has been recommended in an attempt to meet present personnel demands (Bundschuh et al., 1980; Hurley, 1979; Jones, 1978; Karper & Weiss, 1980; Spragens, 1979). Several widely disseminated programs have received marked acceptance and resulted in improved teaching practices in various areas of the country (Irmer, Odenkirk, & Glasenapp, 1979; Vodola, 1978; Wessel et al., 1976). Numerous other state and local ISTE programs have provided much needed assistance to teachers responsible for implementation of adapted physical education (Clelland, 1979; Cooper & Churton, 1979; Cowden, 1980; Winnick & Jansma, 1978). The continued need for personnel training in the area of adapted physical education is evident despite the efforts of these ISTE programs.

Development and implementation of operative ISTE programs require much planning (Harris, 1980; Mangieri & Williams, 1976; Pankratz, 1979). Efficient use of all accessible resources necessitates cooperative efforts. Quality ISTE programs along with preservice teacher preparation must be continually upgraded if adapted

physical education services are to reach required and desirable standards.

The present study was undertaken to develop and field-test an interagency ISTE model for improved adapted physical education service delivery to handicapped students. Cooperative planning took place in the Dallas, Texas, metroplex and involved personnel representing an institution of higher education, an ESC, and LEAs within the geographic boundaries of the ESC. Selected special education and physical education teachers from 7 LEAs within ESC region X of Texas participated in the 4-month study. Each of the 11 subjects attended 5 all-day formal ISTE sessions and were provided with at least 4 on-site individualized ISTE visitations in their respective school settings. Subjects began implementation of adapted physical education services to handicapped students in their respective school districts after the second all-day formal ISTE session and were assisted with this implementation by the investigator throughout the duration of the study.

Data utilized to test the effectiveness of the ISTE model were collected through pre- and posttest administration of two evaluation instruments. A 50-item multiple choice test was designed to measure subjects' knowledge of adapted physical education service delivery. Validation

of the test was attained through expert evaluation. A test-retest reliability of $r_s = .89$ was achieved upon administration to 11 experienced adapted physical educators. The Adapted Physical Education Service Delivery Knowledge Test as administered to the subjects in the study prior to and immediately after completion of the formal ISTE sessions.

Quality of adapted physical education service delivery offered to handicapped students was also assessed in the present study. A summative evaluation scale previously utilized (Hurley, 1979) was cooperatively modified for use in this study by the investigator, an ESC adapted physical education consultant, experienced adapted physical education teachers, and a university level expert in the field. Trained judges administered this 25-item Adapted Physical Education Summative Status Scale individually to all subjects before and after participation in the experimental adapted physical education ISTE program.

Summary of the Findings

The effectiveness of the adapted physical education interagency ISTE model was evaluated through formative and summative procedures. Hypotheses were developed, data collected, and statistical analyses were performed. The findings of the study are summarized here in relation to the hypotheses presented in Chapter I.

A paired t -test was used to analyze pre- and posttest data resulting from administration of the Adapted Physical Education Service Delivery Knowledge Test. Results of the analysis demonstrated that knowledge of adapted physical education service delivery possessed by trainees significantly improved following participation in the experimental ISTE program, $t(10) = 4.80$, $p < .001$.

The Wilcoxon matched-pairs signed-ranks test was used to analyze pre- and posttest group rankings on the Adapted Physical Education Summative Status Scale. Results of the analysis indicated that adapted physical education service delivery to handicapped students provided by the subjects significantly improved following participation in the experimental ISTE program, $T = .00$, $p < .01$, $N=9$.

Discussion

The present study was conducted to improve adapted physical education service delivery to handicapped students. The vehicle utilized to achieve this task was an experimental interagency ISTE model in adapted physical education. Selected subjects were presented adapted physical education content in both group and individualized ISTE sessions. Each subject then initiated adapted physical education service delivery in his/her school setting. The entire project was evaluated to determine its effectiveness.

The cooperative ISTE approach was selected by the investigator because of its theoretical soundness and practicality. Intermediate education agencies--the regional ESCs--are the primary agents involved in planning and implementing ISTE for LEAs in Texas. Regional ESC personnel were also acutely aware of specific ISTE needs of most LEAs within their areas. It was imperative, therefore, that the investigator coordinate his planning efforts with ESC personnel.

Interagency collaboration was necessary also as a result of the underdeveloped conditions existing in most LEAs related to adapted physical education service delivery. The ESC personnel agreed with the investigator that a severe discrepancy existed between state mandated and existing programming conditions in adapted physical education. Most LEAs in Texas did not presently employ persons trained in adapted physical education. Nevertheless these districts were required to provide appropriate physical education services to eligible students. As a result LEAs often relied upon an ESC adapted physical education consultant to help provide direct services to handicapped children to meet the state's special education policies and procedures. It appeared that the recommendations of the ESC consultant were improperly implemented

or totally disregarded. These circumstances provided a strong rationale for the comprehensive interagency model field-tested in this study.

Implementation of the interagency model proved highly successful. With the presence of the ESC support, personnel from the LEAs were receptive to the ISTE model. Financial subsidy for teacher released ISTE time offered by the ESC proved to be a significant interagency advantage as did the awarding of university course credit.

Selection of subjects for this study was an important consideration. Only persons who would potentially benefit and who were in need of training were selected since so much time and expense were demanded. These teachers were chosen by LEA administrators following the investigator's initial presentation of the interagency ISTE proposal. This sampling procedure presented a degree of bias into the field-testing process, but LEA and ESC administrators were openly and honestly concerned about the cost and time factors surrounding the investigation. Careful selection of the subjects also increased the probability that all trainees would meet the ISTE requirements.

The distributed, rather than massed delivery of ISTE content, proved to be very efficient. Presentation of ISTE content over a 4-month span allowed trainees the

opportunity to incorporate new strategies in their school settings. Factors such as scheduling teacher released time and securing substitute teachers had to be resolved prior to program implementation. One ISTE delivery approach that was considered desirable for this study was to schedule weekly 3-hour group sessions. Travel time and teacher schedules, however, made this approach inappropriate. This supplementary delivery format would have been used had all teachers been located within 20 miles of the training site.

One of the most beneficial aspects of the present study was the individualized on-site ISTE sessions. Most of the subjects expressed much satisfaction with this personalized and practical approach. These visits allowed the investigator to plan relevant and practical examples related to the adapted physical education ISTE content for the participants. The visits not only allowed constant monitoring of the trainees, but also stimulated much interest in adapted physical education among regular and special educational personnel. One positive outcome which occurred within the first 2 months of the project was the provision of two of the regular physical education teachers with scheduled adapted physical education periods.

Conclusion

Based upon the findings of this study, it was concluded that participation in an interagency adapted physical education ISTE model can improve knowledge in adapted physical education and quality of service delivery in adapted physical education over a 4-month period. The model can, therefore, be recommended for replication.

Recommendations for Further Studies

This study utilized a unique interagency ISTE approach to improve adapted physical education service delivery to handicapped students. The findings of the investigation provide evidence that further research is needed in the following areas:

1. Planning and implementation of in-depth adapted physical education service delivery needs assessment in each of the 20 ESC areas in Texas.
2. Longitudinal (at least one full school year) implementation of the interagency ISTE model developed and utilized in this study with both experimental and control groups.
3. Replication of the present study utilizing larger samples of either special education or physical education teachers, respectively.

4. Development, implementation, and evaluation of an adapted physical education teacher renewal center for LEA, ESC, and college/university personnel.

