

ADAPTED PHYSICAL EDUCATION PROFESSORS' PERCEPTIONS OF
TEACHING BEHAVIORS OF EFFECTIVE GENERAL AND
ADAPTED PHYSICAL EDUCATORS

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BY

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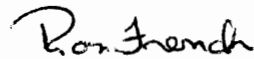
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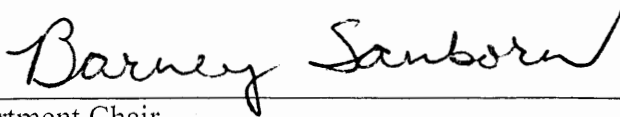
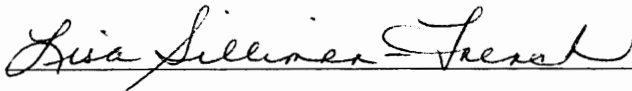
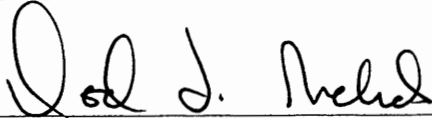
To the Dean of the Graduate School:

I am submitting herewith a dissertation written by Sharon Tiffany Bowers entitled "Adapted Physical Education Professors' Perceptions of Teaching Behaviors of Effective General and Adapted Physical Educators." I have examined this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy with a major in Kinesiology.



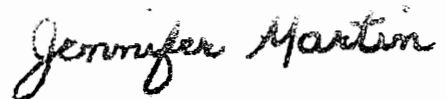
Ron French, EdD, Major Professor

We have read this dissertation and recommend its acceptance:



Department Chair

Accepted:



Dean of the Graduate School

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DEDICATION

To my parents, David and Lynda Bowers,
thank you for your love, understanding, support, and encouragement
throughout all my endeavors.

To my mentor, Dr. Ron French,
thank you for your extraordinary dedication and example.
I have learned more than you know traveling this long and winding road.

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ABSTRACT

SHARON TIFFANY BOWERS

ADAPTED PHYSICAL EDUCATION PROFESSORS' PERCEPTIONS OF TEACHING BEHAVIORS OF EFFECTIVE GENERAL AND ADAPTED PHYSICAL EDUCATORS

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The purpose of this investigation was to determine, and then compare and contrast, the performance-based teaching behaviors of effective practitioners in three different environments: (a) general physical education (GPE) teachers who work with students without disabilities; (b) GPE teachers who work with students with disabilities in an integrated setting; and (c) adapted physical education (APE) teachers who work with students with disabilities in a segregated setting. A mixed methods design using both qualitative and quantitative methods with sequential procedures was used (Creswell, 2003). The sampling design was purposive. Participants ($N = 10$) were professors of master's degree programs in Adapted Physical Activity, Adapted Physical Education, and/or Special Physical Education. The questionnaire, *Performance-based Teaching Behaviors of General and Adapted Physical Educators*, consisted of informed consent information and a combination of close-ended (rating scale) and open-ended (comment) questions. Questions were developed using a three-phase approach: (a) an in-depth review and analysis of performance-based teaching behaviors listed in the literature, the *National Standards for Beginning Physical Education Teachers* (NASPE, 2003), the *Standards for Advanced Programs in Physical Education Teacher Education* (NASPE,

2001), and the *Adapted Physical Education National Standards* (Kelly, 2006); (b) information regarding performance-based teaching behaviors obtained from interviews; and (c) validity and reliability measures. Data were collected in summer of 2008. Participants were asked to rank the importance of each of the 145 teaching behaviors for each of the three physical education environments. Data were analyzed using descriptive and nonparametric statistics. Within the limitations of this study, both similarities and differences were identified in the teaching behaviors of effective physical educators who work with and without students with disabilities. Based on the results of this study, a number of teaching behaviors are necessary for effective physical education teachers in any setting and additional teaching behaviors are required for the effective teaching of students with disabilities in both general and adapted physical education.

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CHAPTER I

INTRODUCTION

The need for qualified professionals to teach physical education to students, both with and without disabilities, has been well documented for over 30 years. This need has been identified in federal regulations for services in general and special education, competencies and standards developed for the professional preparation and practices of general and adapted physical educators, and research investigating the effectiveness of these programs and the practitioners trained within these programs.

In 1975, the enactment of the Education for All Handicapped Children Act (PL 94-142) mandated that physical education, specially designed if necessary, be provided to all students by qualified personnel. Unfortunately, this federal legislation only delineated that “qualified” meant the person had met State Educational Agency requirements specific to the area in which he or she is providing special education or related services (*Federal Register*, August 23, 1977). Defining who was “qualified” to provide adapted physical education services was left to the individual states and, since 1975, less than half of the states have addressed the issue. In the last 11 years, reports on the number of states that have some type of certification, licensure, or endorsement in adapted physical education have ranged from 12 to 17 (Davis, personal communication, 2006; Kelly & Gansneder, 1998; Wetzel, 2007). Thirty years after PL 94-142 mandated

special education services be provided by “qualified” teachers, the No Child Left Behind Act required that teachers of core subjects be “highly qualified” by the end of the 2005-2006 school year. Under this law, a “highly qualified” teacher was defined as one who holds a bachelor’s degree, full state certification, and demonstrates competence in each content area taught (PL 107-110, 2001). Although physical education was not considered a core subject under No Child Left Behind, being a “highly qualified” teacher was finally defined, by law, as more than having a degree and being certified. If “highly qualified” teachers must demonstrate competence within the content area they teach, then we must define what it means to be a competent teacher of physical education.

The mission of preparing competent teachers is not new to adapted physical education. Since the early 1970s, leaders and professional organizations in adapted physical activity have called for competency-based professional preparation in physical education, recreation, and sport (Stein, 1973; cited in Sherrill, 2003). Since then, numerous competencies and guidelines have been developed for the professional preparation and practices of adapted physical educators (American Alliance for Health, Physical Education, and Recreation, 1973a; 1973b; 1976a; 1976b; California State Task Force on Standards for Professional Preparation in Adapted Physical Education, 1978; Harrington & Engerbretson, 1978; Hurley, 1981). Today, national standards and competencies for general and adapted physical educators include the *Initial Physical Education Teacher Education Standards* (NASPE, 2008b), *Advanced Standards for Physical Education* (NASPE, 2008a), and *Adapted Physical Education National Standards* (Kelly, 2006).

The *Initial Physical Education Teacher Education Standards* (NASPE, 2008b) were developed by the National Association for Sport and Physical Education (NASPE) to provide focus and direction for the professional development (preservice and continued) and teaching practices of beginning physical educators by describing minimal competencies in the knowledge, skills, and dispositions for teaching physical education. These standards, and the elements that comprise each, were organized into 6 areas: (a) Scientific and Theoretical Knowledge; (b) Skill- and Fitness-based Competence; (c) Planning and Implementation; (d) Instructional Delivery and Management; (e) Impact on Student Learning; and (f) Professionalism (NASPE, 2008b). Development of these standards followed the Interstate New Teacher Assessment and Support Consortium (INTASC) guidelines and aligned with the K-12 Physical Education Content Standards. These standards are used by the National Council for Accreditation of Teacher Education (NCATE) in the NASPE/NCATE accreditation process to review initial physical education teacher education (PETE) preparation programs (NASPE, 2008b).

The *Advanced Standards for Physical Education* (NASPE, 2008a), were developed to identify the knowledge, skills and performances of the advanced physical educator. These standards are used in the NASPE/NCATE accreditation process to review advanced level programs (e.g., Master's degree, post initial licensure) whose candidates already possess the basic knowledge, skills, and dispositions identified in the Initial Standards. The Advanced Standards represent the next step in teacher development and differ from the Initial Standards in three ways: (a) a single, simultaneous process of planning, teaching, and assessment that results in instruction tailored to the needs of all students; (b) the use

of systematic inquiry for evaluating and improving teaching and learning; and (c) an extension of the benefits of professional development to the betterment of others and the profession. These standards and the elements that comprise each were organized into 3 areas: Professional Knowledge, Professional Practice, and Professional Leadership.

While preparation programs in adapted physical education infuse general physical education standards, they also have different competencies unique to adapted physical education both in the areas of knowledge and application. Prior to the development of NASPE standards for physical educators, the *Adapted Physical Education National Standards* (APENS) were developed to establish national standards that could be used to identify “qualified” teachers of adapted physical education (Kelly, 1996; Kelly, 2006). The 15 APEN standards were developed from a national perceived needs assessment of practicing adapted physical educators (Kelly & Gansneder, 1998). It was determined the standards would include the prerequisite content a general physical educator should know in addition to the content and skills an adapted physical education specialist should know. Therefore, each of the 15 standards consists of 5 Levels. The first 3 Levels represent the content general physical educators should know, specifically the name, major components, and subcomponents of each standard. The Level 4 competencies represent the unique knowledge adapted physical educators are expected to possess and the Level 5 competencies represent example applications of the level 4 knowledge that adapted physical educators are expected to demonstrate (Kelly, 2006). These standards have been endorsed by the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD); American Association for Physical Activity and Recreation

(AAPAR), formally American Association for Active Lifestyles and Fitness (AAALF); Adapted Physical Activity Council (APAC); National Association for Sport and Physical Education (NASPE); American Association of School Administrators (AASA); National Association of State Directors of Special Education (NASDSE); and National Association of Secondary School Principals (NASSP). The discussion regarding what constitutes a “qualified” physical education teacher continues today with the development of position statements regarding “highly qualified” physical education teachers (NASPE, 2007) and adapted physical education teachers (AAPAR, 2007).

In addition to requiring that students with disabilities receive physical education services from “qualified” individuals, federal mandates have also required that students with disabilities receive these services in the least restrictive environment (LRE). That is, educated alongside students without disabilities to the maximum extent appropriate. Consequently, more students with disabilities are receiving physical education from general physical educators in inclusive or integrated settings (Block, 1996; Burgeson, et al., 2001; Decker & Jansma, 1995). Given the trend of including more students with disabilities into general physical education classes, general physical educators who teach students with disabilities have additional responsibilities and competencies previously thought only needed by adapted physical education specialists (Vogler, 2003). However, general physical educators are typically provided content and instruction regarding the unique needs and education of students with disabilities through a single introductory course in adapted physical education (Jansma, 1988). The effectiveness of this training in adequately preparing general physical educators to effectively teach students with

disabilities has been questioned for over 30 years (Churton, 1986; Ersing & Wheeler, 1971; French, Jansma, & Winnick, 1978). Researchers investigating the preparation and teaching effectiveness of general physical educators have suggested that general physical educators are effective teaching students without disabilities but are deficient in the capability to deliver appropriate physical education programming to students with disabilities (Collier & Herbert, 2004; Dillon, 2005; Hill & Brodin, 2004; LaMaster, Gall, Kinchin, & Siedentop, 1998) and need more preservice experience teaching diverse learners (Bird & Gansneder, 1979; McCullick, 2000).

Unfortunately, little research has been published on the preparation and teaching effectiveness of adapted physical education specialists. Previous studies have been limited to descriptive analyses of professional preparation programs at the master's (Ellery & Stewart, 2000) and doctoral levels (Dunn & McCubbin, 1991; Ellery & Stewart, 2000; Jansma & Surburg, 1995; McCubbin & Dunn, 1999; Porretta, Surburg, & Jansma 2002; Zhang, Joseph, & Horvat, 1999). Kelly and Gansneder (1998) conducted the first national profile of which competencies practicing adapted physical education teachers believed should be emphasized by PETE programs to adequately prepare future teachers. Participants desired the greatest emphasis on increased professional preparation in planning and implementation, specifically curriculum development, consultation and staff development, instructional planning, teaching, assessment, and evaluation.

Standards for professional preparation programs in general physical education and for adapted physical education specialists have been developed to improve the quality of physical education instruction provided for students. However, the quality of instruction

provided by practitioners is seldom evaluated by such standards and whether a practitioner is “highly qualified” is frequently determined based on a quantitative measure (e.g., degree held, number of courses taken, or contact hours accumulated) rather than the quality of the teaching behaviors demonstrated by the practitioner. For example, the *APENS* examination, the only national assessment and certification for adapted physical educators, is designed to evaluate only the knowledge portion of the competencies with a 100-question multiple-choice examination format. As one solution to this problem, National Academy of Education (NAE) have policy recommendations which include the development of a national performance-based testing program to assess teachers’ competences through actual demonstration of an educator’s teaching practices (Darling-Hammond & Baratz-Snowden, 2005). Given that Kelly (2006) and Dillon (2005) reported that there are differences in the standards and competencies between general and adapted physical educators, it is difficult to comprehend that the forms used to evaluate teachers may be the same no matter the content area. For instance, in the state of Texas, one form is used for all teachers (e.g., general and special education classroom teachers, physical educators, and adapted physical educators). Dr. Diana Everett, Executive Director of Texas Association of Health, Physical Education, Recreation, and Dance, (personal communication, 2006) believes that this one-form approach is inappropriate and inadequate to evaluate the performance of physical educators and developed one that was specific for evaluating physical educators in the act of teaching.

Purpose of the Study

The assumption that guides this present investigation is if a teacher is defined as “highly qualified” or “effective” then his/her teaching behaviors are identifiable, stable, and consistent in the effects on students across subjects (Medley, 1985; Stodolsky, 1985). Shulman (1988) disagreed with this assumption in relation to the act of teaching, stating that teaching skills are subject matter and circumstance specific. Therefore, the purpose of this investigation was to determine, and then compare and contrast, the performance-based teaching behaviors of effective practitioners in three different environments: (a) general physical educators who work with students without disabilities; (b) general physical educators who work with students with disabilities in an integrated setting; and (c) adapted physical educators who work with students with disabilities in a segregated setting.

Hypotheses

The hypotheses for the present study are there are no significant differences in the performance-based teaching behaviors of effective practitioners in three different environments: (a) general physical educators who work with students without disabilities; (b) general physical educators who work with students with disabilities in an integrated setting; and (c) adapted physical educators who work with students with disabilities in a segregated setting. Specifically, there are no significant differences in the following categories of teaching behaviors: (a) curricular knowledge; (b) content knowledge; (c) assessment; (d) planning and management; (e) instruction; (f) communication; (g)

technology; (h) methods of inquiry; (i) collaboration, reflection, leadership, and professionalism; or (j) mentoring, peer/student teaching, and paraprofessionals.

Research Questions

1. What are the teaching behaviors of effective general physical educators who work with students without disabilities?
2. What are the teaching behaviors of effective general physical educators who work with students with disabilities in an integrated setting?
3. What are the teaching behaviors of effective adapted physical educators who work with students with disabilities in a segregated setting?
4. What are the differences between the teaching behaviors of effective general physical educators who work with students without disabilities and the teaching behaviors of effective general physical educators who work with students with disabilities in an integrated setting?
5. What are the differences between the teaching behaviors of effective general physical educators who work with students without disabilities and the teaching behaviors of effective adapted physical educators who work with students with disabilities in a segregated setting?
6. What are the differences between the teaching behaviors of effective general physical educators who work with students with disabilities in an integrated setting and the teaching behaviors of effective adapted physical educators who work with students with disabilities in a segregated setting?

Limitations

The present study was subject to the following limitations:

1. The investigators' ability to clearly communicate instructions and develop and systematically list appropriate, readable questions; as well as the length of the survey, format of the questionnaire design, correspondence between the participants and investigator, and motivation of the participants may have limited this study (Bourques & Fielder, 1995).
2. Influence of teaching skills on students will be similar regardless of variability between general and adapted physical education teacher education programs where the general and adapted physical educators were formally educated.
3. Influence of the participant's gender, age, or background on the value they place teaching skills needed to teach general or adapted physical education to students with and without disabilities.
4. Participants were representative of a large population.
5. There may have been response bias, or a systematic tendency of the participants to respond to surveys, questionnaires, standardized tests, and other self-report measures on some basis other than the specific item content. For the purpose of this research the following response bias were defined: who the researcher is, the credentials of the researcher, the university the researcher is associated with, and the interest in the topics of the questionnaires.

Delimitations

The present study was subject to the following delimitations throughout the investigation:

1. Participants were professors of master's degree programs in Adapted Physical Activity, Adapted Physical Education, and/or Special Physical Education. To qualify for participation in the present investigation, the professor had to be listed as the Project Director or Coordinator for a Personnel Preparation grant awarded by the Office of Special Education Programs under the Individuals with Disabilities Education Act during at least one of the following fiscal years: 2004, 2005, and/or 2006.
2. Participants had a valid and working e-mail address and internet connection.
3. Standards and accompanying competencies from the *National Standards for Beginning Physical Education Teachers* (NASPE, 2003) and the *Standards for Advanced Programs in Physical Education Teacher Education* (NASPE, 2001) were selected to define the standards and competencies of general physical educators. It is important to note that, although the *National Standards for Beginning Physical Education Teachers* (NASPE, 2003) and the *Standards for Advanced Programs in Physical Education Teacher Education* (NASPE, 2001) were updated in 2008, none of these updates altered the content applicable to the questionnaire developed for the present study. Many of the 2008 updates simply combined elements from the earlier standards, reorganizing and streamlining the overall product. For example, elements within the only addition to the *Initial Physical Education Teacher Education*

Standards (NASPE, 2008b), Standard 2 (Skill and Fitness Based Competence), were previously addressed in Standard 1 (Content Knowledge) of the prior initial and advanced standards (NASPE, 2003; NASPE, 2001).

4. Standards and accompanying competencies from the *Adapted Physical Education National Standards* (Kelly, 2006) were selected to define the standards and competencies of general physical educators instructing students with and without disabilities and adapted physical educators.
5. Content validity was established by developing the questionnaires based on performance-based standards listed in the *National Standards for Beginning Physical Education Teachers* (NASPE, 2003), *Standards for Advanced Programs in Physical Education Teacher Education* (NASPE, 2001), *Adapted Physical Education National Standards* (Kelly, 2006), and the information obtained from the literature review on teaching behaviors.

Definitions of Terms

Adapted physical educators who work with students with disabilities in a segregated setting - A teacher qualified to deliver adapted physical education services in a school setting, teaching in a separate or isolated class including only students with disabilities.

Competencies - “A combination of skills, abilities, and knowledge needed to perform a specific task” (U.S. Department of Education, 2001, p. 1).

General physical educators who work with students without disabilities - A teacher qualified to deliver physical education services in a school setting, which has

completed an undergraduate or graduate degree in physical education, teaching in a class without students with disabilities.

General physical educators who work with students with disabilities in an integrated setting - A teacher qualified to deliver physical education services in a school setting, which has completed an undergraduate or graduate degree in physical education, teaching in a class that included students with and without disabilities.

Inclusion - The process of incorporating students with disabilities into general education classes (e.g., physical education and health class) with appropriate support services and modifications as determined by the student's IEP" (Block, 2007).

Physical Education Teacher Education (PETE) - Undergraduate and graduate higher education program in the area of physical education.

Response bias - "Among the most common forms of response bias reported in the literature are deviant responding, careless responding, consistent responding, omitting items, acquiescing, providing extreme ratings, and social desirability responding" (Hancock & Flowers, 2001, p. 5). Response bias also includes any inadvertent influence that the researchers may have had on the participants (i.e., definition of terms, wording of questions).

Standards – Any definite rule, principle, or measure established by authority (<http://www.merriam-webster.com/dictionary/standards>, November 15, 2009).

Student with a disability - An individual evaluated as having mental retardation, a hearing impairment (including deafness), a speech or language impairment, a visual impairment (including blindness), a serious emotional disturbance, orthopedic

impairment, autism, traumatic brain injury, an other health impairment, a specific learning disability, deaf-blindness, or multiple disabilities, and who, by reason thereof, needs special education and related services (IDEIA, 2004, p. 56).

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this investigation was to determine, and then compare and contrast, the performance-based teaching behaviors of effective practitioners in three different environments: (a) general physical educators who work with students without disabilities; (b) general physical educators who work with students with disabilities in an integrated setting; and (c) adapted physical educators who work with students with disabilities in a segregated setting. This Chapter provides an overview of the research most relevant to the preparation and evaluation of effective general and adapted physical educators. The information is presented under the following sections: (a) Preparation and Teaching Effectiveness of General Physical Educators; (b) Preparation and Teaching Effectiveness of General Physical Educators in Integrated Settings; and (c) Preparation and Teaching Effectiveness of Adapted Physical Educators.

Preparation and Teaching Effectiveness of General Physical Educators

The preparation, qualifications, and teaching effectiveness of general physical educators have been investigated in numerous ways. Research on the preparation of general physical educators includes descriptive analyses of components of physical education teacher education (PETE) programs and the perceived value of courses, skills, and experiences provided in these programs. Teaching effectiveness has been evaluated by assessing both teacher behavior and student performance. Certainly, the aim of

effective teaching is to enhance student learning so that students gain and demonstrate the knowledge, skills, and attitudes necessary to develop active, healthy lifestyles. However, for the purpose of the present study, the review of literature related to the teaching effectiveness of general physical educators is limited to research regarding the behaviors of teachers during the act of teaching.

For instance, McCullick (2000) investigated the cooperating teachers' (CT) awareness of the goals and standards of the Georgia State University (GSU) PETE program and the CTs perceptions on the attainment of these goals and standards by student teachers (ST) from the GSU program. Participants were 8 CTs (4 elementary, 2 middle school, and 2 high school) chosen from a list of 12 provided by GSU based on their teaching and CT experience. The original 12 were selected because they were believed to be the most representative of the CTs for GSU and the final 8 were selected because they were the first to agree to participate in the research project. Experience teaching ranged from 14 to 27 years with an average of 21.6 years and across all levels of education from elementary to college. Collectively, selected CTs had supervised 62 STs throughout their careers, 42 of whom were from GSU. Chosen CTs had, at minimum, 2 STs from the GSU program to better ensure selected CTs had ample information from which to develop perceptions regarding the achievement of GSU's goals and standards.

Participants were first informed of the project by letter and then contacted by telephone to request their participation. A summary and interpretation of the GSU PETE program goals and standards were sent to each CT for review prior to the interviews. These goals and standards were adapted from, and are closely aligned with, the National Association

of Sport and Physical Education's (NASPE) 1995 *National Standards for Beginning Physical Education Teachers*. The first part of the interview consisted of questions regarding demographics, the supervision of STs provided by GSU PETE faculty, any noticeable changes in the STs from GSU over the past 3 to 4 years, how well they thought GSU STs were prepared for teaching in the metropolitan Atlanta area, and if they were still in contact with any GSU graduates. In the second part of the interview, CTs were given a list of standards and interpretations of each standard and were asked to rate how well GSU STs met each standard on a rating scale of 1 to 10 (10 being superior, 1 being very poor, and an optional response of "can't tell"). Participants were also asked to describe their ratings. Follow-up questions were asked as necessary. Member checks were used at the conclusion of each interview to address trustworthiness. At the end of the interview, answers recorded by researchers were provided for CTs to review and refute or verify what had been said. Themes emerged from the data were checked with selected CTs for comment and validation.

Interviews were recorded and transcribed for analysis. Data were analyzed inductively using a four stage model in the following fashion: (a) early analyses conducted by the researcher; (b) data were coded, summarized, and organized into themes; (c) data were displayed and action was taken; and (d) conclusions were drawn regarding the data. Results were presented in the following sections: (a) CT awareness of the goals and standards of the GSU PETE program; (b) CT thoughts on GSU faculty supervision; (c) changes in ST performance over the past 3 to 4 years; and (d) ratings and descriptions for each standard and goal.

All but one of the participants were previously aware of the goals and standards of the GSU PETE program because they were provided in a handbook for CTs. Teachers also indicated this awareness was amplified via conversations with and observations of the behaviors of the PETE faculty. Many participants commented on how helpful a similar synopsis would have been for their role as a cooperating teacher outside of this assessment.

CTs believed the GSU faculty supervision of STs and the overall quality of STs had significantly improved over the past 3 to 4 years. Improvement was noted in the frequency of faculty visits, consistency of feedback provided to STs, and number and variety of the faculty members and the views expressed by each. One teacher, however, did not see the increased number and variety as completely beneficial. While the larger number of faculty (4 instead of 2) allowed more visits to the STs, the variety of 4 supervisors was seen as overwhelming, with too many personalities and inconsistencies in feedback. The 4 secondary level CTs were pleased with the addition of a health specialist to the supervision rotation since, in many cases, STs are faced with teaching health classroom lessons at the middle and high school levels. Without deviation, CTs indicated that the overall quality of the STs had improved over the past 3 to 4 years. CTs comments, such as *“they are better prepared,” “they are better organized,” “they are more comfortable,”* and *“they have more content knowledge and pedagogical knowledge”* supported this finding (McCullick, 2000, p. 512).

The CTs rated the STs an average of 7.94 of 10 with a range of 5 to 9.5 for Standard 1 (Content Knowledge). Overall, teachers felt the STs were strong in their abilities to

understand and apply the content of physical education, including basic skills and sports commonly associated with physical education, and health. Exceptions included the areas of gymnastics and dance/rhythms. However, the resourcefulness, or ability to “get the knowledge they don’t have” was a common theme throughout the interviews.

The STs were rated an average of 8.13 with a range of 6 to 10 for Standard 2 (Growth and Development). The range of scores indicates how differently CTs felt regarding the STs’ abilities to understand and apply the physiological, cognitive, social, and emotional characteristics of learners of all ages. However, the CTs felt the STs’ abilities in this area were more than acceptable for their level of experience as they believed the true development of this knowledge comes from experience and not the PETE program.

The CTs rated the STs the lowest on Standard 3 (Diverse Learners) with an average of 7.0 of 10 with a range of 3 to 10. Specific areas identified by two CTs were incidences of gender and racial bias. These CTs felt that these incidences were the result of the STs biographies and that preservice education about equity and bias-free vocabulary would be of little to no impact. One CT, who did not witness any such episode but felt that knowing about and teaching diverse learners was one of the weakest areas for GSU STs, reported that STs did not think about or plan for individual learners with special needs to succeed. However, each of the CTs recalled at least one case in which STs were exemplary in their contact with diverse learners. As with Standard 2 (Growth and Development), the CTs felt the STs performed at an appropriate level and that more would be learned as their career progressed.

The STs were rated an average of 8.63 with a range of 5 to 10 for Standard 4 (Management and Motivation). Six of the eight CTs mentioned “enthusiasm” when describing the STs and that this attribute was directly linked to their ability to motivate the students. Further, the CTs believed this ability to motivate students so well also helped in their classroom management and vice versa. Specific management techniques for which STs were praised were decreasing waiting time, increasing activity time, and making short transitions.

The CTs rated the STs an average of 7.44 of 10 with a range of 5 to 9 for Standard 5 (Communication). Areas of verbal communication identified as strengths included providing verbal cues, communicating with other teachers and staff, and speaking with parents. Nonverbal communication was also identified as a strength as all CTs mentioned the STs were “good role models.” However, written communication skills were not identified as a strength. Three CTs felt the STs were weak in their abilities to write clearly and provide task information throughout the environment such as developing posters and task sheets. However, these CTs felt the STs had improved in this area over the past 3 to 4 years. Part of Standard 5 (Communication) involves STs’ knowledge and use of technology to enhance their teaching. CTs thought STs were able to use technology well, when appropriate, including creating tests via the computer and using the Internet to obtain lesson ideas.

The STs were rated an average of 7.38 with a range of 3 to 10 for Standard 6 (Planning and Instruction). The wide range of scores is attributed to the broadness of this standard and the fact that CTs saw planning and instruction as separate behaviors and,

therefore, STs could rate stronger in one area and weaker in the other. All but one of the CTs felt that STs had improved in planning over the past 2 years, demonstrating little to no problems with scope, sequence, or focus and the ability to use a large variety of teaching styles. The CT who felt the planning skills of the STs were substandard felt the issue of time was a large factor, both the STs not putting enough time into the planning process and the fact that there was little to no time for the CT, ST, and faculty supervisor to discuss the lesson plan as a triad. This CT also indicated that the blasé attitude regarding planning resulted in the command style of teaching being used the majority of the time. Further, this CT felt none of the plans reflected an awareness of liability and safety, an issue no other CT mentioned.

The CTs rated the STs an average of 7 of 10 with a range of 2.5 to 9.5 for Standard 7 (Learner Assessment). Score regarding this assessment were influenced by the different levels at which the CTs taught. The elementary and middle school CTs rated the STs lowest in this category, while high school CTs rated the STs high. Pleased CTs identified a marked improvement mainly in the STs ability to formally assess the cognitive domain by developing written tests and asking higher level thinking questions. Strides in informal assessment were also noted, specifically assessing the affective domain through questions regarding feelings and judging attitudes through observations. The CTs felt that, considering the structure of the physical education classes, informal methods were the best way to assess the physical domain. However, CTs commented that they seldom observed STs using checklists or other informal assessment instruments.

The STs were rated an average of 9 with a range of 8 to 10 for Standard 8 (Reflection). Factors contributing to the high rating were: (a) the criteria and reflective assignments required by GSU throughout elementary and secondary placements; (b) the CTs ability to induce reflection in regular meetings with the STs to discuss teaching and the STs performance; and (c) the STs willingness to be reflective and desire to improve their teaching. One CT commented that the STs' reflections lacked depth and breadth. As with Standard 3: Diverse Learners, this was not associated with the training provided by GSU, rather a result of the STs' biographies and age.

Six of the eight CTs rated the STs an average of 8.5 of 10 with a range of 6 to 10 for Standard 9 (Collaboration). The remaining 2 CTs indicated that they could not rate the STs' ability to collaborate. The CTs and the GSU faculty agreed that the opportunities for collaboration are limited during the student teaching experience. However, numerous examples of the STs manifesting this behavior were apparent, including working with classroom teachers, bringing in guest speakers, and attending parent/teacher conferences, PTA meetings, and sporting events.

McCullick (2000) concluded: (a) the CTs are pleased with the performance of the STs from GSU; (b) that the knowledge, behaviors, and dispositions of the STs had improved over that past 3 to 4 years; and (c) that the data strongly suggest GSU is effective in preparing teachers that meet the NASPE standards. STs were highly rated in their abilities to be reflective teachers, understand growth and development, and motivate and manage students. Practices identified to maintain the high levels of performance in these areas include: (a) continued reflective exercises throughout the program; (b) exposure to

various grade levels; and (c) the completion of more contact hours with students prior to student teaching. Areas identified as weaknesses included teaching diverse learners and assessing student performance. Suggested practices to improve the areas include exposure to diverse schools, more experience teaching diverse learners prior to student teaching, more emphasis in authentic and informal assessment techniques, and more opportunities to put these techniques into practice.

Collier and Herbert (2004) surveyed practitioners in the Pacific Northwest region of the United States to provide information to assist faculty in determining curricular decisions and future directions in undergraduate PETE programs. Questionnaire items and scales were developed by the researchers and reviewed for format, content validity, appropriateness of demographic information, and readability by four professionals noted for expertise in pedagogy and curriculum design. The instrument was then pilot tested on six elementary and secondary physical educators and modified based on feedback regarding the clarity, readability, and time required to complete the questionnaire. The final questionnaire consisted of 24 questions on demographic information and the value or importance of selected items in the following areas: (a) teaching approaches; (b) teaching certifications; (c) functional teaching skills; (d) activity based competencies; (e) coursework; (f) programming areas; and (g) inservice training topics. Respondents were asked to respond to each item using a six-point Likert scale ranging from 0 (no value) to 5 (high value). A follow-up question then asked them to choose their first, second, and third most valued option. Participants were also encouraged to add qualitative comments/suggestions regarding preservice teacher preparation.

Participants were K-12 physical educators in Wisconsin, Washington, Oregon, Idaho, and California. A copy of the questionnaire, cover letter, and an addressed stamped envelope was sent to each K-12 physical education department in public and private schools in Wisconsin. To survey physical educators in Washington, Oregon, Idaho, and California, survey responses were collected at an annual conference attended by 311 physical educators. Copies of the questionnaire and cover letter were included in the registration packets provided at the beginning of the conference. Attendees were publically encouraged to complete the questionnaire twice daily during the two-day conference. Clearly marked boxes to collect completed questionnaires were placed throughout the conference grounds. Wisconsin teachers provided 256 responses (31% return rate) and 103 responses were received from teachers in Washington, Oregon, Idaho, and California (33% return rate).

Data were analyzed by descriptive statistics including frequency counts, percentages, means, and standard deviations. Data across all respondents were presented. Where appropriate, a breakdown by grade level taught (K-8 and 9-12) is provided due to the larger number of K-8 practitioners in the study and because K-8 and 9-12 practitioners answered certain questions significantly different.

Participants in the study were: (a) highly educated, 20% with a Master's degree and 24% completed coursework beyond a Master's degree; (b) experienced with 1 to 5 years (20%), 6 to 10 years (13%), 10 to 20 years (27%), and more than 20 years (40%); (c) teaching in K-8 (58%), 9-12 (17%), and K-12 (25%) settings; and (d) teaching in a rural (49%), suburban (28%), and urban settings (23%).

When asked to indicate which teaching approach was most important in physical education, a lifetime activities approach was viewed as significantly more important by 45% of total respondents (63% of high school and 35% of elementary and middle school teachers) while physical fitness was selected by 24% of total respondents (21% of high school and 24% of elementary and middle school teachers). Choices provided also included adventure education, low organized games, traditional games (e.g., team/individual sports), and movement education.

Participants were asked which of the following skills was most important in teaching effectively: behavior management, personal skill proficiency, classroom organization and management, skill/fitness/knowledge evaluation, providing feedback regarding behavior, assessment (measurement and evaluation), providing feedback regarding skill performance, and personal fitness level (role modeling). Skills regarding classroom management (38%) and behavior management (29%) were largely considered the most important with skill/fitness/knowledge evaluation (10%) following as the third most popular response.

When asked to consider their preparation and teaching experience and indicate which activity based competencies were most beneficial in terms of teaching effectiveness, exercise and health-related fitness (31%), fundamental motor skills (29%), and lifelong leisure activities (25%) were valued at the highest levels. The remaining three choices included sports and games (6%), dance and rhythms (1.5%), and adventure education (1%). Differences were identified between grade levels taught regarding fundamental motor skills and lifelong leisure activities. Elementary and middle school teachers (44%)

valued fundamental motor skills higher than high school teachers (16%) whereas high school teachers (45%) placed more value on lifelong leisure skills than elementary and middle school teachers (35%).

Participants were asked which of the following academic areas was most valuable in their preparation: exercise physiology, assessment (measurement and evaluation), human anatomy, biomechanics/kinesiology, motor learning, motor development, history of physical education and sport, sociology of sport, sport and exercise psychology, and philosophy of sport. Exercise physiology was viewed as the most important subject by teachers at both the high school (38%) and elementary and middle school (27%) levels. Elementary and middle school teachers also felt that motor development was critical to their preservice preparation (26%) whereas 10% of high school teachers felt this way.

Participants (38%) indicated physical education programming for elementary school was viewed as more important than programming for middle or high school students or adventure education. This finding was consistent with teachers at both elementary and middle school (55%) and high school levels (25%). The same number of K-8 and 9-12 teachers viewed programming for students with special needs as most important (15%).

Collier and Herbert (2004) concluded teacher preparation programs are not adequately preparing future teachers to effectively teach a more diverse student body. Faculty must closely examine the curricular opportunities provided for pre-service teachers and ensure: (a) the exposure to lifetime activities, classroom organization, behavior management, and exercise and health-related fitness; (b) the application of

theory to practice with students in practicum settings; and (c) the provision of appropriate feedback from faculty, cooperating teachers, peers, and students

Hill and Brodin (2004) conducted an investigation to determine the frequency of specific components of the undergraduate PETE programs of current teachers, respondent's perceptions regarding the value of these components in preparing them to teach, and the level of difficulty specific teaching responsibilities provided during the first year of teaching. The questionnaire used included four sections: demographic information, components of the PETE program, perceived value of the components in the preparation of teachers, and perceived areas of difficulty during the first year of teaching. Items on the questionnaire were developed by a panel of six experts, including a professor in physical education pedagogy, a graduate student in physical education, and four physical educators. A group of 30 elementary and secondary physical educators field tested the questionnaire and provided feedback that was used to modify the items for clarity, organization, and content.

Participants were identified from a sample of 350 public and private schools with enrollments greater than 200 within the state of Washington. Every 6th school in the Washington Education Directory that met the enrollment criteria was included in the study. Teachers in the state of Washington were selected for two reasons. First, the authors were directors of PETE programs within that state and hoped the results would help them better assess and modify their programs. Second, Washington had recently undergone curriculum reform, resulting in the development of a new set of health and fitness competencies for K-12 students and the investigators felt the results of this study

would be helpful in determining whether current physical educators in the state were adequately prepared to address those competencies.

Copies of the questionnaires and self-addressed, stamped envelopes were sent to the department heads of the schools identified. A follow-up letter and questionnaire were sent to non-respondents two weeks later. A total of 132 questionnaires were received for a 37.7% return rate.

The demographic profile of the participants was as follows: (a) the average participant was an average of 41.1 years of age, had an average of 15.1 years of teaching, and taught at a school with an average of 510 students; (b) 68 of the 124 who reported gender were female (54.8%) and 56 were male (45.2%); (c) 50.8% held a Bachelors degree and 49.2% a Master's degree as their highest degree earned; (d) 35.2% taught in elementary schools, 22.8% in middle schools, 42.3% in high schools, and 54.9% indicated they were teaching at more than one level; (e) 86.3% and 13.1% were teaching at public and private schools, respectively; (f) 97.7% were currently teaching physical education, 24.2% were teaching health classes, and 21.2% were also teaching other subjects; and (g) 66.7% received their initial teaching certification in Washington while 33.3% received their certification from another state.

Components included in the undergraduate coursework of participants were (from highest to lowest): student teaching (95.4%), lesson planning (94.6%), knowledge of physiology (94.6%), teaching methods (93.8%), knowledge of anatomy (93.1%), sports skills/knowledge (93.1%), fitness concepts (93.1%), motor development (91.5%), physical education curriculum (90.0%), health concepts (90.0%), First Aid/CPR (87.7%),

adapted physical education (88.3%), classroom/gym management (85.4%), classroom/gym organization (83.8%), historical perspective of physical education (80.0%), fitness testing (78.5%), assessment of learning (78.1%), grading practices (74.6%), communication skills (70.5%), discipline techniques (66.9%) sports law (66.2%), and integration of movement with other academic subjects (59.2%). A significantly greater number of participants who taught at the high school level ($x = 4.31$) than those at the elementary levels ($x = 3.81$) received instruction on how to conduct fitness testing ($p < .01$).