5. Development and implementation of a statewide adapted physical education dissemination and ISTE network.

6. A study in cooperation with the Texas Education Agency's Special Education Developmental Services unit designed to develop and field-test LEA and ESC adapted physical education service delivery monitoring procedures.

7. Initiation of a long-term investigation to study the nature and impact of the annual adapted physical education manpower projections by the Texas Education Agency's Special Education Developmental Services Unit.

APPENDIX A
PERMISSION LETTERS

TEXAS WOMAN'S UNIVERSITY
Box 23717 TWU Station
Denton, Texas 76204

HUMAN SUBJECTS REVIEW COMMITTEE

Name of Investigator: Garth T. Tymeson Center: Denton
Address: P.O. Box 24142, TWU Station Date: February 4, 1981
Denton, TX 76204

Dear Garth T. Tymeson,

Your study entitled An Adapted Physical Education Service
Delivery System Utilizing An Interagency Inservice Training Model

has been reviewed by a committee of the Human Subjects Review Committee and it appears to meet our requirements in regard to protection of the individual's rights.

Please be reminded that both the University and the Department of Health, Education, and Welfare regulations typically require that signatures indicating informed consent be obtained from all human subjects in your studies. These are to be filed with the Human Subjects Review Committee. Any exception to this requirement is noted below. Furthermore, according to DHEW regulations, another review by the Committee is required if your project changes.

Any special provisions pertaining to your study are noted below:

 Add to informed consent form: No medical service or compensation is provided to subjects by the University as a result of injury from participation in research.

 Add to informed consent form: I UNDERSTAND THAT THE RETURN OF MY QUESTIONNAIRE CONSTITUTES MY INFORMED CONSENT TO ACT AS A SUBJECT IN THIS RESEARCH.

 The filing of signatures of subjects with the Human Subjects Review Committee is not required.

 Other:

 X No special provisions apply.

cc: Graduate School
Project Director
Director of School or
Chairman of Department

Sincerely,

Merilyn Hanson

Chairman, Human Subjects
Review Committee

at Denton



EDUCATION SERVICE CENTER

REGION 10

400 EAST SPRING VALLEY, P.O. BOX 1300, RICHARDSON, TEXAS 75080, AC 214-221-6301

COUNTIES:

Collin

Dallas

Ellis

Fannin

Grayson

Hunt

Kaufman

Rockwall

February 16, 1981

Garth Tymeson
Adapted Physical Education
Department of Physical Education
College of Health, Physical
Education, and Recreation
Texas Woman's University
Austin, Texas 76204

Dear Mr. Tymeson:

The Special Education Department, Education Service Center, Region 10, is pleased to accept the role of a participating agency in the project, "An Adapted Physical Education Service Delivery System Utilizing An Interagency Inservice Training Model". Our support of the project is predicated on mutual interest in addressing the recognized need to develop, implement and evaluate a service delivery model potentially replicable within the region.

Mr. Randy Foederer, Region 10 Adapted Physical Education Consultant, has been asked to serve as a participating member in the interagency project and will represent the Special Education Department in this cooperative endeavor. We anticipate Mr. Foederer's involvement to be of benefit and his participation in the project is with our full knowledge and consent.

We look forward to this opportunity to work and learn together.

Sincerely yours,

Ertie Lou Rinehart
Ertie Lou Rinehart, Coordinator
Direct Services

L. E. Glover
Louis E. Glover, Director
Special Education Department

ELR-LEG/am

Collin County Co-Op Special Services

Wylie ISD, Fiscal Agent

Schools:
Allen
Anna
Blue Ridge
Celina
Community
Farmersville
Frisco
Lovejoy
Melissa
Princeton
Prosper
Wylie

P.O. BOX 490

WYLIE, TEXAS 75098

PHONE 214/442-2264

February 27, 1981

Garth Tymeson
Adapted Physical Education
Department of Physical Education
Texas Woman's University
Denton, Texas 76204

Dear Garth:

This is to inform you that the six teachers, Annette Henderson, Jamie Barnes, Lin Grigsby, Judy Corsey, Jamie Moore, Carol Martin, from Collin County Co-op have my permission as well as the administrator from their school to participate in your study entitled "An Adapted Physical Education Service Delivery System Utilizing an Interagency Inservice Training Model".

Thank you for allowing us to be participants of the study.

Sincerely,



Dorothy Clark
Director

DC:ln

Department of Special Education

February 12, 1981

Mr. Garth Tymeson
Department of Physical Education
Texas Woman's University
Denton, TX 76204

Dear Garth,

The purpose of this letter is to serve as a letter of consent for teachers in this department to participate in the T.W.U. - Adapted Physical Education project that you will be directing.

I look forward to many exciting things coming from this project for my staff and the students we serve.

Sincerely,

Mike Cardwell

Mike Cardwell
Director, Special Education

MC:mlc

GREENVILLE INDEPENDENT SCHOOL DISTRICT
P.O. Box 1022
Greenville, Texas 75401

McKinney Independent School District

800 North McDonald
McKinney, Texas 75069

Special Education
Department

Phone Line 218
542-2228

March 12, 1981

Garth T. Symeson
Box 24142 TWU Station
Denton Tx 76204

Garth:

I apologize for not responding earlier to your Feb. 2 letter and bill. Then I must have misplaced it, so I was glad to get your letter and bill recently. I am taking the following action:

1. Returning the Consent Form
2. Requesting a check from our business dept. (This may take several days.)

I understand that the training has moved right along, and I haven't heard any negative comments, therefore I assume our people have benefited from the training.

Keep up the good work, and come to see

us.

Sincerely,
Joe Smith

Consent Form
TEXAS WOMAN'S UNIVERSITY
HUMAN RESEARCH REVIEW COMMITTEE

(Form B)

Title of Project: An Adapted Physical Education Service Delivery
System Utilizing An Interagency Inservice Training Model

Consent to Act as a Subject for Research and Investigation:

I have received an oral description of this study, including a fair explanation of the procedures and their purpose, any associated discomforts or risks, and a description of the possible benefits. An offer has been made to me to answer all questions about the study. I understand that my name will not be used in any release of the data and that I am free to withdraw at any time.

Signature Date

Witness Date

Certification by Person Explaining the Study:

This is to certify that I have fully informed and explained to the above named person a description of the listed elements of informed consent.

Signature Date

Position

Witness Date

APPENDIX B
DESCRIPTION OF ISTE MODEL

DESCRIPTION OF MODEL COMPONENTS

The components of the ISTE model are described individually in this section. Each of the components had to be independently operational and also interfaced efficiently with all others.

Needs Assessment

The approach to needs assessment was informal and primarily involved small group discussion and decision making. The persons involved in this ISTE component were the investigator, the ESC adapted physical education consultant, ESC special education personnel, and LEA special education representatives. The purpose of the needs assessment was to determine the amount of discrepancy between existing and desired conditions relative to adapted physical education service delivery. The desired conditions were based on the existing federal and state educational mandates which require the provision of physical education for all eligible handicapped students (42 Fed. Reg. 42480 [1977]; Texas Education Agency, 1978). Discussion during the meeting devoted to needs assessment resulted in the accumulation of evidence that these services were being provided for only a small percentage of the target population.