The perceived value of specific components addressed in undergraduate coursework regarding importance in the preparation of teachers were ranked using a five-point Likert scale (i.e., no value, little value, undecided, somewhat valuable, and very valuable). These responses were compressed into three categories: somewhat or very valuable, little or no value, and undecided. Components identified as “somewhat valuable” or “very valuable” were (from highest to lowest): sports skills/knowledge (93.4%), student teaching (92.7%), First Aid/CPR (92.1%), classroom/gym organization (89.4%), classroom/gym management (87.9%), lesson planning (87.6%), physical education curriculum (86.1%), fitness concepts (86.0%), teaching methods (85.2%), motor development (84.2%), knowledge of physiology (83.7%), knowledge of anatomy (83.5%), communication skills (82.3%), discipline techniques (80.9%), health concepts (79.8%), fitness testing (73.3%), assessment of learning (71.6%), adapted physical education (70.4%), grading practices (66.0%), sports law (51.1%), and historical

perspective of physical education (30.5%). Female participants rated the value of student teaching experiences higher than male participants ($p < .01$).

The areas of perceived difficulty during the first year of teaching were ranked using a five-point Likert scale (i.e., no difficulty, little difficulty, undecided, moderately difficult, and extremely difficult). These responses were compressed into three categories: extremely or moderately difficult, little or no difficulty, and undecided. Areas identified as “extremely difficult” or “moderately difficult” were (from highest to lowest): facilities/equipment (53.5%), discipline (49.6%), special needs populations (46.0%), schedule interruptions (45.7%), personal fatigue (44.1%), assessment/grading (41.7%), classroom management (40.5%), parental contact (40.2%), differences in skill level (39.8%), liability concerns (32.3%), motivating students (31.5%), lack of administrative support (26.0%), curriculum selection (21.3%), colleague relationships (16.8%), locker room supervision (16.5%), lesson planning (15.6%), teacher/student relationships (10.9%), and teaching sports skills (7.8%). Teachers from public schools reported greater difficulty than those from private schools related to teaching special populations ($p < .01$).

Hill and Brodin (2004) concluded that PETE programs generally consist of similar components that seem to reflect state requirements which teacher education programs must follow for endorsements and teacher certification. Participant perceptions of the value of these components validate current curricula in university programs. The most significant challenges faced by teachers include inadequate facilities and equipment, classroom management and discipline, meeting the needs of special needs students,

schedule interruptions, personal fatigue, parental contact, and student assessment. More emphasis is needed in best practices in teaching and application to real-world settings (e.g., management, discipline, and assessment) through early field experiences and observation opportunities.

Lim (2005) examined the effects of using computer technology in a preservice physical education course on the attitudes and competency levels of students toward national technology standards and selected instructional software applications. Participants were 26 students enrolled in a physical education teacher education course who, in groups of 3 to 4, developed a web-enhanced lesson plan including digital video clips and online assessments using a variety of instructional software (e.g., ADAM Interactive Anatomy, Adobe Photoshop, Microsoft FrontPage, PowerPoint, , and video streaming software). Participants shared the lesson plans with classmates by publishing them on the Internet.

Data were collected using a survey instrument developed based on the NCATE/ISTE technology standards that included demographic information, student attitudes, and competency levels toward national technology standards and selected instructional software applications. Descriptive statistics were used to analyze demographic information. A paired t test was used to compare the attitudes and competency levels of students between the beginning and end of the semester. Statistically significant differences were identified in the attitudes and competency levels toward national technology standards and selected instructional software applications ($p < .05$). After participating in the course, students' competency and attitudes toward national

technology standards and selected instructional software applications improved significantly. The vast majority of students (92%) indicated they would like more technology integrated into courses. Lim (2005) concluded that the incorporation of technology for teaching and learning can be useful in the preparation of physical education teacher education students to effectively use technology as teaching tools in their future as physical educators.

Ayers and Housner (2008) provided a descriptive analysis of NASPE/NCATE accredited undergraduate PETE programs from a standards-based perspective. Data were obtained from the undergraduate *Directory of Physical Education Teacher Education (PETE) Programs*. The questionnaire used was developed to collect descriptive information regarding the PETE programs, including: (a) programmatic demographics; (b) institutional demographics; (c) programmatic requirements; and (d) curricular issues. With consideration to the purpose of the present study, only results pertaining to the curricular issues will be discussed in this Chapter, specifically curricular models, technology, and multiculturalism/diversity. Questionnaire items were developed based on the NASPE/NCATE accreditation standards, current issues and research, and professional consensus of key components of PETE programs, and K-12 physical education. Content validity was established in stages. The questionnaire was developed by a PETE professor with expertise in questionnaire design and then examined by another PETE professor, also with expertise in questionnaire design, and a PETE doctoral candidate. Slight modifications were made based on feedback from these experts.

Emails containing a description of the project, request for participation, and a link to the web-based questionnaire were sent to the 200 NASPE/NCATE accredited programs in May 2002. An institutional review board statement and informed consent letter were provided to obtain informed consent prior to the allowance of access to the questionnaire. Respondents could complete the questionnaire online or print a hardcopy to be completed by hand and mailed. An initial invitation to participate yielded 34 usable responses, followed by a second and third reminder, resulting in 78 and 4 additional responses, respectively. Of the 200 NASPE/NCATE accredited programs invited to participate, 116 responded with useable questionnaires (58% response rate).

Data from questionnaires completed online were automatically entered to a database and sent to the lead author. Data completed by hand were manually entered into the database and checked for accuracy by the lead author and research assistant. Individuals completed selected parts of the questionnaire and left some questions unanswered resulting in different numbers of respondents from item to item. At least 104 responses were provided for each item. Data were analyzed using percentages, means, and frequencies.

Results regarding curricular models were obtained from 96 programs and indicated 50% use specific curricular models with 73% of those 48 programs reporting the use of two or more models. The most predominantly emphasized models were sport education (52%), skill themes (33%), and fitness education (25%). The vast majority (97.2%) of the 109 programs that responded regarding the use of technology reported the inclusion of technology experiences during the undergraduate curriculum. Experiences cited most

frequently were portfolio development (45.3%), specific technology coursework required at the departmental or college level (38.0%), and technology embedded throughout all coursework (23.6%). Specific examples of software (e.g., Excel, PowerPoint, Fitnessgram) and hardware (e.g., pedometers, heart rate monitors, PDAs) were also specified by many respondents. Like technology, a large majority of respondents ($n = 104$, 84.6%) indicated an emphasis on multiculturalism/diversity in their programs. Strategies included coursework regarding multiculturalism (66%), adapted physical education programs/courses (19.3%), addressing multiculturalism/diversity in methods classes (15.9%), and offering workshops or seminars (4.5%).

Ayers and Housner (2008) concluded the integration of specific curricular models, technology, and multiculturalism/diversity is improving and PETE programs appear to be revising their curricula so contemporary standards are met relative to the thematic areas identified in this study. However, suggested areas for future research included more detailed analyses of programs; how curricula are updated according to K-12 needs; how curricular models translate into practice; how technology integration affects the knowledge and skills of candidates and faculty; and how PETE programs address multicultural issues through minority faculty and student recruitment and programming, and the effect such experiences have on faculty and students.

McCullick, Metzler, Cicek, Jackson, and Vickers (2008) conducted a study assessing the effectiveness of a physical education teacher education (PETE) program through the perspectives of grade-school students regarding the effectiveness of student teachers (STs) in meeting the NASPE *National Standards for Beginning Physical Education*

Teachers. A secondary purpose of the study was to examine the ability of grade-school students in providing valuable feedback on how well STs meet the NASPE standards. Participants were 45 public school students, grades 2 through 12, chosen by the physical educator at each school based on his or her belief that the student would best be able to discuss the topic and provide the richest answers. Students were representative of the 4 different schools where STs in a southern metropolitan university PETE program had completed their student teaching. Parental permission for participation in the study was obtained prior to data collection.

Data were collected in 10 group interviews conducted at the completion of the ST placement to allow students easier recall of ST's performance while providing students the opportunity to develop thoughts on the ST's teaching ability. Two interviews of 45 to 60 minutes each were conducted for each of the following groups of three to five students: (a) 2nd and 3rd grade, (b) 4th and 5th grade, (c) 7th and 8th grade, (d) 9th and 10th grade, and (e) 11th and 12th grade. Students were grouped to ensure representation of from all levels and increase student comfort levels. Questions were developed by the authors to help answer how the STs met each of the 10 NASPE standards and pilot-tested with children not in the study. Slight adjustments to wording were made to elicit better understanding and answers from the students.

Data were transcribed and inductively analyzed following a four stage analysis. First, data collection and early analyses were conducted. Second, data were coded, summarized, and placed into themes or clusters, using the NASPE standards as a framework. Third, data were placed into categories according to how well it described

student's feelings regarding STs competency in each standard and whether students could provided satisfactory insight for each standard. Fourth, conclusions were drawn and verified. Trustworthiness was addressed by triangulation of data; specifically, source checking and a peer debriefer were used. Source checking consisted of re-asking questions multiple times. Following the interviews, the interviewers would discuss the process with another researcher (peer debriefer) to ensure the interviewer maintained focused interviews and challenge interpretations made by the interviewer.

Students were able to address ST's competencies in Standard 1, Content Knowledge. STs were capable of analyzing and providing specific feedback on skill performance and teaching skills, as well as, fitness concepts, and strategies. Within the limitations of the student teaching time frame, STs were also able to demonstrate a variety of skills.

Students had difficulty assessing the ST's competencies regarding Standard 2, Growth and Development. Specifically, students struggled in determining whether STs demonstrated an understanding of how students learn and develop and the provision of opportunities that allow for development in all learning domains. However, responses to questions regarding Standard 4, Management and Motivation, provided some insight to STs ability to meet one outcome in Standard 2 as students reported feeling safe in the hands of the ST.

Student responses indicated they believed STs met competencies related to Standard 3, Diverse Learners, including an understanding of how individuals differ in their approaches to learning. Students reported incidences of STs providing different instructional strategies for low- and high-skilled students, working individually with less

competent students, providing extension tasks, recruiting skillful students to help demonstrate proper techniques and tutor other students, and speaking Spanish to communicate with a boy who only spoke Spanish.

Students were also able to address Standard 4, Management and Motivation, as all students reported feeling safe, were aware of rules and consequences, and were active for a large part of the class. However, although STs reiterated and reinforced these procedures, students recognized that it was their physical education teacher who developed and initially enforced class policies and procedures. Therefore, STs could not be given credit for establishing their own managerial routine or behavior management plans. When asked to estimate how much time was spent being active to determine how well the STs were able to manage a class so that the majority of time was spent in activity, students consistently measured their activity at 80 to 90% of the class time. Unfortunately, the undesirable management and motivation behavior of physical activity (i.e., wall sits) as punishment for off-task behavior was reported by three of the elementary students interviewed. This consequence is inharmonious with the values and practices of the university's PETE program.

Student responses indicated they believed STs met competencies related to Standard 5, Communication, including use of student names, visual aids such as posters and videos, consistent feedback, and positive interactions with students. However, as with Management and Motivation, students believed the posters were already developed by the physical educator and the STs did not develop any of their own. With regard to Standard 6, Planning and Instruction, students reported the STs were well organized and

planned their lessons. High school students saw STs use lesson plans and all students believed the STs knew what they were going to say and do prior to the lessons. Students also indicated STs were able to give clear demonstrations and specific feedback and were dedicated to helping the students learn skills, adjusting and modifying instruction if needed.

Students were also able to address Standard 7, Student Assessment. Students reported that the STs used different assessment tools to evaluate student performance and participation. Elementary students reported the use of class questions, skills tests, and peer evaluations while the high school students reported the use of written tests, fitness skills tests, and projects. One high school ST also had the students use self-assessment by videotaping the students' performance and having them evaluate themselves.

The most difficult standard to obtain information regarding STs from students was Standard 8, Reflection. However, students were able to report that STs changed their teaching approaches during class or for the next class (e.g., moving from telling students what to do to showing them what to do, changing explanations). This could be the result of STs ability to identify when something was not working and make changes based on that identification, yet it is not substantive enough to report it as an assessment of ST's reflective abilities.

With regard to Standard 9, Technology, students were able to assess STs use of technology during instruction but not during planning. High school students reported STs used videos and CPR dummies for instruction and required students to develop a PowerPoint presentation in a health class and use the Internet to complete homework

assignments. One elementary student reported the use of a video for Jump Rope for Heart but no other elementary students mentioned instances where STs used technology.

Standard 10, Collaboration, was another standard that was difficult for students to assess. This standard is also the most difficult for STs to exhibit during the student teaching period. Students reported STs had little to no contact with parents and were not seen at school events.

McCullick, et al. (2008) concluded students were able to provide a partial picture regarding STs competency levels in meeting the NASPE standards. Students were unable to thoroughly address the ST's knowledge and skills in 3 of the 10 NASPE standards (i.e., Growth and Development, Technology, and Collaboration). Another limitation of students' assessment of STs competencies in this study stems from the omission of questions regarding the STs dispositions in the protocol of this study. Although the researchers were unable to provide a complete assessment, the data contributed to an overall picture of the abilities of STs. Student responses indicate STs were competent in the areas that could be realistically assessed (i.e., Content Knowledge, Diverse Learners, Management and Motivation, Communication, Planning and Instruction, Student Assessment, and Reflection) and strongest in Content Knowledge, Management and Motivation, and Planning and Instruction.

Preparation and Teaching Effectiveness of General Physical Educators in Integrated Settings

French, Jansma, and Winnick (1978) conducted an investigation to determine the undergraduate competencies which are needed by a prospective general physical educator to teach a mainstreamed (inclusion) class. Participants were separated into two groups. The first group, named the Administrative Council team, consisted of 100 randomly selected members of the New York State Council of Administrators of Health, Physical Education, and Recreation (i.e., school administrators and/or teachers, one college administrator, a state education department administrator and two college teachers). The second group, referred to as the Higher Education team, consisted of 40 chairpersons of departments of Health, Physical Education, and Recreation or their students (Special Physical Education undergraduates in a professional preparation programs within the United States).

The researchers mailed and remailed the survey to potential participants which composed of 35 undergraduate competencies for mainstreaming. The respondents were asked to rate each competency on a scale from one to six, with the rating of one representing “very important” and six representing “not important” for a physical educator to function in a mainstreamed setting. Sixty percent return rate was documented from the Administrative Council team and 80% return rate was documented from the Higher Education team. The teams’ data were compared to each other after the data from the surveys were entered into a computer with the mean, median, mode, and standard deviation calculated for each of the teams.

Both teams agreed that at the preservice undergraduate level mainstreaming competencies should be learned. The results of the mode calculations documented that 18 of the survey items were rated “very important”; 11 “important”; five “borderline;” and one item was judged both “important’ and “very important.” There were four competencies that the Higher Education team rated as more important than the Administrative Council team (a) understands normal and abnormal growth and development; (b) can develop prescriptive programs with a resource person or team; (c) can interpret evaluations, prescriptions and programs to other professionals in allied fields; and (d) can select and specify goals, aims and objectives for different learning settings. The following are results from the surveys specifically dealing with teaching skills: can modify traditional physical education activities for students with special needs ($M = 1.57$), can use numerous motivating and reinforcing techniques to obtain changes in behavior of special students ($M = 1.63$), can apply basic special physical education concepts and philosophies ($M = 1.67$), can modify the physical learning environment for individual, small and mass group participation in mainstreamed settings ($M = 1.68$), can demonstrate competencies listed above during mainstreamed student teaching experiences ($M = 1.79$), can use a variety of organizational patterns for instruction ($M = 1.82$), and can effectively use and modify selected teaching aids and/or equipment in mainstreamed settings ($M = 1.84$).

French, Jansma, and Winnick (1978) concluded a lack of specificity in wording and conceptualization of the competencies could have been a reason why some of the competencies were rated differently by members of both teams. Differences in

knowledge base and isolation from other school personnel may be reasons why there were significant differences in the teams' response. Participants were given an opportunity to write any additional competencies that he/she felt needed to be added. The following is a list of the responses: the development of compassion/rapport, pride, enthusiasm, patience and the ability to program for different chronological ages in the same class. Based on the results of this investigation there are definite competencies that general physical educators need in order to include students with disabilities into his/her program.

Bird and Gansneder (1979) investigated the preparedness of public school physical educators to meet the physical education requirements of Public Law 94-142. Participants were selected from a random sample of 912 physical educators in the state of Virginia. A 40% return rate included physical educators at the elementary ($n = 137$), junior high ($n = 100$), and high school ($n = 125$) levels. Respondents were 55% male and 45% female with a mean age of 31 years and an average of 6 years of teaching experience. The questionnaire was designed to assess perceived preparedness of physical educators to meet the physical education requirements of Public Law 94-142. Participants were asked to indicate their educational background and to evaluate their knowledge of disability, competencies to perform various program related responsibilities, and training in physical education for individuals with disabilities.

The educational background of the participants were the following: 96% had earned undergraduate degrees, 26% master's degrees, 3% educational specialist degrees, and 2% doctoral degrees; 84% had undergraduate majors and 16% had graduate majors in

physical education; at the undergraduate level, 40% had earned one to three credits and 39% earned no credits in courses focused on physical education for individuals with disabilities; at the graduate level, 12% had earned one to three credits and 82% earned no credits in courses focused on physical education for individuals with disabilities; and 79% of undergraduates and 96% of graduates had no practicum experiences specific to physical education for individuals with disabilities.

With regard to knowledge of disability, participants were asked to rate their knowledge of the “nature and causes” and “motor needs and tolerances” of 26 “conditions” associated with physical and mental disabilities. “Conditions” were selected that were most likely to be encountered in physical education and to require specially designed physical education programs. The order of participants indicating little or no knowledge regarding the nature and causes and the motor needs and tolerances of each condition was similar ($\rho = .79, p < .01$). Respondents reported knowing less about motor trends and tolerances than about the nature and causes of the condition. Eighteen of the 26 *Z* test results for differences between proportions were statistically significant ($p < .05$). Investigators reported results focused on the preparedness as measured by knowledge of motor trends and tolerances since this knowledge is essential to planning activities for students with disabilities. Over 70% reported having little or no knowledge of 5 of the 26 conditions, over 50% reported having little or no knowledge of 9 of the 26 conditions, and over 30% reported having little or no knowledge of 23 of the 26 conditions.

To assess programming competencies, participants were asked to rate their ability to perform 24 tasks adapted from national guidelines. Tasks were specifically related to planning, implementing, and evaluating physical education programs for individuals with disabilities. Participants rated their ability to perform these tasks higher than their knowledge of either the nature and causes or the motor needs and tolerances of specific disabilities. However, between 24 and 48% reported little or no ability to perform a given task and no task received more than 40% of the responses in the good or excellent categories. The majority of participants (65%) rated their formal training related to physical education for students with disabilities as poor or very poor with only 12% rating this training as good or very good.

Bird and Gansneder (1979) concluded physical educators in the state of Virginia were not adequately prepared to provide physical education services for individuals with disabilities as required by Public Law 94-142. The researchers suggested teacher preparation programs must increase the emphasis on providing physical educators with the knowledge and skills needed to provide such services.

Melograno and Loovis (1991) compared the results of comprehensive surveys conducted in Ohio in 1980 and 1988 investigating the status of physical education programs and the competencies and needs of physical educators for the provision of appropriate physical education services for students with disabilities.

In 1980, questionnaires were mailed to 950 certified general physical education teachers identified by a random, statewide selection process representing 30 of 88 counties and 35 of 318 school districts in various settings (e.g., urban, suburban, rural)

within Ohio. Following the same protocol, questionnaires were mailed to 813 certified general physical educators in 1988 with 21 counties and 22 school districts represented. Completed questionnaires were returned by 241 participants in 1980 and 242 participants in 1988, yielding return rates of 25% and 30%, respectively.

The questionnaire was developed by the investigators and the staff at the Communications Research Center at Cleveland State University. Questionnaire items were based on the rules and regulations of PL 94-142, the Education of the Handicapped Act (EHA), with the primary criteria of selecting items that indicated the extent to which teachers understood and applied the rules and regulations of the EHA and provided information regarding the teachers' perceptions of their needs, abilities, and capabilities related to implementing these rules and regulations. In 1980, the questionnaire consisted of 37 items and 150 subitems. In 1988, some items were revised slightly or eliminated, resulting in 27 items and 131 subitems. Both questionnaires covered the same seven categories, with these categories and the number of items in the 1980 and 1988 questionnaires, respectively, including: (a) experience teaching learners with special needs (3, 3); (b) existing abilities of teachers (2, 2); (c) attitudes of teachers toward students with disabilities (4, 4); (d) status of physical education programming for students with disabilities (6, 4); (e) expressed needs (9, 6); (f) limitations on students with disabilities (2, 2); and (g) demographics (11, 6).

Written permission to conduct the survey was obtained from each school district in both studies. Districts that granted permission provided the names of all certified physical education teachers within that district. Questionnaires were mailed either directly to the

physical education teachers or to a designated supervisor for distribution. A single postcard reminder was used in each study. Data for each questionnaire item were analyzed using univariate statistics, including frequencies and percentages. Independent samples across selected items of the 1980 and 1988 surveys were compared using a *t* test or chi-square statistic at the .05 level of significance.

Results indicated no significant differences between 1980 and 1988 regarding the teachers' age, gender, years of experience, and school setting. Reported experience teaching students with disabilities increased from 59 to 81% with a significant increase in the number of students with disabilities who participated in general physical education classes, $t(470)=2.79, p < .01$. The average increase reported was from 8 to 10 students with 67 and 54% of teachers indicating they had no more than 10 students with disabilities in their program in 1980 and 1988, respectively. However, the number of teachers who indicated students with disabilities do not attend their school also increased from 39 to 52% while the number responding that students with disabilities attended their school but did not participate in physical education remained statistically similar at approximately 4%. There was significant increase, 7 to 14%, in the number of teachers who reported serving on a multidisciplinary staff for the purpose of developing an individualized education program (IEP). However, this improvement is misleading considering 93 and 86% of teachers had not served in this capacity in 1980 and 1988, respectively.

Regarding the existing abilities of teachers, participants who reported completing a course or portion of a course in adapted physical education increased from 37 to 71%,

leaving 29% not completing a single course. When teachers were asked to respond yes or no to interpretive statements regarding PL 94-142, only 36 and 51% of the teachers answered all items correctly in 1980 and 1988, respectively, and no significant differences were noted for five of six items. Although responses to one item showed significant improvement, slightly less than half (49%) still answered the item incorrectly in 1988. Self perceived ratings of capability to execute responsibilities related to PL 94-142 significantly increased for six of seven responsibilities with 50 and 62% of teachers, respectively, rating themselves at least “somewhat capable.” Only 35% of the teachers had attempted to increase their knowledge and/or skills in 1980, increasing to 46% in 1988. This positive change was significant in seven of nine areas, with no significant changes noted regarding “techniques of motor assessment” and “awareness of existing curricular material.”

The reported need for additional information to work effectively with students with disabilities remained fairly constant in 1980 and 1988 at 69 and 67%, respectively, with the most common reasons across categories being “lack of program content” and “lack of specialized training.” Teachers were asked to consider nine specified areas of concern and respond as to their needs. In 1980, the four areas of greatest need identified, in descending order, were knowledge of PL 94-142, understanding the nature of specific disabilities, techniques of motor assessment, and understanding of behavior management techniques. In 1988, knowledge of PL 94-142 remained the primary need identified, followed by understanding of behavior management techniques, procedures for

organizing and conducting adapted physical education programs, and techniques of motor assessment.

Melograno and Loovis (1991) concluded that the issues identified in 1980 were reaffirmed in 1988, the status of physical education for students with disabilities had remained the same, and general physical education teachers lacked the knowledge, training, experience, and support to provide appropriate physical education services for students with disabilities. It was further concluded that deficiencies need to be remedied on a statewide basis and a plan should be devised that addresses training at the inservice and preservice levels.

LaMaster, Gall, Kinchin, and Siedentop (1998) investigated the inclusion practices of effective elementary specialists. Sampling design was purposive. Participants were 6 elementary physical education specialists (5 female and 1 male) employed in three districts in Ohio with 7 to 26 years of teaching experience. Participants were selected for the study based on their effectiveness in teaching. Five of the six teachers had participated in a previous study in which data regarding the teaching effectiveness were collected to justify the label of “effective” when referring to them. The sixth participant was not involved in the study but, similar to the other five, was well-known to the researchers through her supervision of student teachers, graduate course work, and participation in professional development projects. Participant training in teaching students with disabilities was minimal. Five of the six participants had taken one adapted physical education course during their undergraduate program and none had taken any graduate courses in adapted physical education. Any information about inclusion had

typically been acquired from staff development workshops and experiences working with students included in their physical education courses.

Two forms were used to obtain demographic information regarding the teachers and their classrooms. In addition to demographic information, each teacher was interviewed in a semi-structured format designed to give the participants a forum to share their experiences and allow the interviewer the opportunity to ask additional questions. Content validity was established by several procedures. Interview questions were developed from a roundtable discussion of current literature on inclusion and then given to two adapted physical education specialists for feedback on content and presentation. A final list of questions was checked for comprehension and interpretation by several elementary physical education specialists not participating in the study. Interviewers also discussed the final questionnaire items to assure consistency in technique.

Participants were provided interview questions prior to the interview so they could reflect on their experiences and ideas. Interviews were recorded and transcribed verbatim for analysis. Transcripts were read independently by the four researchers who each identified and coded emerging themes. After independent identification of themes, the researchers collectively compared themes to reduce them to a common set of four themes: (a) multiple teaching styles; (b) student outcomes; (c) teacher frustrations and dissatisfactions; and (d) differences in inclusion practices. Each of the researchers was then assigned one of the four themes and read all transcripts independently again to identify and categorize statements into an assigned theme before sharing the identified and categorized statements with each other to assure reliability of theme identification.

When a discrepancy in interpretation arose, researchers contacted the teacher for clarification of meaning.

Results within the theme of multiple teaching styles indicated the complexity of teaching in an inclusive classroom had managerial and instructional implications for the participants. Teachers reported implementing a variety of management strategies, teaching styles, grouping plans, and lesson plan and equipment modifications. Management strategies effective for coping with difficult situations with students with disabilities had ancillary costs, including reduced time and attention for students without disabilities. Direct instruction, individualized instruction, peer teaching and modifications to lesson plans and equipment were the most used teaching styles and strategies reported. However, a lack of knowledge regarding learning disabilities and preparation to cope with a range of inclusion students made accommodating different learning styles difficult to achieve and extensive modifications resulted in feelings of preparing and teaching *“two lessons at the same time”* and *“a lot more hassle... trying to keep one student busy”* (LaMaster, et. al, 1998, p. 72).

The most positive student outcome identified was socialization, for both students with and without disabilities. However, teachers expressed concerns as to whether these positive socialization outcomes occurring in the physical education setting would generalize to other, non-structured and less supervised, settings. Skill and fitness outcomes seemed limited and varied with type and severity of disability. Teachers also questioned the physical benefits possible in inclusive classes, even with adaptations and modifications, wondering if students are learning anything they would not learn in

adapted physical education. The additional time needed for students with disabilities to perform tasks and demonstrate improvement and the absence or infrequency of assistance such as aides and adapted physical education specialists were also identified as barriers to reaching positive student outcomes.

All teachers expressed frustration and dissatisfaction with their lack of training during their preservice years, inability to divide time evenly between students with and without disabilities, absence or infrequent assistance provided by aides and/or adapted physical education specialists, and limited administrative assistance. The majority of the teachers had taken one adapted physical education class during teacher preparation, considered their undergraduate preparation inappropriate for both the duties required of them in teaching physical education and the growing number of students who need specialized help in their physical education classes, and shared feelings of inadequacy and a lack of familiarity with specific needs and disabilities. The inability to divide time evenly between students with and without disabilities was attributed to the inordinate amount of time required providing instruction and managing the behavior of students with disabilities and the absence or infrequent assistance provided by aides and/or adapted physical education specialists. Teachers also questioned whether the time spent in physical education was in the best interest of the students with disabilities and if that time could be spent more appropriately.

For the districts and schools in this study, inclusion practices and how they impact the lives of the elementary education specialists varied significantly. At one end of the sample, Bob (a pseudonym) had 2 to 4 students with disabilities per class in 6 of 20

classes with an average class size of 24 students, none of his students had individual education programs (IEPs) for physical education, there were no aides to assist students with disabilities in physical education, and he had no access to an adapted physical education specialist for either consultative or direct service teaching assistance. Further, Bob's interview revealed that he had limited knowledge of the categories of disabilities and the laws related to physical education for students these disabilities.

Jane (also a pseudonym) had 3 to 4 students with disabilities per class in 17 of 17 classes with an average class size of 24 students, approximately one-fourth these students had IEPs for physical education, and she had the assistance of a full-time aide in one class and a part-time aide in another, as well as, access to the services of an adapted physical education specialist. In addition, Jane had once per week classes with students who required small-group instruction and tutoring. Jane's school also used a multi-level approach with an intervention team developed to assess the needs of students identified as "at-risk" in any area of the curriculum and develop, implement, and monitor a plan to meet those needs within a range of alternative solutions within the school. As a result, Jane appeared much more knowledgeable regarding categories of disabilities, the laws related to physical education for students these disabilities, and programs available to meet the special needs of students.

Differences in how IEPs were developed and the involvement of the physical education teacher were also identified. Only 1 of the 6 participants was responsible for writing and evaluating the physical education goals for the IEP. Four participants taught students with IEPs developed and evaluated by the adapted physical education specialist

and 1 participant had no students with an IEP that included physical education. The role of the adapted physical education specialists in these districts was primarily consultative services which varied from weekly to monthly in frequency and from 30 to 60 minutes in length.

LaMaster, et. al (1998) reached 4 major conclusions from the data provided in this study. First, previous researchers identified these teachers as effective, and observations of their everyday teaching assures that these teachers put forth substantial effort to provide quality physical education services for the students with disabilities included in their classes; yet these teachers still struggle constantly to find methods of organization and instruction to meet the needs of these students. Second, the resources and support personnel that are supposed to be provided to assist general education teachers in the inclusion of students with disabilities have not been made available. Third, all the teachers in this study, no matter how effective or experienced they may be, were inadequately prepared to meet the challenges of inclusion and understood and felt that lack of preparation. Fourth and finally, the researchers pose the following question considering the purposeful nature of the sample of participants in this study and the frustration, lack of support, and feelings of inadequacy reported: *“If this is what is going on in the gymnasiums of effective teachers in good schools with ample resources, what is going on in other places?”* (p. 79).

Dillon (2005) investigated elementary physical education teachers’ beliefs regarding which adapted physical education competencies should be emphasized within PETE programs, elementary physical education teachers’ beliefs regarding which adapted

physical education competencies were emphasized within their own PETE programs, and whether a discrepancy exists between elementary physical education teachers' beliefs regarding which adapted physical education competencies should be emphasized within PETE programs and which competencies were emphasized within their own PETE programs. One thousand potential participants within the state of Virginia were randomly selected from a physical education equipment catalog mailing list of physical educators. The *Physical Educators' Beliefs Regarding Adapted Physical Education Competencies* survey was sent to all 1000 potential participants, followed by a reminder postcard one week later. All 1000 potential participants were asked to complete and return Section I of the survey. In addition, individuals who met the following criteria for inclusion in the study were asked to complete and return Section II of the survey: (a) held a valid teaching license in physical education; (b) had a minimum of 1 but less than 10 years experience teaching general physical education; and (c) had a minimum of 1 year of experience teaching individuals with disabilities in a general physical education environment. Of the 1000 surveys distributed, 38 were returned as undeliverable and 187 were returned completed. Of the completed surveys, 181 provided usable data with only Section I completed in 88 of these surveys and both Sections I and II completed in 93 of these surveys yielding a return rate of 18.8% for the study. This 18.8% represented over 8% of the total population of elementary physical educators (N = 1100) teaching in public schools in the state of Virginia.

The survey instrument, *Physical Educators' Beliefs Regarding Adapted Physical Education Competencies*, consisted of two sections. Section I included general questions

and a forced ranking scale. General questions regarded the participants' teaching assignment, provision of physical education services, preservice preparation, and professional resources. The forced ranking scale contained a list of adapted physical education content areas, including curriculum development, assessment, instructional design and planning, teaching, consultation, and program evaluation. These content areas were selected because they were identified in previous studies and commonly addressed within PETE programs in the state of Virginia. Section II included a list of adapted physical education specific competencies developed from the *Adapted Physical Education National Standards* (Kelly, 2001) and the research-based concerns of LaMaster, et. al (1998) and Lienert, Sherrill, and Myers (2001).

Participants were asked to indicate their beliefs regarding which competencies were emphasized within their PETE programs, as well as, which competencies should be emphasized within PETE programs by rating the competencies as (a) essential, (b) desirable, (c) optional, or (d) not important in the preparation of elementary physical education teachers for the inclusion of students with disabilities in general physical education. Four procedures establishing content-related measurement validity and reliability were reported for the instrument.

Data from Section I were analyzed using descriptive statistics and a Friedman's analysis of variance by ranks was conducted to determine if any one PETE content area was ranked as more important than another by the practicing general physical educator. The order of importance of the identified PETE content areas was determined using follow-up testing through Wilcoxon matched-pairs signed-ranks tests with Bonferroni

corrections to alpha ($\alpha = .01$). Two analyses of variance were completed to determine if the data for physical educators with different majors/degrees and from different geographical regions could be combined in the analyses for the hypotheses. Data from Section II were recoded from nominal (essential, desirable, optional, not important) to ordinal (1, 2, 3, 4) scales and analyzed using a Friedman's analysis of variance by ranks to determine how important each competency was perceived to be within their PETE program and how important each competency was believed should have been within their PETE program. Follow-up testing through Wilcoxon matched-pairs signed-ranks tests with Bonferroni corrections to alpha ($\alpha = .01$) were again used to determine the order of the competencies based on the physical educators' beliefs. Mean scores were used to identify which competencies were believed to be essential (mean scores of 0 to 1.49), desirable (mean scores of 1.50 to 2.49), optional (mean scores of 2.50 to 3.49), and not important (mean scores of 3.5 to 4.0). Finally, to determine if a discrepancy existed between the physical educators' beliefs regarding how important each competency should be and how important each competency was within their PETE program, a Wilcoxon matched-pairs signed-ranks test was conducted.

Participants in this study represented a variety of regions across the state of Virginia and reported teaching in urban (26.4%), rural (31.9%), and suburban districts (41.7%). The majority of participants reported their current position to be teaching at the elementary level only (73%), however, some reported teaching at the preschool/early childhood and elementary level (25.7%) and at the elementary and middle school level (1.4%). Years of teaching experience ranged from 1 to 10 years with an average of 5.5

years ($SD = 3.25$). Similarly, the years of experience teaching students with disabilities ranged from 1 to 10 years with an average of 5.4 years ($SD = 3.28$). Participants reported teaching an average of 526 students per week with the total number of students per school ranging from 200 to 900 students. The average number of students with disabilities taught by participants was 15, with a range of 1 to 116 students.

All of the participants reported having earned a bachelor's degree with majors in health and physical education (52.5%), physical education (20.3%), education (10.2%), kinesiology (8.5%), and recreation (8.5%). Also, 31.1% reported having earned a Master's degree with majors in education (26.1%), physical education (17.4%), administration (17.4%), adapted physical education (8.7%), exercise physiology (8.7%), health (8.7%), science (4.3%), special education (4.3%) and sports medicine (4.3%). The majority of participants (72.6%) indicated teaching students with disabilities during their student teaching experiences, however, only 12.2% reported being included in the development of the IEP during that internship. A vast majority of participants (93.1%) reported a course on physical education for students with disabilities was required within their PETE program and 66.7% reported that the course contained a practicum component. In addition, 14 participants reported having taken a second course related to physical education for students with disabilities with 53.8% indicating that practicum experiences were included in this second course. Only one participant reported having taken a third course related to physical education for students with disabilities which included a practicum. Although 93.1% of participants reported completing a course related to physical education for students with disabilities, only 54.2% reported feeling

competent to provide physical education services to their students with disabilities. When asked which content areas PETE programs should focus on more relative to adapted physical education, participants ranked the choices provided in the following order: teaching (89.2%), instructional design and planning (68.9%), assessment (67.6%), curricular development (66.2%), consultation (52.7%), and program evaluation (45.9%).

With regard to beliefs about how important each competency should be within PETE programs, participants believed that 24 of the 47 competencies were essential and the remaining 23 of 47 competencies were desirable and should be presented within PETE programs. A significant ordering of the 47 adapted physical education competencies was confirmed by the Friedman analysis of variance of ranks, $\chi^2 (46, N = 70) = 543.88$, $p < .001$). Results from follow-up testing using Wilcoxon matched-pairs signed-ranks tests with Bonferroni corrections to alpha ($\alpha = .01$) established four groupings for how important adapted physical education competencies should be within PETE programs.

With regard to beliefs about how important each competency was within their own PETE programs, participants believed that none of the 47 competencies were presented as essential, 42 of the 47 competencies were addressed as desirable, and the remaining 5 of 47 competencies were optional within their PETE programs. A significant ordering of the 47 adapted physical education competencies was confirmed by the Friedman analysis of variance of ranks, $\chi^2 (46, N = 70) = 370.24$, $p < .001$). Results from follow-up testing via Wilcoxon matched-pairs signed-ranks tests with Bonferroni corrections to alpha ($\alpha = .01$) established seven groupings for how importantly each of the adapted physical education competencies was treated within the participants' PETE programs.

Results of a Wilcoxon matched-pairs signed-ranks tests with Bonferroni corrections to alpha ($\alpha = .01$) identified a discrepancy between elementary physical education teachers' beliefs regarding how importantly each of the adapted physical education competencies should be emphasized within PETE programs and how importantly each of the competencies were emphasized within their own PETE programs for all 47 of the adapted physical education competencies.

Dillon (2005) concluded that elementary physical educators believed all 47 competencies were either essential or desirable in the provision of physical education services to students with disabilities, with 23 selected adapted physical education competencies identified as more important than others, and that these competencies should be addressed as such within PETE programs. Elementary physical educators also believed selected adapted physical education competencies were presented as more important than others within their own PETE programs, however, none of these competencies were believed to have been presented as essential to the provision of physical education services to students with disabilities. Therefore, practicing elementary physical educators believed that adapted physical education competencies were more important to the provision of services to students with disabilities than their professional preparation had indicated.

Preparation and Teaching Effectiveness of Adapted Physical Educators

Little research has been published on the preparation and teaching effectiveness of adapted physical education specialists. Previous studies have been limited to the preparation, job demographics, and decision-making roles of adapted physical educators

(Kelly & Gansneder 1998), the prevalence-based needs for APE teachers in the US (Zhang, Kelly, Berkey, Joseph, & Chen, 2000) and descriptive analyses of professional preparation programs at the master's (Ellery & Stewart, 2000) and doctoral levels (Dunn & McCubbin, 1991; Ellery & Stewart, 2000; Jansma & Surburg, 1995; McCubbin & Dunn, 1999; Porretta, Surburg, & Jansma 2002; Zhang, Joseph, & Horvat, 1999). For the purpose of the present study, research findings presented in this review were limited to the roles and responsibilities adapted physical educators were being asked to perform and the perceived quality of preparation provided to perform these roles.