Reasons provided for negligence included: (a) an overall unawareness of requirements related to adapted physical education; (b) insufficient teacher training in adapted physical education service delivery; (c) insufficient numbers of teachers who possess adequate preparation to develop and implement adapted physical education services; (d) financial limitations to employing part- or full-time specialists in adapted physical education; and (e) conflicting priorities between regular physical educators who wished to expand physical education and athletic programs for "normal" children and special educators who believed that implementation of adapted physical education services should be a priority. These conditions were divergent from the desired conditions and thus provided overwhelming evidence of the immediate need for improved adapted physical education service delivery. The training

of presently employed special education and physical education teachers to perform new roles was determined to be the most cost effective and feasible method to initiate the needed services.

Interagency Planning

One of the most critical phases of the ISTE model was the cooperative planning among participating agencies. This planning was necessary in order to properly meet the needs and expectations of all participating groups and individuals.

Planning was conducted initially between the investigator and ESC special education and adapted physical education personnel. The proposed model was presented to the ESC persons in a formal meeting. Specific ISTE content, activities, delivery methods, resources, and technical assistance deemed necessary for proper implementation were discussed. Agency responsibilities and commitments such as teacher schedule flexibility, financial support, and release time requirements were explored also.

Total support and cooperation on the part of the ESC were necessary aspects of the model. These intermediate education agencies provide most of the ISTE and technical assistance to LEAs within their geographic boundaries. Prior to the implementation of this adapted physical education ISTE model, the ESC had provided only periodic 1-day workshops to some of the participating school districts. These sessions were, for the most part, to instill awareness with no planned followup. The ESC adapted physical education consultant also provided limited direct services to the LEAs in the form of individual motor assessments and adapted physical education individual education program development. Implementation of these programs was usually left to untrained personnel in either special education or physical education. It was noted also that these programs were often not implemented because of an inadequate number of trained personnel.

The ESC personnel accepted the proposed ISTE model for this study with minor modifications and additions. The original plan was to present the model to all special education directors within the ESC area and to select subjects from among those who were interested. The ESC personnel projected, however, that most of the LEAs would

desire participation in the project. This situation would result in a program that was too large to implement effectively and more importantly to monitor. It was decided therefore to select three LEAs and/or cooperatives who were in need of adapted physical education program development and who would be likely to agree to necessary commitments. A meeting was scheduled subsequently among the investigator, the ESC staff, and selected LEA personnel.

The proposed ISTE model was accepted by the personnel who represented seven LEAs: Allen, Anna, Frisco, Greenville, McKinney, Princeton, and Prosper. Recommendations concerning the scheduling of formal ISTE sessions were made and accepted. It was deemed appropriate to have the formal ISTE early in the spring semester in order to give the teachers a chance to implement the strategies. This also allowed for more on-site individualized ISTE.

Minor ISTE content modifications were suggested and agreed upon with reference to coverage of special education programming procedures in the LEAs. Special education personnel believed that sufficient emphasis was not placed upon the need for a thorough knowledge of procedural activities regarding pupil referral and placement. This aspect of the ISTE was expanded to meet this request.

Cooperative interagency planning continued throughout the duration of the project. Occasions arose when LEA special education and physical education personnel solicited future adapted physical education programming recommendations from the investigator and/or ESC consultant. This type of information sharing was almost nonexistent prior to implementation of the interagency model.

Formal ISTE in Adapted Physical Education

The ISTE delivery process used in this study was determined cooperatively by the investigator, the ESC personnel involved, and the LEA participants. Content of the adapted physical education program was organized into six distinct areas presented during five 6-hour formal ISTE sessions. The difficulty of providing released time and securing substitute teachers for the ISTE trainees necessitated that the sessions be presented in a 2-day, 2-day, 1-day format. Each of these formal session groupings was separated by a 3- or 4-week time span. This intermittent schedule allowed for gradual implementation of

adapted physical education content and on-site visitations by the investigator.

Adapted physical education content presented during the five formal sessions included: (a) role and scope of adapted physical education; (b) federal and state adapted physical education requirements and guidelines; (c) adapted physical education as it relates to the Admission, Review, and Dismissal (ARD) committee; (d) motor assessment procedures; (d) development of the adapted physical education component of the individual education program; and (f) strategies and techniques for instruction. A variety of presentation methods including lecture, demonstration, peer-teaching, brainstorming, and observation were used.

Role and Scope of Adapted Physical Education

This segment of the ISTE content served as an introduction and overview to contemporary adapted physical education. The investigator briefly presented examples of traditional programs of physical education for the handicapped such as medically oriented corrective physical education. Various other terms periodically used to describe physical education for the handicapped (special, remedial, developmental, and corrective) were discussed and clarified also.

A discussion concerned with the present day comprehensive adapted physical education curriculum was initiated. A comparison was made that illustrated the importance of a planned sequence in adapted physical education similar to that in regular physical education. Descriptions of appropriate activities in adapted physical education for preschoolers through high school-aged students were presented to illustrate and emphasize the developmental nature of an appropriate program. Comments such as "all good physical education is adapted" were made in an attempt to stimulate discussion within the group.

Finally the importance of establishing an adapted physical education service delivery system in each LEA was stressed. A sample special education referral process for adapted physical education was reviewed. Highlighted were features such as communication between special education and adapted physical education personnel, management procedures for individual pupil scheduling, referrals,

assessment, and individual education program development. The need for and benefits of multidisciplinary programming in special education were observed. The roles of related services such as occupational therapy, physical therapy, speech therapy, recreational therapy, medical services, and orientation and mobility were compared, and appropriate coordination of these was discussed.

Federal and State Adapted Physical Education Requirements and Guidelines

Information presented during this part of the ISTE content was drawn primarily from existing federal and state educational laws and policies. Federal mandates related to the provision of physical education for all eligible handicapped students were highlighted. The major source of these data was the final rules and regulations for the implementation of Public Law 94-142, The Education For All Handicapped Children Act of 1975 (42 Fed. Reg. 42474 [1977]). Several pertinent sections of this document were presented on visual aids and handouts. Direct and indirect references to physical education were examined and discussed.

Concepts of least restrictive environment and appropriate placements in both special education and physical education were presented. Careful decision making was highlighted as the key to proper implementation of the least restrictive environment concept in physical education. Several examples of inappropriate "mainstreaming" were presented along with questions and comments designed to stimulate participant discussion and reaction.

State guidelines related to physical education for handicapped students were synthesized from a document formulated by the Texas Education Agency (1979) which guides the implementation of required special education services to handicapped students. The specific inclusion of physical education as a required subject for special education students was noted. Sections of this document which referred to physical education services were displayed by visual aids and presented to all trainees in the form of printed handouts. Terminology utilized in the state document was clarified and compared to that in the federal materials.

Adapted Physical Education as it Relates to the Referral Process and the Admission, Review, and Dismissal Committee

Services to handicapped students in Texas are provided only after the proper procedures are followed. This method, known as the referral process, must be properly implemented if adapted physical education services are to be provided under the LEAs special education department (Texas Education Agency, 1979). This procedure therefore was considered important content for the ISTE program.

Specific procedures to follow in the referral process were presented in detail in a document distributed by the Texas Education Agency (1979). Several sections of the document were utilized, therefore, for presentation purposes during this phase of the ISTE program. Each stage of the referral process was discussed, and practice vignettes were analyzed.

Particular emphasis was placed on the assessment phase of the referral process. The assessment of competencies in physical education was included in this part of the referral process. Trainees were shown the mandatory content that must be included in a report resulting from a total assessment in special education, including adapted physical education.