Kelly and Gansneder (1998) conducted the first national profile of which competencies practicing adapted physical education teachers believed should be emphasized by PETE programs to adequately prepare future teachers. Participants were general and adapted physical educators across the United States. Sampling design was purposive. Members of the National Consortium for Physical Education and Recreation for Individuals with Disabilities (NCPERID) were asked to provide names and addresses of adapted physical educators who were qualified to design and implement physical education programs for students with disabilities. A proportionate sample of 575 adapted physical educators were identified from the 50 states, as determined by the population size of each state. Unreturned and incomplete surveys resulted in a return rate of 51% ($N = 293$). The typical participant reported the following: (a) an undergraduate degree with a major in physical education; (b) a master's degree with a major in physical education; (c) an approximate 10 years experience teaching physical education to individuals with

disabilities; (d) a job title that indicated specialization in adapted physical education; and (e) a state certification or endorsement in adapted physical education, where offered.

Participants were asked to consider and divide their total preparation coursework across four categories (i.e., scientific foundations, behavioral and educational foundations, planning and implementation, and professional development) and report the emphasis received and emphasis desired for each category. These four categories were further divided into subcategories for which participants were asked to specify the desired emphasis that would help them meet their current job responsibilities.

Based on the results of the investigation, participants desired the greatest emphasis on increased professional preparation in planning and implementation (37.6%), including curriculum development (6.4%), assessment (6.8%), instructional planning (6.9%), teaching (9.8%), consultation and staff development (5.2%), and evaluation (5.4%). Teaching was the highest subcontent area identified.

CHAPTER III

METHOD

The purpose of this investigation was to determine, and then compare and contrast, the performance-based teaching behaviors of effective practitioners in three different environments: (a) general physical educators who work with students without disabilities; (b) general physical educators who work with students with disabilities in an integrated setting; and (c) adapted physical educators who work with students with disabilities in a segregated setting. Investigators obtained approval of the study through the University's institutional review board (IRB) process (see Appendix A). A mixed methods design using both qualitative and quantitative methods with sequential procedures was used (Creswell, 2003). This mixed methodology has been acknowledged as an effective strategy to inform practice in education by providing a complementary set of information (Creswell; Odom, et al., 2005). The methods used for this study have been described in the following sections: (a) Participants, (b) Instrument, (c) Data Collection, and (d) Data Analysis.

Participants

The sampling design was purposive. Participants ($N = 10$) were professors of master's degree programs in Adapted Physical Activity, Adapted Physical Education, and/or Special Physical Education. To qualify for participation in the present investigation, the professor had to be listed as the Project Director or Coordinator for a Personnel

Preparation grant awarded by the Office of Special Education Programs under the Individuals with Disabilities Education Act during at least one of the following fiscal years: 2004, 2005, and/or 2006.

Instrument

The questionnaire, *Performance-based Teaching Behaviors of General and Adapted Physical Educators* (see Appendix B), consisted of informed consent information and a combination of close-ended (rating scale) and open-ended (comment) questions. Questions were developed using a three-phase approach: (a) an in-depth review and analysis of performance-based teaching behaviors listed in the literature, the *National Standards for Beginning Physical Education Teachers* (NASPE, 2003), the *Standards for Advanced Programs in Physical Education Teacher Education* (NASPE, 2001), and the *Adapted Physical Education National Standards* (Kelly, 2006); (b) information regarding performance-based teaching behaviors obtained from interviews; and (c) validity and reliability measures. The methods used to develop the questionnaire are described in the following sections: Phase I: Review and Analysis of Literature and National Standards, Phase II: Information Obtained from Interviews, and Phase III: Validity and Reliability Measures.

Phase I: Review and Analysis of Literature and National Standards

Performance-based teaching behaviors located in the review of literature, the *National Standards for Beginning Physical Education Teachers* (NASPE, 2003), the *Standards for Advanced Programs in Physical Education Teacher Education* (NASPE, 2001), and the *Adapted Physical Education National Standards* (Kelly, 2006) were

independently reviewed by the primary investigator and 2 members of the dissertation committee to ensure each of these competencies were addressed in the questionnaire. It is important to note that, although the *National Standards for Beginning Physical Education Teachers* (NASPE, 2003) and the *Standards for Advanced Programs in Physical Education Teacher Education* (NASPE, 2001) were updated in 2008, none of these updates altered the content applicable to the questionnaire developed for the present study. Many of the 2008 updates simply combined elements from the earlier standards, reorganizing and streamlining the overall product. For example, elements within the only addition to the *Initial Physical Education Teacher Education Standards* (NASPE, 2008b), Standard 2 (Skill and Fitness Based Competence), were previously addressed in Standard 1 (Content Knowledge) of the prior initial and advanced standards (NASPE, 2003; NASPE, 2001). Also, for the purpose of this study, only the Level 4 and 5 competencies listed in Standards 7 (Curriculum Theory and Development), 8 (Assessment), 9 (Instructional Design and Planning), 10 (Teaching), 11 (Consultation and Staff Development), and 12 (Program Evaluation) of the *Adapted Physical Education National Standards* (Kelly, 2006) were addressed.

Phase II: Information Obtained from Interviews

The purpose of the interview was to identify any performance-based teaching behaviors, in addition to those already identified in specific teaching standards and the literature, which each participant used in the training and evaluation of graduate students in adapted physical education. The interview consisted of informed consent information and 9 open-ended questions (see Appendix C) developed from a review of

performance-based teaching behaviors listed in the literature, the *National Standards for Beginning Physical Education Teachers* (NASPE, 2003), the *Standards for Advanced Programs in Physical Education Teacher Education* (NASPE, 2001), and the *Adapted Physical Education National Standards* (Kelly, 2006).

Information regarding the purpose of the research, research procedures, time commitment, and primary researchers' contact information was individually emailed to each participant in September 2006. Participants were individually emailed to maintain confidentiality and to protect email addresses (Cho & LaRose, 1999; Hancock & Flowers, 2001). The participants were asked to respond to the initial email if they agreed to participate in this research investigation. Following the same email protocol, an informed consent form and a request for a time and date for the interview were individually emailed to participants who agreed to participate in the research ($N = 10$). Follow-up emails were sent until the precise date and time for each interview was determined.

Prior to each interview, informed consent information and interview questions were emailed to each participant to allow the participant to prepare thorough responses and collect any materials used in the training and evaluation of graduate students in adapted physical education that would assist in the identification of performance-based teaching behaviors addressed in his or her graduate program. Interviews were recorded on digital audiotape and transcribed for analysis. Interviews were completed in November 2006.

Data collected by the interviews were combined and independently analyzed by the primary investigator using selective coding procedures (Burnaford, Fisher, & Hobson,

2001) to identify any responses related to the purpose of the present study, specifically the performance-based teaching behaviors, during the act of teaching, of effective adapted physical educators. In order to provide a thorough list of performance-based teaching behaviors to be evaluated by participants, all performance-based teaching behaviors identified in the interview responses were included in the questionnaire.

Phase III: Validity and Reliability Measures

Content validity was established by developing the questionnaires based on performance-based standards listed in the *National Standards for Beginning Physical Education Teachers* (NASPE, 2003), the *Standards for Advanced Programs in Physical Education Teacher Education* (NASPE, 2001), and the *Adapted Physical Education National Standards* (Kelly, 2006), and the information obtained from the data collected in the interviews. Construct validity of the questionnaire instructions and instrument were determined using a validity participant group which consisted of members of a task force of the Adapted Physical Activity Council (APAC) of the American Alliance of Health, Physical Education, Recreation, and Dance (AAHPERD). This task force was assembled to develop a position statement regarding the definition of a highly qualified adapted physical educator. Information regarding the purpose of the research, research procedures, time commitment, primary researchers' contact information, an informed consent statement, and the questionnaire were emailed to task force members in March 2008. To determine construct validity, 3 professionals in adapted physical activity on this task force examined the questionnaire and provided feedback.

Internal consistency, or the extent to which all items on a scale or subscale measure the same variable, was analyzed using Cronbach's alpha (Thomas, Nelson, & Silverman, 2005). Cronbach's alpha was selected for the following reasons: (a) only a single sample is required in pilot testing; (b) it is easily programmed for computer analysis; (c) it is thought to have a high degree of accuracy; and (d) items which have a low correlation may be modified or removed to increase scale and instrument reliability (Kerlinger, 1986; Shelly, 1984). Cronbach's alpha correlation coefficient correlates each item on a questionnaire with every other item and the overall score to determine the homogeneity of the total instrument and any subscales. Instruments with high alpha values are measuring one attribute, rather than many. A coefficient alpha of at least 0.7 has been suggested as acceptable for newly developed measures (Burns & Grove, 1993), whereas others have suggested 0.6 (Gersten, et al., 2005; Nunnally & Bernstein, 1994; Shadish, et al., 2002). For the purpose of the present study, a coefficient alpha of at least 0.7 was required for each construct or category, specifically (a) curricular knowledge; (b) content knowledge; (c) assessment; (d) planning and management; (e) instruction; (f) communication; (g) technology; (h) methods of inquiry; (i) collaboration, reflection, leadership, and professionalism; or (j) mentoring, peer/student teaching. Internal consistency was calculated using item-to-item correlation, item-to-total correlation, coefficient alpha, and any subscale items that were assigned *a priori*. Participants who completed the questionnaire for the reliability, or internal consistency, measures were 9 practitioners (3 in general physical education and 6 in adapted physical education) who met the following criteria: (a) currently teaching general physical education or adapted

physical education; (b) currently certified in general physical education or adapted physical education; and (c) held either a Bachelors degree with 5 years experience teaching or a Master's degree or higher with 3 years teaching experience.

Data Collection

Information regarding the purpose of the research, research procedures, time commitment, primary researchers' contact information, an informed consent statement, and the questionnaire were individually emailed to participants in June 2008 (see Appendix B). Participants were individually emailed to maintain confidentiality and to protect email addresses (Cho & LaRose, 1999; Hancock & Flowers, 2001). Following the same protocol, a second email was individually sent to all nonresponding participants after a 1-month period, and a third sent to all remaining nonrespondents after a 2-month period. Participants were asked to rank the importance of each of the 145 teaching behaviors for each of the three physical education environments. The following scale was provided for participants to use for ranking: 1 (not important), 2 (somewhat important), 3 (important), 4 (very important), and NA (not applicable). A section for comments was provided at the end of each section and at the end of the questionnaire for any additional comments the participant wanted to include. Acceptance of questionnaires was terminated September 2008. Six questionnaires were returned for a return rate of 60%.

Data Analysis

Data were analyzed using descriptive and nonparametric statistics. To determine differences in the rated importance of teaching behaviors between the three physical education teaching environments in each of the 10 categories of teaching behaviors, sums

of each participant's rankings for each of the environments were calculated for each of the categories and analyzed using a Friedman nonparametric test for related samples (Thomas, Nelson, & Silverman, 2005). Wilcoxon matched-pairs signed-ranks tests with Bonferroni corrections to alpha ($\alpha = .01$) were used when differences between mean ranks were identified to determine which pairs of differences between mean ranks were significant, and thus the likely source of any significant Friedman tests.

To determine which teaching behaviors were identified as those rated between "important" and "very important" for effective physical educators in the three physical education teaching environments, sums of all participants' rankings regarding the teaching behaviors of effective physical educators in each of the three environments were calculated for each of the 145 individual items within the 10 categories of teaching behaviors. For items that were ranked by all six participants, behaviors that received a sum of 22, 23, or 24 (at least 90% of the possible sum of 24), were identified by the investigator as those rated between "important" and "very important" for effective physical educators in that teaching environment. For items that were ranked by only four or five of the six participants, these criteria were adjusted to 15 or 16 (at least 90% of the possible sum of 16) and 18, 19, or 20 (at least 90% of the possible sum of 20), respectively.

To determine differences in the rated importance of teaching behaviors between the three physical education teaching environments within the 10 categories of teaching behaviors, sums of all participants' rankings regarding the teaching behaviors of effective physical educators in each of the three environments were compared across each of the

145 individual items within the 10 categories of teaching behaviors. For items that were ranked by all six participants, differences of 4 or more points between the sums were used to identify differences between the three physical education teaching environments. The number four was chosen as the criterion for identifying differences for these items because it is the difference between a perfect score of 24 (6 participants ranked the behavior as 4, “very important”) and the score of 20 (a majority of participants ranked the behavior as 3, “important” and the remaining 2 participants ranked the behavior as a 4, “very important”).

For items that were ranked by only five of the six participants for each of the three environments across the item, this criterion was adjusted to a difference of 3 or more points between the sums. The number three was chosen as the criterion for identifying differences for these items because it is the difference between a perfect score of 20 (5 participants ranked the behavior as 4, “very important”) and the score of 17 (a majority of participants ranked the behavior as 3, “important” and the remaining 2 participants ranked the behavior as a 4, “very important”). The number three was also used as criterion for identifying differences between the sums of items that were ranked by only four of the six participants for each of the three environments across the item because it is the difference between a perfect score of 16 (4 participants ranked the behavior as 4, “very important”) and the score of 13 (a majority of participants ranked the behavior as 3, “important” and the remaining participant ranked the behavior as a 4, “very important”).

For items that were ranked by a combination of five and six participants for each of the three environments across the item (e.g., one environment was ranked by five

participants and the other two environments were ranked by all six for that item), percentages were calculated and compared to determine differences between the three physical education teaching environments. Differences of 17 or more between the percentages were used to identify differences between the three physical education teaching environments. The number 17 was chosen as the criterion for identifying differences for these items because it is the same as the criterion of 4 or more points used to identify differences for items rated by all six participants, that is the difference between a perfect score of 100% (6 participants ranked the behavior as 4, “very important”) and 83% (a majority of participants ranked the behavior as 3, “important” and the remaining 2 participants ranked the behavior as a 4, “very important”).

CHAPTER IV

RESULTS

The purpose of this investigation was to determine, and then compare and contrast, the performance-based teaching behaviors of effective practitioners in three different environments: (a) general physical education (GPE) teachers who work with students without disabilities; (b) GPE teachers who work with students with disabilities in an integrated setting; and (c) adapted physical education (APE) teachers who work with students with disabilities in a segregated setting. Results are reported in the following sections: (a) Curricular Knowledge; (b) Content Knowledge; (c) Assessment; (d) Planning and Management; (e) Instruction; (f) Communication; (g) Technology; (h) Methods of Inquiry; (i) Collaboration, Reflection, Leadership, and Professionalism; (j) Mentoring, Peer/Student Teaching, and Paraprofessionals; and (k) Summary.

Curricular Knowledge

No statistically significant differences were identified between the three teaching environments regarding Curricular Knowledge. Curricular Knowledge behaviors were identified as those rated between “important” and “very important” for effective physical educators in each of the three environments are presented in Table 1, *Curricular Knowledge Teaching Behaviors of Effective Physical Educators*.

Differences in the rated importance of teaching behaviors between the three teaching environments were identified in 3 of the 6 subcategories (50%) regarding Curricular

Knowledge. The only item rated as more important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities was: develops learning objectives based on federal legislation (e.g., NCLB, IDEA) and professional guidelines established by national organizations (e.g., NASPE). None of the items were rated as less important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities.

Differences rated as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students without disabilities were:

1. develops learning objectives based on: federal legislation (e.g., NCLB, IDEA) and professional guidelines established by national organizations (e.g., NASPE); and
2. differentiates the merits of several curricular models and selects and implements the most appropriate model to match learner's needs and contextual variables (e.g., climate, region, facilities), adapting it if necessary.

The only item rated as less important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students without disabilities was: develops learning objectives based on the local curriculum.

The only item rated as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students with disabilities in an integrated setting was: develops learning objectives based on federal legislation (e.g., NCLB, IDEA) and professional guidelines established by

national organizations (e.g., NASPE). The only item rated as less important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students with disabilities in an integrated setting was: develops learning objectives based on the local curriculum.

Table 1.

Curricular Knowledge Teaching Behaviors of Effective Physical Educators

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Develops learning objectives based on the following:			
Federal legislation (e.g., NCLB, IDEA) and professional guidelines established by national organizations (e.g., NASPE)	15 (1-4)	19 (2-4)	23* (3-4)
State legislation and professional guidelines established by state organizations (e.g., TAHPERD)	20 (3-4)	20 (3-4)	19 (2-4)
Local curriculum	22* (3-4)	21 (3-4)	18 (2-4)
Underlying goals of the curriculum	19* ^a (3-4)	19* ^a (3-4)	17 ^a (3-4)
Differentiates the merits of several curricular models and selects and implements the most appropriate model to match learner's needs and contextual variables (e.g., climate, region, facilities), adapting it if necessary.	19 (3-4)	22* (3-4)	23* (3-4)
Produces materials that articulate a sound vision, program rationale, and theory base that consistently aligns with NASPE, state, and local standards, including written documentation that is shared with constituents.	19 (3-4)	19 (3-4)	17 (2-4)

Note. GPE (A) refers to GPE teachers who work with students without disabilities, GPE (B) refers to GPE teachers who work with students with disabilities in an integrated setting, and APE (C) refers to APE teachers who work with students with disabilities in a segregated setting.

* Behaviors that received a sum of 22, 23, or 24 (at least 90% of the possible sum of 24)

^a Received ratings from only five of the six participants, criteria adjusted to 18, 19, or 20 (at least 90% of the possible sum of 20)

Content Knowledge

No statistically significant differences were identified between the three teaching environments regarding Content Knowledge. Content Knowledge behaviors identified as those rated between “important” and “very important” for effective physical educators in each of the three environments are presented in Table 2, *Content Knowledge Teaching Behaviors of Effective Physical Educators*. Differences in the rated importance of teaching behaviors between the three teaching environments were not identified in any of the 5 subcategories regarding Content Knowledge.

Table 2.

Content Knowledge Teaching Behaviors of Effective Physical Educators

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Applies a variety of concepts from disciplinary knowledge (e.g., motor development and learning, exercise science, sociology and psychology of movement, history and philosophy, pedagogy) when planning, sequencing, and implementing safe learning experiences for all learners.	21 (3-4)	21 (3-4)	22* (3-4)
Demonstrates basic motor skills with competence.	21 (3-4)	21 (3-4)	20 (3-4)
Demonstrates expertise in multiple forms of physical activity including, but not limited to, adventure activities, aquatics, dance, games, gymnastic activities, individual and group activities, martial arts, sports, as well as, functional living skills.	19 (2-4)	19 (2-4)	18 (2-4)

Table 2, cont'd

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Incorporates interdisciplinary learning experiences that allow learners to integrate knowledge, skills, and activities from multiple subject areas.	17 (2-4)	17 (2-4)	18 (2-4)
Supports and encourages learner expression through movement.	20 (3-4)	20 (3-4)	21 (3-4)

Note. GPE (A) refers to GPE teachers who work with students without disabilities, GPE (B) refers to GPE teachers who work with students with disabilities in an integrated setting, and APE (C) refers to APE teachers who work with students with disabilities in a segregated setting.

* Behaviors that received a sum of 22, 23, or 24 (at least 90% of the possible sum of 24)

Assessment

Statistically significant differences were identified between the three teaching environments regarding Assessment, $\chi^2 (2, N = 6) = 10.33, p = .006$. Results of Wilcoxon matched-pairs signed-ranks follow-up tests are presented in Table 3, *Wilcoxon Post Hoc Comparisons for Categories with Significance*. These tests revealed differences between: (a) GPE teachers who work with students without disabilities and GPE teachers who work with students with disabilities in an integrated setting ($p = .027$) and (b) GPE teachers who work with students without disabilities and APE teachers who work with students with disabilities in a segregated setting ($p = .028$). However, neither of these differences were statistically significant with Bonferroni correction (comparison-wise alpha, $\alpha = .01$). Assessment behaviors identified as those rated between “important” and “very important” for effective physical educators in each of the three environments are presented in Table 4, *Assessment Teaching Behaviors of Effective Physical Educators*.

Differences in the rated importance of teaching behaviors between the three teaching environments were identified in 9 of the 26 subcategories (35%) regarding Assessment. Differences rated as more important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities were: uses information from assessments for: making placement decisions for students; adapting instructional planning; and supports, accommodations, and/or modifications. None of the items were rated as less important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities.

Differences rated as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students without disabilities were:

1. uses curriculum-embedded evaluation (e.g., Achievement-based Curriculum, Smart Start);
2. uses information from assessments for: making placement decisions for students, developing learning objectives, adapting instructional planning, and supports/accommodations/modifications;
3. communicates assessment results to classroom teachers and other professionals/administrators; and
4. maintains records of learner performance and communicates learner progress based on appropriate indicators (e.g., IEP, report card, progress report, daily running logs, behavior charts).

The only item rated as less important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students without disabilities was: uses information from assessments for involving learners in self-assessment.

Differences rated as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students with disabilities in an integrated setting were:

1. uses curriculum-embedded evaluation (e.g., Achievement-based Curriculum, Smart Start); and
2. uses information from assessments for making placement decisions for students.

None of the items were rated as less important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students with disabilities in an integrated setting.

Table 3.

Wilcoxon Post Hoc Comparisons for Categories with Significance

Category	Sum GPE (A) – Sum GPE (B) <i>p</i>	Sum APE (C) – Sum GPE (B) <i>p</i>	Sum APE (C) – GPE (A) <i>p</i>
Assessment	.027*	.058	.028*
Planning and Management	.028*	.916	.043*
Instruction	.028*	.400	.028*
Communication	.039*	.059	.026*
Collaboration, Reflection, Leadership, and Professionalism	.028*	.043*	.027*
Mentoring, Peer/Student Teaching, and Paraprofessionals	.042*	.066	.027*

Note. GPE (A) refers to GPE teachers who work with students without disabilities, GPE (B) refers to GPE teachers who work with students with disabilities in an integrated setting, and APE (C) refers to APE teachers who work with students with disabilities in a segregated setting.

* $p < .05$. ** $p < .01$.

Table 4.

Assessment Teaching Behaviors of Effective Physical Educators

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Uses the following assessment techniques:			
Formal evaluation	21 (2-4)	22* (3-4)	24*
Informal evaluation	22* (3-4)	22* (3-4)	24*
Criterion-based evaluation	21 (3-4)	22* (3-4)	24*
Norm-referenced evaluation	20 (1-4)	22* (3-4)	20 (1-4)
Formative evaluation	20 (2-4)	20 (2-4)	22* (2-4)
Summative evaluation	21 (3-4)	21 (3-4)	23* (3-4)
Authentic evaluation	22* (3-4)	22* (3-4)	24*
Curriculum-embedded evaluation (e.g., Achievement-based Curriculum, Smart Start)	17 (2-4)	17 (2-4)	22* (3-4)
Checklist/check sheets	20 (2-4)	20 (2-4)	21 (2-4)
Rubrics	20 (2-4)	20 (2-4)	22* (3-4)
Observations	22* (3-4)	22* (3-4)	23* (3-4)

Table 4, cont'd

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Uses information from assessments for the following:			
Making placement decisions for students	9 (1-2)	17(2-4)	21 (2-4)
Determining/monitoring learner progress	22* (3-4)	22* (3-4)	24*
Involving learners in self-assessment	22* (3-4)	20 (2-4)	17 (2-4)
Developing learning objectives	20 (2-4)	22* (3-4)	24*
Adapting instructional planning	17 (2-4)	22* (2-4)	22* (2-4)
Revising program	22* (3-4)	22* (3-4)	22* (3-4)
Encouraging students to become competent members of movement cultures beyond the school setting (e.g., family, peers, and community).	23* (3-4)	23* (3-4)	24*
Motivating learners	23* (3-4)	24*	24*
Supports, accommodations, and/or modifications	19 (2-4)	24*	24*

Table 4, cont'd

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Communicates assessment results to the following:			
Students	23* (3-4)	23* (3-4)	23* (3-4)
Parents/guardians	22* (3-4)	23* (3-4)	24*
Classroom teachers	19 (2-4)	20 (2-4)	23* (3-4)
Other professionals/ administrators	19 (3-4)	21 (3-4)	24*
Maintains records of learner performance and communicates learner progress based on appropriate indicators (e.g., IEP, report card, progress report, daily running logs, behavior charts).	19 (2-4)	22* (2-4)	24*
Uses student feedback (verbal and nonverbal) to evaluate and adapt lessons and units.	21 (3-4)	21 (3-4)	21 (3-4)

Note. GPE (A) refers to GPE teachers who work with students without disabilities, GPE (B) refers to GPE teachers who work with students with disabilities in an integrated setting, and APE (C) refers to APE teachers who work with students with disabilities in a segregated setting.

* Behaviors that received a sum of 22, 23, or 24 (at least 90% of the possible sum of 24)

Planning and Management

Statistically significant differences were identified between the three teaching environments regarding Planning and Management, $\chi^2(2, N = 6) = 8.44, p = .015$. Results of Wilcoxon matched-pairs signed-ranks follow-up tests are presented in Table 3, *Wilcoxon Post Hoc Comparisons for Categories with Significance*. These tests revealed differences between: (a) GPE teachers who work with students without disabilities and GPE teachers who work with students with disabilities in an integrated setting ($p = .028$)

and (b) GPE teachers who work with students without disabilities and APE teachers who work with students with disabilities in a segregated setting ($p = .043$). However, neither of these differences were statistically significant with the Bonferroni correction (comparison-wise alpha, $\alpha = .01$). Planning and Management behaviors identified as those rated between “important” and “very important” for effective physical educators in each of the three environments are presented in Table 5, *Planning and Management Teaching Behaviors of Effective Physical Educators*.

Differences in the rated importance of teaching behaviors between the three teaching environments were identified in 8 of the 13 subcategories (62%) regarding Planning and Management. Differences rated as more important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities were:

1. demonstrates appropriate use of positive behavior supports, behavior intervention plans, and functional behavioral analyses;
2. uses appropriate strategies, services, facilities, resources, supports, and accommodations to meet special and diverse learning needs;
3. prepares individuals without disabilities for the inclusion of individuals with disabilities in the general physical education class;
4. prepares all staff for inclusion of individuals with disabilities in the general physical education class; and
5. plans programs using student medical information (i.e., the knowledge of medications) and recommends activities while avoiding contraindicated activities.

None of the items were rated as less important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities.

Differences rated as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students without disabilities were:

1. demonstrates appropriate use of the principles of applied behavior analysis to promote learning;
2. demonstrates appropriate use of positive teaching methods for maintaining and increasing student behavior (e.g., modeling; prompting; tangible, and physical activity reinforcement; token economy; contracts) in order to promote learning;
3. demonstrates appropriate use of different methods for decreasing, correcting, and redirecting undesirable behaviors (e.g., response cost, overcorrection, timeout, punishers);
4. demonstrates appropriate use of positive behavior supports, behavior intervention plans, and functional behavioral analyses;
5. uses appropriate strategies, services, facilities, resources, supports, and accommodations to meet special and diverse learning needs;
6. prepares individuals without disabilities for the inclusion of individuals with disabilities in the general physical education class;
7. prepares all staff for inclusion of individuals with disabilities in the general physical education class; and

8. plans programs using student medical information (i.e., the knowledge of medications) and recommends activities while avoiding contraindicated activities.

None of the items were rated as less important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students without disabilities.

Differences rated as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students with disabilities in an integrated setting were:

1. demonstrates appropriate use of the principles of applied behavior analysis to promote learning; and
2. demonstrates appropriate use of positive behavior supports, behavior intervention plans, and functional behavioral analyses.

The only item rated as less important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students with disabilities in an integrated setting was: prepares individuals without disabilities for the inclusion of individuals with disabilities in the general physical education class.

Table 5.

Planning and Management Teaching Behaviors of Effective Physical Educators

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Implements Local Education Agency policies with regard to safety of students and staff.	23* (3-4)	23* (3-4)	23* (3-4)
Plans for safety and risk management (e.g., proper supervision).	24*	24*	24*
Uses appropriate time spent in lesson (i.e., maximize physical activity or movement time, optimize instruction time, reduce transition time, strategies to reduce management times).	23* (3-4)	24*	24*
Demonstrates appropriate use of the principles of applied behavior analysis to promote learning.	15 (2-3)	18 (2-4)	23* (3-4)
Demonstrates appropriate use of positive teaching methods for maintaining and increasing student behavior (e.g., modeling; prompting; tangible, and physical activity reinforcement; token economy; contracts) in order to promote learning.	20 (3-4)	22* (3-4)	24*
Demonstrates a proactive management plan, such as, designing orientation with rules and routines.	21 (3-4)	23* (3-4)	24*
Demonstrates appropriate use of different methods for decreasing, correcting, and redirecting undesirable behaviors (e.g., response cost, overcorrection, time out, punishers).	20 (3-4)	23* (3-4)	24*

Table 5, cont'd

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Demonstrates appropriate use of other management methods/models (e.g., teaching personal and social responsibility model, teacher effectiveness training, social discipline) in order to promote learning.	20 (3-4)	22* (3-4)	21 (3-4)
Demonstrates appropriate use of positive behavior supports, behavior intervention plans, and functional behavioral analyses.	13 (1-3)	19 (2-4)	23* (3-4)
Uses appropriate strategies, services, facilities, resources, supports, and accommodations to meet special and diverse learning needs.	15 (2-3)	22* (3-4)	23* (3-4)
Prepares individuals without disabilities for the inclusion of individuals with disabilities in the general physical education class.	14 (2-3)	23* (3-4)	15 ^a (1-4)
Prepares all staff for inclusion of individuals with disabilities in the general physical education class.	9 ^a (1-3)	17 ^a (2-4)	16 ^a (1-4)
Plans programs using student medical information (i.e., the knowledge of medications) and recommends activities while avoiding contraindicated activities.	18 (1-4)	23* (3-4)	24*

Note. GPE (A) refers to GPE teachers who work with students without disabilities, GPE (B) refers to GPE teachers who work with students with disabilities in an integrated setting, and APE (C) refers to APE teachers who work with students with disabilities in a segregated setting.

* Behaviors that received a sum of 22, 23, or 24 (at least 90% of the possible sum of 24)

^a Received ratings from only five of the six participants, criteria adjusted to 18, 19, or 20 (at least 90% of the possible sum of 20)

Instruction

Statistically significant differences were identified between the three teaching environments regarding Instruction, $\chi^2 (2, N = 6) = 9.33, p = .009$. Results of Wilcoxon matched-pairs signed-ranks follow-up tests are presented in Table 3, *Wilcoxon Post Hoc Comparisons for Categories with Significance*. These tests revealed differences between: (a) GPE teachers who work with students without disabilities and GPE teachers who work with students with disabilities in an integrated setting ($p = .028$) and (b) GPE teachers who work with students without disabilities and APE teachers who work with students with disabilities in a segregated setting ($p = .028$). However, neither of these differences were statistically significant with the Bonferroni correction (comparison-wise alpha, $\alpha = .01$). Instruction behaviors identified as those rated between “important” and “very important” for effective physical educators in each of the three environments are presented in Table 6, *Instruction Teaching Behaviors of Effective Physical Educators*.

Differences in the rated importance of teaching behaviors between the three teaching environments were identified in 29 of the 62 subcategories (47%) regarding Instruction. Differences rated as more important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities were:

1. uses instructional strategies based on: program goals (e.g., IEP, curriculum goals), learner needs (e.g., motivation levels, attention span, distractibility), and learner background;

2. adapts instruction based on all students needs, including: activities/games/sports, task analysis procedures, instructional routines, environment, equipment, class groups/formations, student-to-teacher ratio, use of cues/prompts, rules, feedback, assistive devices to enhance participation in physical education, and various mobility aids to enhance participation in physical education; and
3. implements a continuum of least restrictive environments in physical education.

None of the items were rated as less important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities.

Differences rated as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students without disabilities were:

1. uses instructional strategies based on: program goals (e.g., IEP, curriculum goals), learning styles (e.g., auditory, visual, kinesthetic), learner needs (e.g., motivation levels, attention span, distractibility), learner background, and outcome of performance;
2. demonstrates high levels of student engagement with the use of techniques to make learning tasks meaningful and successful, including: task analysis procedures, transitions, pacing of activities, and cues and prompts;
3. adapts instruction based on all students needs, including: activities/games/sports, task analysis procedures, start and stop signals, instructional routines, sequence of activities, environment, equipment, student-to-teacher ratio, use of cues/prompts,

- rules, feedback, assistive devices to enhance participation in physical education, and various mobility aids to enhance participation in physical education; and
4. implements a continuum of least restrictive environments in physical education.

Differences rated as less important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students without disabilities were:

1. demonstrates high levels of student engagement with the use of class groups and formations to make learning tasks meaningful and successful; and
2. implements lessons that promote: factual recall, reflective thinking, and creative thinking.

Differences rated as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students with disabilities in an integrated setting were:

1. demonstrates high levels of student engagement with the pacing of activities to make learning tasks meaningful and successful; and
2. adapts instruction based on all students needs, including: assistive devices to enhance participation in physical education, and various mobility aids to enhance participation in physical education.

Differences rated as less important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students with disabilities in an integrated setting were:

1. demonstrates high levels of student engagement with the use of class groups and formations to make learning tasks meaningful and successful; and
2. implements lessons that promote: factual recall, creative thinking, and respect for individual and cultural differences.

Table 6.

Instruction Teaching Behaviors of Effective Physical Educators

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Uses instructional strategies based on:			
Program goals (e.g., IEP, curriculum goals)	14 ^a (2-4)	23* (3-4)	24*
Safety issues	24*	24*	24*
Developmental levels	22* (3-4)	22* (3-4)	22* (3-4)
Holistic philosophy (i.e., cognitive, affective, and psychomotor development)	18 (2-4)	19 (2-4)	20 (2-4)
Learning styles (e.g., auditory, visual, kinesthetic)	19 (3-4)	21 (3-4)	24*
Learner needs (e.g., motivation levels, attention span, distractibility)	18 (2-4)	20* ^a	24*
Learner background	16 (1-4)	21 (3-4)	24*
Outcome of performance	18 (2-4)	20 (2-4)	22* (3-4)
Correct process of the skill or technique	22* (3-4)	21 (3-4)	21 (3-4)

Table 6, cont'd

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Demonstrates high levels of student engagement when the following techniques are used to make learning tasks meaningful and successful.			
Developmentally appropriate practices	23* (3-4)	23* (3-4)	23* (3-4)
Level of difficulty	22* (3-4)	23* (3-4)	23* (3-4)
Various teaching styles (i.e., command, reciprocal, task, individualized, convergent, divergent or exploratory, and cooperative learning)	21 (2-4)	22* (2-4)	19 (2-4)
Task analysis procedures (i.e., duration, timing)	19 (2-4)	22* (2-4)	24*
Start and stop signals	21 (3-4)	21 (3-4)	23* (3-4)
Instructional routines	20 (3-4)	22* (3-4)	23* (3-4)
Transitions	20 (3-4)	23* (3-4)	24* (3-4)
Anticipates preconceptions	18 (2-4)	21 (2-4)	21 (2-4)
Sequence of activities	19 (3-4)	20 (3-4)	20 (2-4)
Pacing of activities	18 (2-4)	18 (2-4)	22* (2-4)
Class groups and formations	21 (3-4)	22* (3-4)	16 (2-4)
Remembers and refers to students by their name	21 (3-4)	21 (3-4)	23* (3-4)
Cues and prompts (e.g., verbal instructions, demonstrations, physical guidance, environmental)	20 (3-4)	23* (3-4)	24*

Table 6, cont'd

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Feedback (e.g., specific, immediate, positive, corrective)	20 (3-4)	22* (3-4)	23* (3-4)
Checks for learner understanding	22* (3-4)	23* (3-4)	24*
Ecological techniques	20 (3-4)	21 (3-4)	22* (3-4)
Adapts the following based on all students' needs:			
Activities, games, and sports	20 (3-4)	24*	24*
Level of difficulty	18* ^a (3-4)	20* ^a	20* ^a
Use of teaching styles (i.e., command, reciprocal, task, individualized, convergent, divergent or exploratory, and cooperative learning)	19 (2-4)	21 (2-4)	21 (2-4)
Task analysis procedures	19 (3-4)	23* (3-4)	24*
Start and stop signals	19 (2-4)	21 (3-4)	23* (3-4)
Instructional routines	18 (2-4)	22* (3-4)	23* (3-4)
Sequence of activities	16 (2-4)	18 (2-4)	20 (2-4)
Pace of activities	18 (2-4)	20 (3-4)	21 (3-4)
Test-taking	16 (2-4)	18 (2-4)	19 (2-4)
Environment	18 (2-4)	22* (3-4)	24*
Equipment	17 (2-4)	21 (3-4)	24*

Table 6, cont'd

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Class groups and formations	17 (2-4)	21 (3-4)	19 (2-4)
Student-to-teacher ratio	15 (2-4)	22* (3-4)	24*
Use of cues and prompts (e.g., verbal directions, demonstrations, physical guidance, environmental)	17 (2-4)	21 (3-4)	24*
Rules	16 (2-4)	21 (3-4)	22* (3-4)
Feedback	18 (2-4)	22* (3-4)	23* (3-4)
Assistive devices to enhance participation in physical education (e.g., physical positioning, modified seating, canes, crutches, walkers, orthotic and prosthetic devices, PECS, or other communication devices).	8 (1-2)	20 (3-4)	24*
Various mobility aids to enhance participation in physical education (e.g., wheelchairs, scooters, bicycles, tricycles, devices for individuals with visual impairments).	7 (1-2)	20 (3-4)	24*
Demonstrates high levels of student engagement in meaningful learning tasks that lead to student competence in fundamental skills and proficiency in a few movement forms.	14 ^b (3-4)	14 ^b (3-4)	13 ^b (3-4)

Table 6, cont'd

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Implements lessons that promote:			
Critical thinking	22* (3-4)	22* (3-4)	20 (3-4)
Problem solving	22* (3-4)	21 (3-4)	21 (3-4)
Decision making	22* (3-4)	21 (3-4)	21 (3-4)
Individual goal setting	21 (3-4)	22* (3-4)	22* (2-4)
Self-responsibility	23* (3-4)	23* (3-4)	23* (3-4)
Risk taking	16 (2-4)	16 (2-4)	15 (2-4)
Factual recall	17 (2-4)	18 (2-4)	13 (1-4)
Reflective thinking	22* (3-4)	20 (3-4)	17 (1-4)
Creative thinking	22* (3-4)	22* (3-4)	18 (1-4)
Curiosity	19 (2-4)	19 (2-4)	20 (3-4)
Respect for individual and cultural differences	22* (3-4)	23* (3-4)	19 (1-4)
Ethical, moral, and fair interactions	22* (3-4)	22* (3-4)	22* (3-4)
Learner reflection on prior knowledge, experiences, and skills	21 (3-4)	21 (3-4)	18 (2-4)
The adoption of a physically active lifestyle	24*	24*	24*
Continued participation in movement cultures beyond the school setting (e.g., family, peers, community)	22* (3-4)	23* (3-4)	24*

Table 6, cont'd

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Chooses varied roles in the instructional process based on the content, purpose of instruction, and the needs of learners (e.g., model, assessor, monitor, instructor, counselor, coach, facilitator).	21 (2-4)	21 (2-4)	19 (2-4)
Implements a continuum of least restrictive environments in physical education (e.g., general physical education, segregated class, peer tutoring).	10 ^a (1-4)	20 (2-4)	22* (3-4)
Models equity and fairness for all students.	24*	24*	24*

Note. GPE (A) refers to GPE teachers who work with students without disabilities, GPE (B) refers to GPE teachers who work with students with disabilities in an integrated setting, and APE (C) refers to APE teachers who work with students with disabilities in a segregated setting.