Trainees were informed of the flow of information from the assessment committee to the Admission, Review, and Dismissal (ARD) committee. This committee is the decision making body in the educational placement of handicapped students. The role of the adapted physical educator, as a contributing member of this ARD committee, was discussed. Demonstration and role playing activities were used to increase the exposure of the ISTE trainees to these procedures. Real life experiences of the investigator, the ESC adapted physical education consultant, and the ISTE trainees were shared to emphasize the importance of this aspect of service delivery. A mock ARD committee meeting with an adapted physical education emphasis concluded this section of the training.

Motor Assessment Procedures

Placement in special education, including adapted physical education, should result following appropriate determination of need. Individual motor assessment,

implemented by properly trained personnel, was the basis on which adapted physical education services were provided to handicapped children taught by trainees in this investigation. In-depth coverage of motor assessment procedures and practices was underscored.

The importance of a valid, reliable, and objective assessment instrument was stressed. Examples of appropriate and inappropriate assessment instruments were presented. Specific motor assessment tests were demonstrated and explained. Trainees had opportunities to perform actual assessments on fellow teachers. Individualized assistance was provided to each ISTE trainee.

Strategies for the implementation of individual and small group testing in adapted physical education were discussed. Visual aids and handouts were prepared and distributed to reinforce lecture material. Additional assistance, as noted farther on, was provided to each ISTE trainee in the area of motor assessment during the individualized on-site visitations.

Development of the Adapted Physical Education Component of the Individual Education Program

Special education services provided to handicapped students must be stated in an individual education program (IEP). This IEP contains very specific information which guides the implementation of the student's program. Specific components of an IEP are

- (a) present level of educational performance; (b) annual goals, including short-term instructional objectives; (c) specific special education and related services to be provided to the child, and the extent to which the child will be able to participate in regular education programs; (d) projected dates and initiation of services and the anticipated duration of the services; and (e) appropriate objective criteria and evaluation procedures and schedules for determining, on at least an annual basis, whether the short-term instructional objectives have been achieved. (42 Fed. Reg. 42491 [1977])

Since physical education is included as part of special education in Public Law 94-142, an IEP must include the physical education services to be received by the

handicapped student. Competency in the development of adapted physical education components of IEPs was, therefore, considered an important part of the ISTE program. A sample of the adapted physical education IEP form used in this study appears at the end of this Appendix.

Several group and individual ISTE activities were utilized to provide trainees with experiences in developing adapted physical education components of IEPs. The investigator initially provided trainees with a completed IEP in special education. Specific components of the IEP were studied. Then a completed adapted physical education component of an IEP was examined thoroughly. Visual aids and handouts were developed and used during this phase of the training.

Activities designed to develop specific IEP competencies were broken into small tasks. Tasks such as interpreting motor assessment data, formulating long- and short-term goals and objectives, task analyzing gross motor task/activities, designing specific instructional activities, and evaluating individual pupil progress were taught through individual and group delivery methods. Sample vignettes of hypothetical situations in adapted physical education were used to reinforce lecture content. Peer-teaching and individualized assistance were offered to all ISTE trainees during this phase of the program.

Strategies and Techniques for Instruction

The vast array of individual differences among handicapped students in relation to motor performance usually requires modifications and/or total change of teaching techniques. This phase of the ISTE content concentrated on various teaching methods and strategies necessary to achieve maximum individualization of instruction in adapted physical education.

Demonstration of the need for alternative and individualized teaching methods was highlighted by presentation of several factors which cause varied performance levels. Physical capacity, mental ability, behavioral characteristics, program content, and environmental factors (equipment, facilities, and scheduling) were discussed. Their potential influences on learning and performance were demonstrated.

Emphasis was placed on the value of individualized instruction. An illustrated comparison of the explanation-demonstration teaching approach and the movement exploration and guided discovery types of teaching was provided for the ISTE trainees. Advantages and disadvantages of both instructional approaches were discussed.

Participatory activities were performed as reinforcement during this session. Trainees were assigned a partner for the purposes of preparing and demonstrating various teaching techniques. Pairs of trainees were given two motor skills/activities which they incorporated into a mini-teaching session for the remaining teachers. Each teaching episode had to utilize a different method of instruction. Interaction and group sharing were stimulated by posing hypothetical situations to which the trainees responded.

Outlines of the content presented in the formal sessions appear in Appendix E. The amount of time devoted to each topic is indicated also.

Adapted Physical Education Service

Delivery to Handicapped Children

Immediately after the first 2 days of formal ISTE, trainees initiated service delivery in adapted physical education within their local school districts. Each trainee was required to work with at least 2 handicapped children for the duration of the project. An attempt was made to provide at least 60 minutes of individual and/or small group (2 to 3) instruction a week to these students. This requirement was fulfilled by all but 2 of the 11 trainees. Scheduling problems, a death, and teaching assignment changes prohibited 2 of the trainees from implementing adapted physical education in their school settings.

The investigator and the ESC adapted physical education consultant made on-site visitations to each of the trainees within 1 week of the initial formal ISTE 2-day session. The purpose of this visit was to provide any technical assistance that the trainees requested. It was found that scheduling for the physical education trainees was more of a problem than for the special education teachers. The special educators were able to adjust their routines more readily than the physical educators who were

virtually locked into fixed schedules. Meetings were conducted with supervisors, and schedules were adjusted to accommodate the additional teaching load.

Assistance was provided also to adapted physical education ISTE trainees in establishing a service delivery system. The investigator assisted trainees in becoming familiar with the special education referral system in their particular district. Trainees then initiated service delivery by performing motor assessments on the students with whom they were working. A regular schedule was then planned whereby the students would receive adapted physical education. These services were documented on each student's IEP.

On-Site Monitoring and Individualized ISTE

The major difference between this ISTE program and most of those previously reported in the adapted physical education literature was the presence of an active technical assistance component. This technical assistance took the form of monitoring and individualized ISTE activities. Each trainee was provided this assistance at least four times during the study.

A routine was established for conducting the monitoring and individualized ISTE sessions. The investigator notified each trainee at least 2 days prior to a scheduled visit. Trainees were requested to plan and implement a 15- to 20-minute teaching activity with their handicapped student(s). The investigator then observed this instructional session and provided feedback to the trainees. The trainees were requested also to share any additional problems and/or concerns they had related to the adapted physical education experience.

The investigator and trainee jointly reviewed the Adapted Physical Education Service Delivery Monitoring Form following completion of the observed instructional activity. The investigator provided constructive feedback related to the specific activity. Common tasks performed during these individualized ISTE sessions were: (a) provide assistance with motor assessments; (b) demonstrate teaching activities with handicapped children; (c) guide the development of adapted physical education components of IEPs; (d) assist in the selection of appropriate equipment and teaching stations for adapted physical

education; (e) provide resource materials and information related to characteristics of various handicapping conditions; (f) meet with special education and/or physical education personnel to discuss scheduling and programming alternatives to expedite efficient and effective adapted physical education service delivery; (g) suggest appropriate physical education placements for handicapped children who were not receiving services; and (h) provide constant encouragement to the ISTE trainees.

Model Evaluation

Formative and summative techniques were utilized to evaluate the adapted physical education ISTE model used in this study. Formative evaluation was both formal and informal. Informal evaluation of each component was on-going and resulted in process modifications during certain stages of the program. For example, initial inter-agency planning between the investigator and the ESC personnel resulted in modification of the scope of the ISTE project. ESC personnel recommended that the project be limited to selected LEAs within region X. This suggestion was followed and resulted in a manageable, personalized, and effective project. Additional formative changes took place in the formal ISTE sessions. Requests from trainees necessitated the inclusion of lectures and demonstrations related to various handicapping conditions and their influence on motor performance.