* Behaviors that received a sum of 22, 23, or 24 (at least 90% of the possible sum of 24)

^a Received ratings from only five of the six participants, criteria adjusted to 18, 19, or 20 (at least 90% of the possible sum of 20)

^b Received ratings from only four of the six participants, criteria adjusted to 15 or 16 (at least 90% of the possible sum of 16)

Communication

Statistically significant differences were identified between the three teaching environments regarding Communication, $\chi^2 (2, N = 6) = 10.57, p = .005$. Results of Wilcoxon matched-pairs signed-ranks follow-up tests are presented in Table 3, *Wilcoxon Post Hoc Comparisons for Categories with Significance*. These tests revealed differences between: (a) GPE teachers who work with students without disabilities and GPE teachers who work with students with disabilities in an integrated setting ($p = .039$) and (b) GPE teachers who work with students without disabilities and APE teachers who work with students with disabilities in a segregated setting ($p = .026$). However, neither of these

differences were statistically significant with the Bonferroni correction (comparison-wise alpha, $\alpha = .01$). Communication behaviors identified as those rated between “important” and “very important” for effective physical educators in each of the three environments are presented in Table 7, *Communication Teaching Behaviors of Effective Physical Educators*.

A difference in the rated importance of teaching behaviors between the three teaching environments was identified in 1 of the 6 subcategories (17%) regarding Communication. The only item ranked as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students with and without disabilities was: uses appropriate technology to communicate with individuals with disabilities using systems sanctioned by the American Speech-Language-Hearing Association (ASHA) including using appropriate vocabulary, sign language, Touch Talkers, laptop computers, and PECS. This item was also rated as more important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities.

Table 7.

Communication Teaching Behaviors of Effective Physical Educators

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Uses appropriate verbal, nonverbal, and/or written communication with parents, teachers, and staff.	22* (3-4)	22* (3-4)	23* (3-4)
Communicates sensitivity to ethnic, cultural, age, economic, ability, gender, and environmental differences.	22* (3-4)	22* (3-4)	22* (3-4)
Communicates managerial and instructional information in a variety of ways (e.g., bulletin boards, music, task cards, posters, video, electronic).	20 (2-4)	22* (3-4)	22* (3-4)
Models communication strategies (e.g., restating ideas and making connections, active listening, sensitivity to the effects of messages, the nonverbal cues given and received).	20 (2-4)	20 (2-4)	20 (2-4)
Provides feedback for social, behavioral, and language skills as they relate to, and are demonstrated in, a motor performance context.	18 (2-4)	19 (3-4)	21 (2-4)

Table 7, cont'd

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Uses appropriate technology to communicate with individuals with disabilities using systems sanctioned by the American Speech-Language-Hearing Association (ASHA) including using appropriate vocabulary, sign language, Touch Talkers, laptop computers, PECS.	7 ^a (1-3)	19 (3-4)	23* (3-4)

Note. GPE (A) refers to GPE teachers who work with students without disabilities, GPE (B) refers to GPE teachers who work with students with disabilities in an integrated setting, and APE (C) refers to APE teachers who work with students with disabilities in a segregated setting.

* Behaviors that received a sum of 22, 23, or 24 (at least 90% of the possible sum of 24)

^a Received ratings from only five of the six participants, criteria adjusted to 18, 19, or 20 (at least 90% of the possible sum of 20)

Technology

No statistically significant differences were identified between the three teaching environments regarding Technology. Further, no behaviors listed under Technology were identified as those rated between “important” and “very important” for effective physical educators in each of the three environments. This information is presented in Table 8, *Technology Teaching Behaviors of Effective Physical Educators*. Differences in the rated importance of teaching behaviors between the three teaching environments were not identified in any of the 3 subcategories regarding Technology.

Table 8.

Technology Teaching Behaviors of Effective Physical Educators

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Uses of technology to enhance teaching (e.g., PowerPoint, Excel, PDAs, e-portfolios).	15 (1-4)	15 (1-4)	16 (1-4)
Uses technology to regularly collect data for ongoing curricular and student assessment.	15 (1-4)	15 (1-4)	16 (1-4)
Encourages students to explore the varied uses of technology as it relates to developing and leading physically active lifestyles.	17 (1-4)	17 (1-4)	15 (1-3)

Note. GPE (A) refers to GPE teachers who work with students without disabilities, GPE (B) refers to GPE teachers who work with students with disabilities in an integrated setting, and APE (C) refers to APE teachers who work with students with disabilities in a segregated setting.

* Behaviors that received a sum of 22, 23, or 24 (at least 90% of the possible sum of 24)

Methods of Inquiry

No statistically significant differences were identified between the three teaching environments regarding Methods of Inquiry. Further, no behaviors listed under Methods of Inquiry were identified as those rated between “important” and “very important” for effective physical educators in each of the three environments. This information is presented in Table 9, *Methods of Inquiry Teaching Behaviors of Effective Physical Educators*. Differences in the rated importance of teaching behaviors between the three teaching environments were not identified in either of the 2 subcategories regarding Methods of Inquiry.

Table 9.

Methods of Inquiry Teaching Behaviors of Effective Physical Educators

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Applies research and/or educational trends (e.g., culturally responsive pedagogy, inclusive education, knowledge-based approaches, outcome-based education, evidence-based practices) to teaching and learning in physical education.	20 (3-4)	21 (3-4)	21 (3-4)
Conducts and/or facilitates teacher- and classroom-based research regularly.	8 (1-2)	9 (1-3)	11 (1-4)

Note. GPE (A) refers to GPE teachers who work with students without disabilities, GPE (B) refers to GPE teachers who work with students with disabilities in an integrated setting, and APE (C) refers to APE teachers who work with students with disabilities in a segregated setting.

* Behaviors that received a sum of 22, 23, or 24 (at least 90% of the possible sum of 24)

Collaboration, Reflection, Leadership, and Professionalism

Statistically significant differences were identified between the three teaching environments regarding Collaboration, Reflection, Leadership, and Professionalism, χ^2 (2, $N = 6$) = 11.56, $p = .003$. Results of Wilcoxon matched-pairs signed-ranks follow-up tests are presented in Table 3, *Wilcoxon Post Hoc Comparisons for Categories with Significance*. These tests revealed differences between: (a) GPE teachers who work with students without disabilities and GPE teachers who work with students with disabilities in an integrated setting ($p = .028$); (b) GPE teachers who work with students without disabilities and APE teachers who work with students with disabilities in a segregated setting ($p = .027$); and (c) GPE teachers who work with students with disabilities in an integrated setting and APE teachers who work with students with disabilities in a

segregated setting ($p = .043$). However, none of these differences were statistically significant with the Bonferroni correction (comparison-wise alpha, $\alpha = .01$).

Collaboration, Reflection, Leadership, and Professionalism behaviors identified as those rated between “important” and “very important” for effective physical educators in each of the three environments are presented in Table 10, *Collaboration, Reflection, Leadership, and Professionalism Teaching Behaviors of Effective Physical Educators*.

Differences in the rated importance of teaching behaviors between the three teaching environments were identified in 15 of the 18 subcategories (83%) regarding Collaboration, Reflection, Leadership, and Professionalism. Differences rated as more important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities were:

1. collaborates with other professionals regarding: assessment, placement, instruction, and intervention;
2. collaborates with: general physical educators, adapted physical educators, classroom teachers, physical therapists, occupational therapists, psychologists, and speech teachers; and
3. understands how information from society, learner needs, learner interests, and physical education subject matter relate in the development of class structure that promotes successful inclusion.

None of the items were rated as less important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities.

segregated setting ($p = .043$). However, none of these differences were statistically significant with the Bonferroni correction (comparison-wise alpha, $\alpha = .01$).

Collaboration, Reflection, Leadership, and Professionalism behaviors identified as those rated between “important” and “very important” for effective physical educators in each of the three environments are presented in Table 10, *Collaboration, Reflection, Leadership, and Professionalism Teaching Behaviors of Effective Physical Educators*.

Differences in the rated importance of teaching behaviors between the three teaching environments were identified in 15 of the 18 subcategories (83%) regarding Collaboration, Reflection, Leadership, and Professionalism. Differences rated as more important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities were:

1. collaborates with other professionals regarding: assessment, placement, instruction, and intervention;
2. collaborates with: general physical educators, adapted physical educators, classroom teachers, physical therapists, occupational therapists, psychologists, and speech teachers; and
3. understands how information from society, learner needs, learner interests, and physical education subject matter relate in the development of class structure that promotes successful inclusion.

None of the items were rated as less important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities.

Differences rated as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students without disabilities were:

1. collaborates with other professionals regarding: assessment, placement, instruction, and intervention;
2. collaborates with: general physical educators, adapted physical educators, classroom teachers, physical therapists, occupational therapists, psychologists, administrators, speech teachers, and family and/or guardians;
3. understands how information from society, learner needs, learner interests, and physical education subject matter relate in the development of class structure that promotes successful inclusion; and
4. utilizes community-based activity programs (e.g., community cycling clubs, sports programs, bowling leagues).

None of the items were rated as less important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students without disabilities.

Differences rated as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students with disabilities in an integrated setting were:

1. collaborates with: physical therapists and occupational therapists; and
2. utilizes community-based activity programs (e.g., community cycling clubs, sports programs, bowling leagues).

None of the items were rated as less important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students with disabilities in an integrated setting.

Table 10.

Collaboration, Reflection, Leadership, and Professionalism Teaching Behaviors of Effective Physical Educators

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Reflects upon and revises practice based on observation of learners.	16 ^a (2-4)	18 ^{a*} (3-4)	19 ^{a*} (3-4)
Responds to signs of distress and seeks help as appropriate.	20 ^{*a}	20 ^{*a}	20 ^{*a}
Collaborates with other professionals regarding the following:			
Assessment	12 (1-4)	20 (3-4)	23* (3-4)
Placement	8 ^a (1-2)	21 (3-4)	24*
Instruction	13 (1-3)	21 (3-4)	24*
Intervention	14 (1-3)	21 (3-4)	24*

Table 10, cont'd

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Collaborates with the following:			
General physical educators	15 (2-4)	19 (2-4)	20 (1-4)
Adapted physical educators	14 (1-4)	23* (3-4)	24*
Classroom teachers	14 (1-3)	19 (2-4)	22* (3-4)
Physical therapists	7 ^a (1-2)	20 (2-4)	24*
Occupational therapists	7 ^a (1-2)	19 (3-4)	23* (3-4)
Psychologists	7 ^a (1-2)	18 (2-4)	21 (2-4)
Administrators	16 (2-4)	18 (2-4)	20 (3-4)
Speech teachers	7 ^a (1-2)	16 (2-3)	19 (3-4)
Family and/or guardians	18 (2-4)	20 (3-4)	23* (3-4)
Students	17 (2-4)	18 (2-4)	19 (2-4)
Understands how information from society, learner needs, learner interests, and physical education subject matter relate in the development of class structure that promotes successful inclusion.	14 (1-3)	20 (3-4)	18 (1-4)
Utilizes community-based activity programs (e.g., community cycling clubs, sports programs, bowling leagues).	15 (2-4)	18 (2-4)	24*

Note. GPE (A) refers to GPE teachers who work with students without disabilities, GPE (B) refers to GPE teachers who work with students with disabilities in an integrated setting, and APE (C) refers to APE teachers who work with students with disabilities in a segregated setting.

* Behaviors that received a sum of 22, 23, or 24 (at least 90% of the possible sum of 24)

^a Received ratings from only five of the six participants, criteria adjusted to 18, 19, or 20 (at least 90% of the possible sum of 20)

Mentoring, Peer/Student Teaching, and Paraprofessionals

Statistically significant differences were identified between the three teaching environments regarding Mentoring, Peer/Student Teaching, and Paraprofessionals, $\chi^2 (2, N = 6) = 10.57, p = .005$. Results of Wilcoxon matched-pairs signed-ranks follow-up tests are presented in Table 3, *Wilcoxon Post Hoc Comparisons for Categories with Significance*. These tests revealed differences between: (a) GPE teachers who work with students without disabilities and GPE teachers who work with students with disabilities in an integrated setting ($p = .042$) and (b) GPE teachers who work with students without disabilities and APE teachers who work with students with disabilities in a segregated setting ($p = .027$). However, neither of these differences were statistically significant with the Bonferroni correction (comparison-wise alpha, $\alpha = .01$). Mentoring, Peer/Student Teaching, and Paraprofessionals behaviors identified as those rated between “important” and “very important” for effective physical educators in each of the three environments are presented in Table 11, *Mentoring, Peer/Student Teaching, and Paraprofessionals Teaching Behaviors of Effective Physical Educators*.

Differences in the rated importance of teaching behaviors between the three teaching environments were identified in all 4 of the subcategories (100%) regarding Mentoring, Peer/Student Teaching, and Paraprofessionals. Differences rated as more important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities were: demonstrates appropriate use of paraprofessionals/teacher aides, peer tutors, students teachers/interns, and volunteers. None of the items were rated as less important for GPE teachers who

work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities.

Differences rated as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students without disabilities were: demonstrates appropriate use of paraprofessionals/teacher aides, peer tutors, students teachers/interns, and volunteers. None of the items were rated as less important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students without disabilities. None of the items were rated as more or less important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students with disabilities in an integrated setting.

Table 11.

Mentoring, Peer/Student Teaching, and Paraprofessionals Teaching Behaviors of Effective Physical Educators.

Behaviors	GPE (A) Σ (Range)	GPE (B) Σ (Range)	APE (C) Σ (Range)
Demonstrates the appropriate use of:			
Paraprofessionals/teacher aides	9 ^a (1-3)	21 (3-4)	24*
Peer tutors	13 (1-3)	21 (3-4)	22* (3-4)
Student teachers/interns	15 (1-4)	17 (1-4)	20 (2-4)
Volunteers	15 (1-4)	20 (2-4)	22* (2-4)

Note. GPE (A) refers to GPE teachers who work with students without disabilities, GPE (B) refers to GPE teachers who work with students with disabilities in an integrated setting, and APE (C) refers to APE teachers who work with students with disabilities in a segregated setting.

* Behaviors that received a sum of 22, 23, or 24 (at least 90% of the possible sum of 24)

^a Received ratings from only five of the six participants, criteria adjusted to 18, 19, or 20 (at least 90% of the possible sum of 20)

Summary

Friedman nonparametric tests for related samples identified differences in the teaching behaviors of effective practitioners who teach students without disabilities and those who teach students with disabilities in integrated and segregated settings in six of the ten categories provided (i.e., assessment; planning and management; instruction; communication; collaboration, reflection, leadership, and professionalism; and mentoring, peer/student teaching, and paraprofessionals). However, none of these differences were statistically significant with the Bonferroni correction (comparison-wise alpha, $\alpha = .01$). Further, no differences were identified by the Friedman nonparametric tests for related samples in the teaching behaviors of these practitioners in the remaining

four categories provided (i.e., curricular knowledge, content knowledge, technology, and methods of inquiry).

Individual teaching behaviors rated between “important” and “very important” for effective physical educators in each of the three environments were identified in only 26 of the 145 subcategories (18%) within the categories of assessment; planning and management; instruction; communication; and collaboration, reflection, leadership, and professionalism. None of the individual teaching behaviors were rated between “important” and “very important” for effective physical educators in each of the three environments in any of the subcategories within the remaining categories, (i.e., curricular knowledge; content knowledge; technology; methods of inquiry; or mentoring, peer/student teaching, and paraprofessionals). The number of subcategories with behaviors identified as those rated between “important” and “very important” for effective physical educators in the three environments are presented in Table 12, *Subcategories Within Teaching Behaviors Rated Between “Important” and “Very Important” for Effective Physical Educators in Each of the Three Teaching Environments*.

Table 12.

Subcategories Within Teaching Behaviors Rated Between “Important” and “Very Important” for Effective Physical Educators in Each of the Three Teaching Environments.

Categories	Total Subcategories	All Σ	GPE (A) Σ	GPE (B) Σ	APE (C) Σ
Curricular Knowledge	6	0	2	2	2
Content Knowledge	5	0	0	0	1
Assessment	26	9	10	16	21
Planning & Management	13	3	3	10	10
Instruction	62	11	18	30	39
Communication	6	2	2	3	4
Technology	3	0	0	0	0
Methods of Inquiry	2	0	0	0	0
Collaboration, Reflection, Leadership, & Professionalism	18	1	1	3	12
Mentoring, Peer/Student Teaching, & Paraprofessionals	4	0	0	0	3
Totals	145	26	36	64	92

Note. “All” refers to physical educators in all three of the environments, GPE (A) refers to GPE teachers who work with students without disabilities, GPE (B) refers to GPE teachers who work with students with disabilities in an integrated setting, and APE (C) refers to APE teachers who work with students with disabilities in a segregated setting.

Teaching behaviors rated between “important” and “very important” for effective GPE teachers who work with students without disabilities were identified in 36 of the 145 subcategories (25%) within the categories of curricular knowledge; assessment; planning and management; instruction; communication; and collaboration, reflection, leadership, and professionalism. Teaching behaviors rated between “important” and “very important” for effective GPE teachers who work with students with disabilities in integrated settings were identified in 64 of the 145 subcategories (44%) within the categories of curricular knowledge; assessment; planning and management; instruction; communication; and collaboration, reflection, leadership, and professionalism. Teaching behaviors rated between “important” and “very important” for effective APE teachers who work with students with disabilities in segregated settings were identified in 92 of the 145 subcategories (63%) within the categories of curricular knowledge; content knowledge; assessment; planning and management; instruction; communication; collaboration, reflection, leadership, and professionalism; and mentoring, peer/student teaching, and paraprofessionals.

Differences in the rated importance of teaching behaviors between the three teaching environments were identified in 70 of the 145 subcategories (48%) within the categories of curricular knowledge; assessment; planning and management; instruction; communication; collaboration, reflection, leadership, and professionalism; and mentoring, peer/student teaching, and paraprofessionals. No differences in the rated importance of teaching behaviors between the three teaching environments were identified in any of the subcategories within the remaining categories (i.e., content

knowledge, technology, or methods of inquiry). The number of subcategories with differences in the rated importance of teaching behaviors between the three teaching environments are presented in Table 13, *Differences in the Rated Importance of Teaching Behaviors Between Environments*.

None of the 145 subcategories of teaching behaviors were rated as more important for GPE teachers who work with students without disabilities compared to GPE teachers who work with students with disabilities in an integrated setting. Teaching behaviors rated as more important for GPE teachers who work with students without disabilities compared to APE teachers who work with students with disabilities in a segregated setting were identified in 6 of the 145 subcategories (4%) within the categories of curricular knowledge; assessment; and instruction.