Formal formative evaluation was conducted through administration of the Adapted Physical Education Service Delivery Monitoring Form. This process took place during each on-site monitoring and individualized ISTE session. Each trainee and the investigator discussed the results of this evaluation procedure immediately after the teacher completed his/her adapted physical education lesson.

Summative or product evaluation was performed in a very formal manner and on a set schedule. Pre- and posttest administration of the Adapted Physical Education Service Delivery Knowledge Test and pre- and posttest administration of the Adapted Physical Education Summative Status Scale provided summative evaluation information. Results and recommendations related to these summative evaluation techniques and instruments are presented in Chapters IV and V, respectively.

Adapted Physical Education Component of the Individual Education Program

Student _____ D.O.B. _____ School/District _____
 Classification _____ Educational Placement _____ Teacher _____
 Medical Concerns _____
 Person performing APE assessment _____ Position _____ Date _____
 Person developing APE component _____ Position _____ Date _____
 Person implementing APE component _____ Position _____
 Date APE services initiated _____ Termination date _____
 APE services provided _____
 Frequency of APE services (time and days per week) _____
 Participation in regular physical education _____
 General comments concerning any aspect of APE programs _____

I. Present Level of Performance

Motor assessment Instruments Used _____

Rationale for use of instrument(s) _____

Results:

Competencies

Deficiencies

_____	_____
_____	_____
_____	_____

II. Annual Goals

Date _____ 1. _____

Date _____ 2. _____

Date _____ 3. _____

Rationale for selection of goal(s) _____

APPENDIX C
EVALUATION INSTRUMENTS

REGION X EDUCATION SERVICE CENTER/TEXAS WOMAN'S UNIVERSITY
ADAPTED PHYSICAL EDUCATION INSERVICE TRAINING PROJECT

Adapted Physical Education Service Delivery Knowledge Test

Directions: Please answer each of the following questions on the answer sheet which is provided. Read each question carefully and select the best answer. There is only one answer for each question.

1. Which of the following statements best describes who should receive adapted physical education (APE) services?
 - A. Children in self-contained special education classes in public schools.
 - B. Children declared handicapped by the Admission, Review, and Dismissal (ARD) Committee.
 - C. Children who cannot benefit from participation in regular physical education.
 - D. Children eligible for special education who are placed in a resource room.
2. Children with which handicapping conditions are least likely to be participating in APE?
 - A. Severely emotionally disturbed.
 - B. Moderately mentally retarded.
 - C. Learning disabled.
 - D. Orthopedically handicapped (Spina Bifida).
3. What is the best description of APE?
 - A. Program of physical activities for handicapped children which consists of physical, occupational, and corrective therapy.
 - B. Program of physical activities which is completely different from the regular physical education curriculum.
 - C. Program of developmental physical education activities designed to remediate specific weaknesses.
 - D. Program of special olympics training and after school therapeutic recreation.

4. Which of the following strategies would be most beneficial when organizing an APE program in a public school district?
- A. Requiring regular physical education teachers to integrate all handicapped students into their classes following district-wide screening.
 - B. Integrating all mildly mentally retarded, learning disabled, and deaf children into regular physical education without screening.
 - C. Scheduling physical education solely by age and handicap.
 - D. Screening all children for physical competence and determining physical education placement according to individual needs.
5. Which of the following educational settings is most likely to have a range of alternative placements in physical education?
- A. Residential school for the emotionally disturbed.
 - B. State school for mentally handicapped.
 - C. Children's convalescent hospital.
 - D. Public school district.
6. Which of the following statements best describes a comprehensive APE program?
- A. Medically oriented exercise prescriptions including special olympic training.
 - B. Mainstream instruction for all handicapped students in regular physical education classes.
 - C. Various placement alternatives in physical education based upon individual needs and interests.
 - D. Separate instruction of all self-contained special education classes, twice a week, in a segregated setting.
7. Which of the following services should not be included in a comprehensive APE program?
- A. Diagnosis and appraisal of motor competencies.
 - B. Counseling and training for lifetime leisure/sport activities.
 - C. Prescriptions for physical therapy and rehabilitation programs.
 - D. Implementation and evaluation of APE instruction.
 - E. Opportunities to participate in regular physical education.

8. Which definition in the rules and regulations of Public Law 94-142 includes physical education?
- A. Nonacademic services.
 - B. Related services.
 - C. Special education.
 - D. Free appropriate public education.
 - E. Child-centered education process.
9. Which of the following components is not part of the definition of physical education in Public Law 94-142?
- A. Physical and motor fitness.
 - B. Therapeutic and remedial exercise.
 - C. Fundamental motor skills and patterns.
 - D. Skills in aquatics and dance.
 - E. Skills in individual and group games.
10. According to Public Law 94-142, physical education services (specially designed if necessary) must be made available to whom?
- A. Handicapped children in self-contained classes.
 - B. Handicapped children receiving a free appropriate public education.
 - C. Handicapped children in mainstreamed educational settings.
 - D. Handicapped children in resource room settings.
11. According to the Texas Education Agency's Policies and Administrative Procedures for the Education of Handicapped Students, which skills must the comprehensive assessment of a student's learning competencies include?
- A. Math, reading, and prevocational skills.
 - B. Language, intellectual, and physical educational skills.
 - C. Language, physical, emotional/behavioral, sociological, and intellectual skills.
 - D. Academic, prevocational, and physical skills.

12. For whom does the curriculum format of the Basic Special Education Program include physical education?
- A. Handicapped students pre-kindergarten through completion of prescribed courses.
 - B. Handicapped students from the ages of 6-22.
 - C. Handicapped students from birth through completion of the elementary school curriculum.
 - D. All handicapped students regardless of age.
 - E. Handicapped students, pre-kindergarten through completion of prescribed courses, if placed in self-contained special education classes.
13. All decisions regarding the educational program of a child referred for special education are made by which committee?
- A. Individual Assessment Committee.
 - B. Admission, Review, and Dismissal Committee.
 - C. Individual Education Program Committee.
 - D. Referral Committee.
14. Excluding pregnant, auditorially, and visually handicapped students, what is the eligibility age range for receiving special education services in the state of Texas?
- A. 0-21.
 - B. 5-21.
 - C. 5-18.
 - D. 3-18.
 - E. 3-21.
15. What is the exception to Public Law 94-142, that each handicapped child must be afforded the opportunity to participate in the regular physical education program available to non-handicapped children?
- A. The child is in a self-contained special education class.
 - B. The child receives physical therapy and/or recreation therapy services prescribed on the Individual Education Plan (IEP).
 - C. The school district does not have the funds available to employ an APE teacher.
 - D. The child needs specially designed physical education as prescribed on the IEP.
 - E. The special education teacher provides APE services to the child.

16. Which of the following includes determining the physical education (gross motor) characteristics of a child and reporting findings to the ARD committee?
- A. Individual assessment process.
 - B. Individual education program.
 - C. Diagnostic-prescriptive approach.
 - D. Child find process.
17. Which is not a purpose of the individual assessment process which occurs before the ARD Committee meeting?
- A. To determine the presence of a disability which may be contributing to the student's educational needs.
 - B. To determine long and short-term instructional objectives to be included on the child's IEP.
 - C. To determine the presence of a significant educational need requiring special education instructional services.
 - D. To identify specific learning competencies as well as instructional and related services.
18. Which items should the APE referral report to the ARD Committee include?
- A. Specific short-term instructional objectives which are task analyzed.
 - B. A completed APE component of the IEP.
 - C. Statements of suggested instructional and/or learning strategies that could improve and/or maintain the student's present competencies.
 - D. Suggested specific activities in APE and short-term instructional objectives to be implemented by the special education teacher.
19. Parental permission must be obtained prior to which APE service delivery phase?
- A. Strenuous fitness training.
 - B. Individualized-prescribed motor training.
 - C. Individual assessment to determine APE eligibility.
 - D. Three-month review of APE component of IEP.

20. Which of the following criteria is most important when selecting an APE motor assessment instrument for the handicapped?
- A. Chronological age.
 - B. IQ and academic skills.
 - C. Physical development.
 - D. Length and cost of instrument.
21. Gross body coordination, balance-postural orientation, eye-hand coordination, eye-hand accuracy, and eye-foot accuracy are measured by which of the following motor assessment instruments?
- A. Basic Movement Performance Profile.
 - B. Project ACTIVE--Level I Physical Fitness.
 - C. AAHPERD Health Related Physical Fitness Test.
 - D. Project ACTIVE--Level II Motor Ability.
22. Which of the following components is not measured by the Project ACTIVE--Level II Motor Ability Test?
- A. Cardiovascular endurance.
 - B. Eye-hand coordination.
 - C. Balance-postural orientation.
 - D. Gross body coordination.
23. Which of the following motor assessment instruments would be used for testing children with very low motor ability?
- A. Project ACTIVE--Level I Motor Ability.
 - B. Project ACTIVE--Level II Physical Fitness.
 - C. Project ACTIVE--Level III Motor Ability.
 - D. Project ACTIVE--Level III Physical Fitness.
24. Which of the following factors is least important when performing motor assessment in APE?
- A. Establishing rapport with the student.
 - B. Providing motivation to elicit maximum performance.
 - C. Selecting the appropriate motor assessment instrument.
 - D. Establishing long-term instructional goals.

25. Which of the following prescriptive motor activities would be most appropriate for a student who scored extremely low in gross body coordination?
- A. Walking and running through an obstacle course.
 - B. Performing stunts in which the arms support the body weight.
 - C. Tossing bean bags at a target.
 - D. Propelling a scooter board with the arms.
26. Which motor assessment instrument is recommended for ambulatory lower level retardates?
- A. Project ACTIVE Motor Ability--Level II.
 - B. Brigance Motor Patterns Checklist.
 - C. The Basic Movement Performance Profile.
 - D. Project ACTIVE Motor Ability--Level I.
27. Which of the following is not a usual purpose of informal teacher observation of basic motor skills?
- A. To discover what a child is capable of doing.
 - B. To assess the developmental stage of a skill.
 - C. To provide a nonthreatening form of motor assessment.
 - D. To compare performance to standardized norm tables.
28. If a motor assessment item measures what it purports to measure, it is said to be what?
- A. Objective.
 - B. Valid.
 - C. Feasible.
 - D. Reliable.
29. Which of the following motor assessment instruments individually measures a variety of skills including: ascending/descending stairs, running, climbing, dodging, forward roll, carrying, hitting, and pulling?
- A. Project ACTIVE Motor Ability--Level II.
 - B. AAHPERD Special Fitness Test for Mildly Retarded Persons.
 - C. Basic Movement Performance Profile.
 - D. Project ACTIVE Motor Ability--Level I.

30. According to the Project ACTIVE Motor Ability--Level II assessment instrument, being able to touch a swinging ball on command demonstrates skill in which area?
- A. Eye-hand accuracy.
 - B. Gross body coordination.
 - C. Eye-hand coordination.
 - D. Eye-hand visual discrimination.
31. Which of the following short-term objectives is most appropriate for implementing a long-term goal stating that the student will identify 10 parts of the body?
- A. The student will independently climb a four-step flight of stairs two of three times in less than 10 seconds
 - B. Upon request, the student will place a balloon behind, in front of, in back of, and to the side of the body.
 - C. The student will successfully participate in a game of Simon Says.
 - D. Upon request, the student will touch the knees, toes, elbows, shoulders, and legs with a balloon, run to a carpet square, and lie on the stomach.
32. Which of the following annual goals would be most appropriate for a student who scored extremely low on the eye-hand coordination items assessed with the Project ACTIVE--Level II Motor Ability Test?
- A. The student will successfully catch a 10-inch ball, seven out of 10 times, when tossed from a distance of 10 feet.
 - B. The student will score a total of nine points on the eye-hand accuracy item of Project ACTIVE --Level II Motor Ability Test (three out of four times).
 - C. The student will successfully sort 30 marbles according to color and size in less than 1 minute.
 - D. The student will improve his ability to catch a tossed object.

33. When should the teacher perform a task analysis of a gross motor activity which a child would probably not master in its present instructional sequence?
- A. Prior to setting a long-term goal.
 - B. Upon completion of the short-term instructional objective which contains the unmastered activity.
 - C. During the initial assessment phase.
 - D. Immediately after setting the short-term instructional objective and prior to instruction.
34. Which should be included in the APE component of the IEP?
- A. Schedule for meeting state education department time requirements in special education.
 - B. Only the long-term goals for the students.
 - C. Specific short-term instructional objectives.
 - D. Physical and occupational therapy prescriptions and activities to be implemented by the APE teacher.
35. Who must develop the IEP, including the APE component, in the Texas public schools?
- A. The Texas Education Agency's Division of Special Services.
 - B. The IEP Development Team in each district.
 - C. The parents, principal, and special education director.
 - D. The admission, Review, and Dismissal Committee.
 - E. The Education Service Center APE consultant.
36. Which is not a part of the APE component of the IEP?
- A. The child's present level of gross motor performance.
 - B. Specific daily activities used to achieve the short-term instructional objectives.
 - C. Annual goals and short-term instructional objectives.
 - D. The schedule and criteria for evaluating each short-term instructional objective.

37. Which of the following would be an appropriate long-term goal in the area of gross motor ability?
- A. Improve cardiovascular endurance in the 12-minute walk-run test.
 - B. Perform 25 modified sit-ups in less than 2 minutes.
 - C. Improve eye-hand coordination skills.
 - D. Walk in a heel-toe pattern on a 4" wide balance beam a distance of 10 feet.
38. Which of the following APE annual goals would most likely be appropriate for a 7-year-old Down's Syndrome student?
- A. The student will increase participation in life-time sports/leisure activities (i.e., basketball and tennis).
 - B. The student will independently complete 30 bent knee sit-ups in 30 seconds.
 - C. The student will correctly identify five objects by color, four out of six times.
 - D. The student will improve skill in two locomotor patterns.
39. Which of these activities would be best suited to an individualized APE class with ambulatory moderately mentally retarded children, ages 5-8.
- A. Exercises.
 - B. Relays.
 - C. Team games.
 - D. Movement exploration.
40. What does individualized instruction in APE mean?
- A. Teaching each child on a one to one basis in APE.
 - B. Letting each child choose his own activities for the day.
 - C. Teaching APE to meet the needs of each child.
 - D. Implementing an individualized lifetime sports curriculum in APE.

41. Which of the following stages of play would a child be in if he successfully participates in low organized games for a short period of time?
- A. Parallel.
 - B. Team sport.
 - C. Solitary.
 - D. Cooperative.
42. Which piece of physical education equipment would most likely be used in APE to improve eye-hand coordination skills?
- A. Balance beam.
 - B. Stretch ropes.
 - C. Batting tee.
 - D. Target toss.
 - E. Scooter board.
43. Which motor development stage usually appears first?
- A. Cruising.
 - B. Hopping.
 - C. Crawling.
 - D. Creeping.
 - E. Standing unaided.
44. Which step would likely appear first in a task analysis of eye-hand coordination skill?
- A. Propelling a large balloon into the air with a wand.
 - B. Catching a tennis ball tossed from 10 feet.
 - C. Hitting a large ball off a batting tee with a plastic bat.
 - D. Stopping a slowly rolled ball while in a seated position.
 - E. Tossing a small ball at a large target.

45. Which type of practice schedule is best for learning a new motor skill?
- A. Several long practice sessions followed by no practice for a long period of time.
 - B. Several long practice sessions every day.
 - C. A short practice session once a week.
 - D. Short practice sessions spaced out over successive days.
46. Which of the following situations describes a command teaching style?
- A. A room with playground equipment in which children can freely explore.
 - B. An obstacle course in which children are encouraged to perform several activities of their own choice.
 - C. An exercise circuit in which children must select five out of eight stations.
 - D. A class in which each child performs specific activities following a demonstration by the teacher.
47. Which of the following activities would be most appropriate for adolescent moderately mentally retarded individuals in APE?
- A. Official tennis and volleyball.
 - B. Follow the leader with balloons and wands.
 - C. Modified bowling, swimming, and other lifetime pursuits.
 - D. Table games such as chess and knock hockey.
48. Which of the following is not an important reason for providing enough equipment for each student in individualized APE?
- A. Each student has the opportunity to develop a greater variety of skills.
 - B. Each student has an increased opportunity to learn manipulative skills.
 - C. Each student must have his own piece of equipment in order to benefit from instruction.
 - D. Each student has more opportunity to be active.

49. Which of the following teaching stations would be most appropriate for teaching APE to emotionally disturbed students?
- A. Well-traveled hallway for a change of environment.
 - B. Outdoor playground with large open space.
 - C. Small gymnasium or room with few distractions.
 - D. Self-contained classroom where academics are taught simultaneously.
50. Which is an example of teaching a motor skill with an assistive device?
- A. Practicing eye-hand coordination with a batting tee.
 - B. Using a scooter board for motivation and attention.
 - C. Aiding a child with running by holding a rope or wand in your hand while it is held by the student.
 - D. Providing candy or social praise for the performance of new motor skills.

Adapted Physical Education Service Delivery

Knowledge Test Answer Key

1. C	21. D	41. D
2. C	22. A	42. C
3. C	23. A	43. C
4. D	24. D	44. D
5. D	25. A	45. D
6. C	26. C	46. D
7. C	27. D	47. C
8. C	28. B	48. C
9. B	29. C	49. C
10. B	30. C	50. C
11. C	31. D	
12. A	32. D	
13. B	33. D	
14. E	34. C	
15. D	35. D	
16. A	36. B	
17. B	37. C	
18. C	38. D	
19. C	39. D	
20. C	40. C	

Region X Education Service Center/Texas Woman's University

Adapted Physical Education ISTE Project

Adapted Physical Education Summative Status Scale

A. APE Service Delivery: Preinstructional Considerations

(All questions relate to APE status prior to initiation of ISTE project)

	Ranking				
	0	1	2	3	4
	Low			High	
1. APE training (course work and/or ISTE)					
2. Teaching experience in APE					
3. Opportunities for teaching APE in your work setting					
4. Familiarity with current APE practices					
5. Participation in APE scheduling for special education students in work setting					
6. Participation in APE program development in work setting					
7. Knowledge of ARD process for special education students					
8. Experiences with ARD process for special education students in relation to APE					
9. Knowledge of required information in the APE component of an IEP					
10. Involvement in development of APE component of IEPs					

Ranking

0	1	2	3	4
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11. Communication with other educational personnel regarding APE needs and service delivery

12. Participation in implementation of APE components of IEPs

B. APE Service Delivery:

Instructional Considerations

13. Appropriate special education (ARD) procedures used in the provision of APE services

14. Extent to which special education students have APE on their IEPs

15. Extent to which APE component of IEP contains all required information

16. Appropriateness of motor assessment instrument(s) used in APE

17. Administration of motor assessment instruments

18. Utilization of information derived from motor assessment in APE

19. Degree of evidence of instructional plan prior to APE instruction

	Ranking				
	0	1	2	3	4
20. Arrangement of instructional environment in APE					
21. Degree of individualization of instruction in APE					
22. Motivation techniques used to improve APE instruction and/or motor performance					
23. Degree to which APE instruction is aimed at remediating existing motor performance deficiencies					
24. Use of available equipment and facilities in APE service delivery					
25. APE instructional sequence in relation to developmental status of student(s)					

Summary/Comments:

Region X Education Service Center/Texas Woman's University

Adapted Physical Education ISTE Project

Adapted Physical Education Service Delivery Monitoring Form

Ranking

0	1	2	3
Low			High

A. Adapted Physical Education
Administrative Concerns

Previous ISTE in APE

Current APE programming by district
special education or physical edu-
cation personnel

Amount of APE planning and in-
structional time provided to ISTE
trainee in his/her setting

Is there evidence of communication
between the APE teacher and other
direct service/administrative
personnel

Has communication among the above
resulted in positive APE program
development and/or improvement

Does scheduling in APE receive
adequate attention

Do scheduling procedures for APE
services encompass specifics such
as amount of time per week for
each student

Does each student receive APE at
least three times per week for a
minimum of 60 minutes

Do APE class sizes allow for imple-
mentation of appropriate instruc-
tional strategies

Ranking

0	1	2	3
---	---	---	---

Do adequate teaching stations
exist for APE

Is appropriate equipment available
for APE

Is there input into the individual
assessment process from APE teacher

Is there APE input in the ARD
committee meeting

Are APE recommendations to the ARD
committee meeting implemented

Are paraprofessionals in APE,
if present, properly trained and
assigned

B. APE Component of the Individ-
ual Education Program
(Does IEP contain the following
information related to APE
service delivery)

Parent permission to perform
APE assessment

Use of appropriate motor assess-
ment instrument(s)

Proper presentation of present level
of motor performance (competencies)
including strengths and weaknesses

Appropriate long-term goals based
on present level of motor per-
formance

Specific short-term instructional
objectives based on long-term goals

Sequential task analysis of short-
term instructional objectives

Ranking

0	1	2	3
---	---	---	---

Special physical education services and/or equipment necessary to deliver APE services (motivational strategies, teaching styles, student-teacher ratio, contraindicated activities, etc.)

Justification for each service

Amount of instructional time (days and times) and dates of initiation and duration of services in APE

Statement concerning least restrictive environment alternatives in physical education for the student

Schedule and criteria for evaluation of each objective

Have appropriate reviews (updates) been performed in APE

C. Direct Service (Instruction)
in APE

Is there evidence of organized unit plans for instruction

Is the appropriate motor assessment instrument used with each student

Is the motor assessment instrument administered properly

Is instruction oriented toward achieving long term goals

Are tasks taught and/or practiced in class related to short term instructional objectives

Ranking

0	1	2	3
---	---	---	---

Is instruction properly sequenced
in relation to motor performance
and social development levels
of students

Is equipment properly utilized

Are facilities properly utilized

Is instruction adequately individ-
ualized

Are behavioral management tech-
niques used for improving motor
performance and on-task time

Is a variety of teaching methods
used for instructional purposes

Are students on task for most
of the instructional time

Summary/Comments:

APPENDIX D

RAW DATA

Table A
Adapted Physical Education Knowledge Test
Pre- and Posttest Scores

Subject	Pretest	Posttest
1	31	37
2	28	36
3	35	40
4	27	40
5	31	38
6	35	39
7	30	29
8	27	27
9	37	45
10	31	44
11	34	42

Table C
Adapted Physical Education Summative Status
Scale Pre- and Posttest Judges' Rankings

Subject	Pretest			Posttest		
	Judge			Judge		
	1	2	3	1	2	3
1	1	1	1	34	33	34
2	1	1	1	34	34	35
3	22	22	22	61	67	59
4	37	37	37	72	71	74
5	7	7	7	59	60	56
6	4	5	4	53	52	52
7	5	5	5	58	55	52
8	76	77	75	90	92	91
9	13	13	13	68	67	69

Table B
Adapted Physical Education Knowledge Test
Test-Retest Reliability Study Data

Subject	Test 1	Test 2
1	38	37
2	46	47
3	42	39
4	45	43
5	39	38
6	41	45
7	41	43
8	46	46
9	39	41
10	38	38
11	29	31

APPENDIX E
FORMAL ISTE SESSION AGENDAS

Region X ESC/Texas Woman's University
Adapted Physical Education ISTE Project

Thursday, February 26, 1981

8:30 - 9:00	Introductions and Overview of Project
9:00 - 10:00	Paperwork and Details
10:00 - 10:45	Role and Scope of a Comprehensive APE Program
10:45 - 11:00	Break
11:00 - 12:00	Federal and State Requirements/Guidelines in Relation to APE
12:00 - 1:30	Lunch
1:30 - 2:30	APE as it Relates to the Admission, Review, and Dismissal Process
2:30 - 3:30	Introduction to Motor Assessment Procedures, Diagnostic-Prescriptive Teaching in APE, Explanation of Motor Ability Components, Project Questions, Concerns, and Commitments

Region X ESC/Texas Woman's University
Adapted Physical Education ISTE Project

Friday, February 27, 1981

- 8:30 - 8:45 Collect Paperwork and Answer Questions
- 8:45 - 9:45 Motor Assessment - Project ACTIVE Level II
Demonstration and Explanation
- 9:45 - 10:15 Practice Administration of Level II Test
- 10:15 - 10:30 Break
- 10:30 - 11:00 Motor Assessment - Project ACTIVE Level I
Demonstration and Explanation
- 11:00 - 12:00 Motor Assessment - Basic Movement Performance
Profile
- 12:00 - 1:30 Lunch
- 1:30 - 2:00 Practice Assessment with Basic Movement
Performance Profile
- 2:00 - 2:30 Motor Assessment - Cumulative Pupil
Assessment for Severely Handicapped
- 2:30 - 3:30 Motor Development Principles and Basic
Movement Patterns

Region X ESC/Texas Woman's University
Adapted Physical Education ISTE Project

Thursday, March 26, 1981

8:30 - 9:00	Schedule for the Day and Review of Problems
9:00 - 9:45	Overcoming Initial APE Implementation Blocks
9:45 - 10:15	Testing Procedures and Recommendations in APE
10:15 - 10:30	Break
10:30 - 11:00	Teaching Methods in APE
11:00 - 12:00	APE Movie and Group Discussion
12:00 - 1:30	Lunch
1:30 - 2:00	Teaching Strategies in APE
2:00 - 2:30	ARD Process in Special Education
2:30 - 2:45	Break
2:45 - 3:30	ARD Process in APE for LEAs and Cooperatives

Region X ESC/Texas Woman's University
Adapted Physical Education ISTE Project

Friday, March 27, 1981

8:30 - 9:00	Schedule for Day and Group Simulation Activity
9:00 - 9:45	IEPs (Whole - Part - Whole Method)
9:45 - 10:30	Behavioral Objectives in APE
10:30 - 10:45	Break
10:45 - 11:30	Task Analysis in APE
11:30 - 12:00	Group Task Analysis Activity
12:00 - 1:30	Lunch
1:30 - 2:30	Developing IEPs for your Students - Putting it all Together
2:30 - 2:45	Break
2:45 - 3:30	Simulated ARD Meeting with APE Focus

Region X ESC/Texas Woman's University
Adapted Physical Education ISTE Project

Thursday, April 9, 1981

- 8:30 - 8:45 Schedule for Day, Paperwork, Monitoring/
On-Site Visitations Concerns
- 8:45 - 9:15 Review Child-Centered Educational Process -
APE Implications
- 9:15 - 10:15 Group Referral/ARD Activity, APE Program
Development, and Sample Referral Forms
- 10:15 - 10:30 Break
- 10:30 - 11:00 IEP Development in APE - Individual Activity
- 11:00 - 11:30 Motor Performance Implications of Spina
Bifida and Cerebral Palsy
- 11:30 - 12:00 Motor Performance Implications of Muscular
Dystrophy, Deafness, and Blindness
- 12:00 - 1:15 Lunch
- 1:15 - 1:45 Motor Performance Implications of Mental
Retardation and Learning Disabilities
- 1:45 - 2:30 Question and Answer (Discussion Session)
- 2:30 - 2:45 Break
- 2:45 - 3:15 Post Course Inventory
- 3:15 - 3:30 Evaluation and Scheduling On-Site Visits

APPENDIX F

ON-SITE MONITORING AND INDIVIDUALIZED ISTE SCHEDULE

Region X ESC/Texas Woman's University
Adapted Physical Education ISTE Project
On-Site Monitoring and Individualized ISTE Schedule

Subject		Dates and Times of Visitations			
A.H.	2/5/81	2/18/81	3/31/81	4/23/81	5/12/81
	10:30	8:30	8:00	9:00	8:15
J.B.	2/5/81	2/19/81			
	10:30	8:00			
L.G.	2/5/81	2/11/81	2/18/81	4/1/81	5/13/81
	8:15	8:15	8:15	8:15	8:15
C.M.	2/5/81	2/19/81	4/1/81	5/13/81	
	9:45	9:30	10:15	10:30	
J.M.	2/4/81	2/11/81	4/1/81		
	12:00	1:30	2:00		
J.C.	2/4/81	2/11/81	2/18/81	3/31/81	4/1/81
	10:30	10:30	10:30	10:30	10:30
D.W.	2/4/81	2/11/81	2/18/81	4/1/81	5/12/81
	10:30	10:30	10:30	10:30	10:30

Region X ESC/Texas Woman's University
Adapted Physical Education ISTE Project
On-Site Monitoring and Individualized ISTE Schedule

<u>Subject</u>		<u>Dates and Times of Visitations</u>			
S.F.	2/4/81	2/19/81	3/31/81	4/22/81	5/14/81
	1:15	1:15	12:30	12:30	12:30
H.N.	2/4/81	2/19/81	3/31/81	4/22/81	5/14/81
	2:30	2:30	2:30	2:30	2:30
P.M.	2/5/81	2/18/81	4/1/81	4/23/81	5/13/81
	12:00	12:30	12:15	12:30	12:30
K.C.	2/5/81	2/18/18	3/24/81	4/23/81	5/13/81
	1:30	2:30	2:00	2:30	2:30

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