Teaching behaviors rated as more important for GPE teachers who work with students with disabilities in an integrated setting compared to GPE teachers who work with students without disabilities were identified in 41 of the 145 subcategories (28%) within the categories of curricular knowledge; assessment; planning and management; instruction; communication; collaboration, reflection, leadership, and professionalism; and mentoring, peer/student teaching, and paraprofessionals. Teaching behaviors rated as more important for GPE teachers who work with students with disabilities in an integrated setting compared to APE teachers who work with students with disabilities in a segregated setting were identified in 5 of the 145 subcategories (3%) within the categories of planning and management and instruction.

Teaching behaviors rated as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students without disabilities were identified in 62 of the 145 subcategories (43%) within the categories of curricular knowledge; assessment; planning and management; instruction; communication; collaboration, reflection, leadership, and professionalism; and mentoring, peer/student teaching, and paraprofessionals. Teaching behaviors rated as more important for APE teachers who work with students with disabilities in a segregated setting compared to GPE teachers who work with students with disabilities in an integrated setting were identified in 12 of the 145 subcategories (8%) within the categories of curricular knowledge; assessment; planning and management; instruction; communication; and collaboration, reflection, leadership, and professionalism.

Table 13.

Differences in the Rated Importance of Teaching Behaviors Between Environments

Categories	GPE (A) over GPE (B) Σ	GPE (A) over APE (C) Σ	GPE (B) over GPE (A) Σ	GPE (B) over APE (C) Σ	APE (C) over GPE (A) Σ	APE (C) over GPE (B) Σ
Curricular Knowledge	0	1	1	0	2	1
Content Knowledge	0	0	0	0	0	0
Assessment	0	1	3	0	8	2
Planning & Management	0	0	5	1	8	2
Instruction	0	4	16	4	23	3
Communication	0	0	1	0	1	1
Technology	0	0	0	0	0	0
Methods of Inquiry	0	0	0	0	0	0
Collaboration, Reflection, Leadership, & Professionalism	0	0	12	0	16	3
Mentoring, Peer/Student Teaching, & Paraprofessionals	0	0	3	0	4	0
Totals	0	6	41	5	62	12

Note. "All" refers to physical educators in all three of the environments. GPE (A) refers to GPE teachers who work with students without disabilities, GPE (B) refers to GPE teachers who work with students with disabilities in an integrated setting, and APE (C) refers to APE teachers who work with students with disabilities in a segregated setting.

CHAPTER V

DISCUSSION, CONCLUSIONS, and RECOMMENDATIONS

The assumption that guides this present investigation is if a teacher is defined as “highly qualified” or “effective” then his/her teaching behaviors are identifiable, stable, and consistent in the effects on students across subjects (Medley, 1985; Stodolsky, 1985 as cited in Andres & Barnes, 1990). Shulman (1988) disagreed with this assumption in relation to the act of teaching, stating that teaching skills are subject matter and circumstance specific. Therefore, the purpose of this investigation was to determine, and then compare and contrast, the performance-based teaching behaviors of effective practitioners in three different environments: (a) general physical education (GPE) teachers who work with students without disabilities; (b) GPE teachers who work with students with disabilities in an integrated setting; and (c) adapted physical education (APE) teachers who work with students with disabilities in a segregated setting.

The performance-based teaching behaviors identified in this study were based on national standards in general and adapted physical education and organized into the following 10 categories: (a) curricular knowledge; (b) content knowledge; (c) assessment; (d) planning and management; (e) instruction; (f) communication; (g) technology; (h) methods of inquiry; (i) collaboration, reflection, leadership, and professionalism; or (j) mentoring, peer/student teaching, and paraprofessionals. Information in this Chapter is

presented in the following three sections: Discussion, Conclusion, and Recommendations.

Discussion

No statistically significant differences were identified between effective physical educators in the three teaching environments in any of the 10 categories of teaching behaviors. This would appear to support the assumption that teaching behaviors are identifiable, stable, and consistent in the effects on students across subjects (Medley, 1985; Stodolsky, 1985) and the hypotheses that there are no significant differences in the performance-based teaching behaviors of effective practitioners in three different environments: (a) GPE teachers who work with students without disabilities; (b) GPE teachers who work with students with disabilities in an integrated setting; and (c) APE teachers who work with students with disabilities in a segregated setting. However, these results contradict numerous findings and suggestions in the literature.

First, physical education standards and competencies in teaching for general and adapted physical educators would not be necessary, although reported otherwise by Dillon (2005); French, Jansma, and Winnick (1978); and Kelly (2006). Second, preservice preparation programs could prepare effective teachers of students with and without disabilities with the same set of teaching skills without the need for additional preservice experience teaching diverse learners suggested by Bird and Gansneder (1979) and McCullick (2000). Teachers effective in teaching students without disabilities would also be just as effective teaching those with disabilities, contrary to the findings reported in the literature (Collier & Hebert, 2004; Dillon, 2005; Hill & Brodin, 2004; LaMaster, et

al., 1998; Melograno & Loovis, 1991). Third, the performance-based testing programs to assess teachers' competences through actual demonstration of teaching practices recommended by the National Academy of Education (NAE) would be similar for all teachers, regardless of the content area or the students being taught.

It is believed there are differences within the present study that were not identified by the use of statistical measures to analyze the data of the 10 categories of teaching behaviors given the small number of participants in the study. Further, opposing rankings on subcategories within each of the 10 categories cancel each other out when calculating the sums used in the nonparametric analysis to evaluate the category as a whole. For example, in the category of Instruction, APE teachers were rated higher on subcategories related to the adaptation of activities, signals, routines, environment, equipment, rules, and feedback based on all students' needs whereas GPE teachers were rated higher on subcategories related to the implementation of lessons that promote factual recall, reflective thinking, and creative thinking. These differences between the subcategories of Inclusion produce a false result of "no differences" for the overall category. Therefore, an in-depth analysis of the data for the 145 subcategories within the 10 categories was conducted to identify which behaviors were perceived as "important" to "very important" for effective practitioners in each of the three physical education teaching environments, as well as any specific similarities and differences in the teaching behaviors of effective practitioners in the three physical education teaching environments.

Results from these analyses are considered "clinically significant" by the researchers and are discussed in relation to current research and literature in the following sections:

(a) Curricular Knowledge; (b) Content Knowledge; (c) Assessment; (d) Planning and Management; (e) Instruction; (f) Communication; (g) Technology; (h) Methods of Inquiry; (i) Collaboration, Reflection, Leadership, and Professionalism; and (j) Mentoring, Peer/Student Teaching, and Paraprofessionals.

Curricular Knowledge

It is understandable that an APE teacher who develops individualized programs for students with disabilities in a segregated setting would not need to consider the local curriculum as exclusively as a GPE teacher who works with students without disabilities. In fact, GPE and APE teachers who work with students with disabilities may find the local curriculum too confining when developing programs to meet the diverse needs of their students. Therefore, it is crucial that these teachers are able to identify and adapt curricular models, including the local curriculum, to meet these needs (Ayers & Housner, 2008; Bird & Gansneder, 1979; Dillon, 2005; French, Jansma, & Winnick, 1978; Kelly & Gansneder, 1998; LaMaster, et al., 1998; Melograno & Loovis, 1991).

While special education legislation may not pertain to GPE teachers who work with students without disabilities, it would seem that the use of other legislation and professional guidelines established by national and state organizations would be of importance to effective physical educators in each of the three teaching environments. This is certainly the stance of the National Association of Sport and Physical Education (NASPE) as these items are addressed in several elements of the *Initial Physical Education Teacher Education Standards* (NASPE, 2008b). Specifically, Standard 3 (Planning and Implementation), which states teacher candidates will design and

implement goals and objectives aligned with local, state, and national standards to address the diverse needs of all students. The development of learning objectives based on Federal legislation, state and national guidelines, and the local curriculum, as well as the ability to develop and modify such objectives to meet the diverse needs of students with disabilities are also addressed in Standards 7 (Curriculum Theory and Development) and 9 (Instructional Design and Planning) of the *Adapted Physical Education National Standards* (Kelly, 2006).

Content Knowledge

It is surprising that the teaching behaviors related to Content Knowledge were not rated higher since their importance is addressed in several elements of Standards 1 and 2 of both the *Initial Physical Education Teacher Education Standards* (NASPE, 2008b) and the *Advanced Standards for Physical Education* (NASPE, 2008a); Standards 1, 2, 3, 5, 7, 9, and 10 of the *Adapted Physical Education National Standards* (Kelly, 2006); as well as, the scientific literature evaluating teacher preparation. In studies evaluating the effectiveness of the preservice preparation of student teachers, both cooperating teachers and students, Grades 2 through 12, reported student teachers were strong in their abilities to understand and apply the content of physical education; analyze and provide specific feedback on skill performance; and demonstrate a variety of skills (McCullick, 2000; McCullick, et al., 2008). Exercise and health-related fitness, fundamental movement skills, and lifelong leisure activities were the highest valued activity based competencies in terms of teaching effectiveness (Collier & Herbert, 2004). Further, scientific foundations such as exercise physiology and motor development have been identified by

both GPE and APE practitioners as important subjects in their preservice preparation (Collier & Herbert, 2004; Hill & Brodin, 2004; Kelly & Gansneder, 1998).

Assessment

The importance of assessing student learning and performance and the use of assessment results to evaluate student learning and program effectiveness is prominent in several elements of the *Initial Physical Education Teacher Education Standards* (NASPE, 2008b), specifically Standard 5 (Impact on Student Learning); elements of all 3 standards of the *Advanced Standards for Physical Education* (NASPE, 2008a); and Standards 4 (Measurement and Evaluation), 8 (Assessment), and 9 (Program Evaluation) of the *Adapted Physical Education National Standards* (Kelly, 2006). General physical educators in a study by Hill and Brodin (2004) identified student assessment as one of the most significant challenges faced by teachers and rated assessment of learning as “somewhat to very valuable” in the preparation of physical educators. Whereas, Collier and Herbert (2004) reported that practitioners in their study did not rate assessment (measurement and evaluation) as a skill important for teaching effectively or an academic area that was most valuable in their preparation.

Melograno and Loovis (1991) reported that GPE who teach students with disabilities rated “techniques of motor assessment” as one of the four areas of greatest need in both 1980 and 1988. Likewise, Bird and Gansneder (1979) reported that GPE teachers reported little or no ability to evaluate physical education programs for individuals with disabilities and rated their training as poor or very poor. Adapted physical educators have

also expressed a desire for greater emphasis in increased professional preparation in assessment (Kelly & Gansneder, 1999).

Planning and Management

Participants in the present study ranked behaviors related to planning for the safety and risk management of all students and staff as “important” to “very important” for effective teachers in each of the three physical education teaching environments with no differences in importance between the environments. However, planning programs using student medical information; recommending indicated activities while avoiding contraindicated activities; and using appropriate strategies, services, facilities, resources, supports, and accommodations to meet special and diverse learning needs were rated as more important for GPE and APE teachers who work with students with disabilities with no differences in importance between the two environments. These results reinforce several elements in Standard 3 (Planning and Implementation) of the *Initial Physical Education Teacher Education Standards* (NASPE, 2008b), as well as, Standards 6, 7, 9, and 10 of the *Adapted Physical Education National Standards* (Kelly, 2006).

These findings are also consistent with those of Hill and Brodin (2004) who stated that elementary and secondary physical educators identified first aid/CPR, lesson planning, and adapted physical education as some of the most valuable components addressed in their undergraduate coursework. However, these participants also listed students with special needs, differences in skill level, liability concerns, and lesson planning as some of the most difficult areas during their first year of teaching. Findings such as these have been reported for over 30 years (Bird & Gansneder, 1979; Dillon,

2005; French, Jansma, & Winnick, 1978; LaMaster, et al., 1998; McCullick, 2000; Melograno & Loovis, 1991). Adapted physical educators have also identified a desire for an increased emphasis in planning and implementation in professional preparation programs, specifically in the area of instructional planning (Kelly & Gansneder, 1998). It seems that while planning for the safety and risk management of all students in physical education is a crucial skill for all teachers, this planning becomes more complex and difficult for teachers of students with disabilities.

In addition to safety and risk management, skills regarding classroom management and behavior management have been reported as the most important in teaching effectively (Collier & Herbert, 2004; Dillon 2005; Hill & Brodin, 2004) and are identified in Standard 4 (Instructional Delivery and Management) of the *Initial Physical Education Teacher Education Standards* (NASPE, 2008b) and in Standard 10 (Teaching) of the *Adapted Physical Education National Standards* (Kelly, 2006). In the present study, appropriate use of time spent in a lesson (e.g., maximize activity time, optimize instruction time, reduce transition and management time) was ranked as important for teachers in each of the three physical education teaching environments with no differences in importance between the three environments. This is consistent with the findings of McCullick (2000), Collier and Herbert (2004), Hill and Brodin (2004), and McCullick, et al. (2008).

As with the safety and planning for students with special needs, teachers participating in the study by Hill and Brodin (2004) identified classroom/gym organization, classroom/gym management, and discipline techniques as some of the most valuable

components addressed in their undergraduate coursework. Further, discipline, classroom management, and motivating students were identified as some of the most difficult areas during their first year of teaching. In the present study, subcategories regarding behavior management strategies (e.g., applied behavioral analysis; proactive management plans such as rules and routines; methods for maintaining, increasing, decreasing, correcting, and redirecting behavior; behavior intervention plans; and functional behavior analyses) were rated as more important for GPE teachers who work with students with disabilities and APE teachers who work with students with disabilities. This is consistent with findings identifying the use of numerous motivating and reinforcing techniques to obtain changes in the behavior of students with disabilities as one of the competencies needed by general physical educators for the successful inclusion of students with disabilities (Collier & Herbert, 2004; Dillon 2005; French, Jansma, & Winnick, 1978; Hill & Brodin, 2004, LaMaster, et al., 1998; and Melograno & Loovis, 1991). As with safety and risk management, essential teaching behaviors in classroom management and behavior management appear to be more complex and identified as more important for teachers of students with disabilities.

Instruction

As with behaviors related to Planning and Management, participants in the present study ranked instructional behaviors related to the safety and risk management of all students as “important” to “very important” for effective teachers in each of the three physical education teaching environments with no differences in importance between the environments. Instructional behaviors related to using developmentally appropriate

practices; adapting the level of difficulty of activities; checking for understanding; modeling equity and fairness for all students; and implementing lessons that promote self-responsibility, ethical interactions, and the adoption of a physically active lifestyle and participation in movement beyond the school setting were also rated as “important” to “very important” for effective teachers in each of the three physical education teaching environments with no differences in importance between the environments. These results reinforce numerous elements in Standards 3 (Planning and Implementation) and 4 (Instructional Delivery and Management) of the *Initial Physical Education Teacher Education Standards* (NASPE, 2008b), as well as, Standards 9 (Instructional Design and Planning) and 10 (Teaching) of the *Adapted Physical Education National Standards* (Kelly, 2006).

Differences between teaching environments were identified in the use and adaptation of instructional strategies (e.g., teaching styles, task analysis, routines, transitions, pacing, groups and formations, student-to-teacher ratios, cues and prompts, feedback) based on learning styles, learner needs, learner background, and outcome of performance. These behaviors were rated as more important for GPE and APE teachers who work with students with disabilities with no differences in importance between the two environments. These findings are also consistent with numerous findings in the literature (e.g. Ayers & Housner, 2008; Dillon, 2005; French, Jansma, & Winnick, 1978; LaMaster, et al., 1998; McCullick, 2000; McCullick et al, 2008).

Communication

Effective verbal and nonverbal communication skills that convey respect and sensitivity are addressed in elements in Standards 4 (Instructional Delivery and Management) and 6 (Professionalism) of the *Initial Physical Education Teacher Education Standards* (NASPE, 2008b) and Standard 11 (Consultation and Staff Development) of the *Adapted Physical Education National Standards* (Kelly, 2006). The importance of such communication skills has also been identified by Dillon (2005), Hill and Brodin (2004), and McCullick, et al. (2008). In one study, cooperating teachers evaluated their assigned student teachers and identified the areas of verbal communication (e.g., providing verbal cues, communicating with other teachers and staff, speaking with parents) and nonverbal communication (i.e., role modeling) as strengths of these students (McCullick, 2000). However, written communication skills were not identified as a strength. The use of appropriate technology to communicate with individuals with disabilities using systems sanctioned by the American Speech-Language-Hearing Association (ASHA) including using appropriate vocabulary, sign language, Touch Talkers, laptop computers, and PECS was also identified as “desirable” for GPE teachers who teach inclusive physical education classes by elementary physical educators (Dillon, 2005).

Technology

It is surprising that none of the behaviors listed under Technology were identified as important for effective physical educators in either of the three environments considering the findings of Ayers and Housner (2008), Lim (2005), and McCullick, et al. (2008) and

the number of articles addressing the use technology in physical education settings and teacher education programs (i.e., DerVanik, 2005; Dorman, 1998, Fiorentino, 2002; Hayes & Silberman, 2007; Horton, 2004; Kelly & Zuckerman, 1989; Lee & Hare, 2007; McCullick, 2000; Mohnsen, 2001; Mohnsen, 2005; Trout & Christie, 2007; Waugh, Bowers, & French, 2007).

Further, technology is addressed in the following element in Standard 3 of the *Initial Physical Education Teacher Education Standards*: teacher candidates will “demonstrate knowledge of current technology by planning and implementing learning experience that require students to appropriately use technology to meet lesson objectives” (NASPE, 2008b, p. 2). However, the low rankings of the 3 subcategories regarding Technology for each of the three environments could be due to the question of effectiveness. Perhaps students in these APE programs are using technology where appropriate, yet general use of technology is not deemed necessary for the teacher to be considered effective. As one participant in the present study stated, “we expect people to use technology to the extent that they can use it ... I think the main thing is appropriate use of technology. We don’t just want people using technology for technology sake.”

Methods of Inquiry

It is also surprising that neither of the behaviors listed under Methods of Inquiry were rated as important for effective physical educators in each of the three environments. Perhaps the implementation and/or facilitation of teacher- and classroom-based research is considered a skill of advanced teachers? This would be consistent with the identification of the importance of inquiry as a fundamental belief and guiding principle

in the development and organization of the *Advanced Standards for Physical Education* (NASPE, 2008a). Whereas reflective practice (discussed in the following category: Collaboration, Reflection, Leadership, and Professionalism) is considered “adequate for initial educators,” advanced teachers are “expected to examine their practice in a more systematic and formal way” (NASPE, 2008a, p. 2). These behaviors are also addressed in Standard 12 (Program Evaluation) of the *Adapted Physical Education National Standards* (Kelly, 2006).

Collaboration, Reflection, Leadership, and Professionalism

Similar to previous findings (i.e., Dillon, 2005; Melograno & Loovis, 1991) participants in the present study ranked behaviors related to the collaboration with other professionals (e.g., classroom teachers, physical and occupational therapists) regarding assessment, placement, instruction, and intervention as “important” to “very important” for effective APE teachers who work with students with disabilities and more important for both GPE and APE teachers who work with students with disabilities than for GPE teachers who work with students without disabilities. These findings support several items in Standard 11 (Consultation and Staff Development) of the *Adapted Physical Education National Standards* (Kelly, 2006). Consistent with elements identified in Standard 5 of the *Initial Physical Education Teacher Education Standards* (NASPE, 2008b), Standard 2 of the *Advanced Standards for Physical Education* (NASPE, 2008a), and Standard 12 (Program Evaluation) of the *Adapted Physical Education National Standards* (Kelly, 2006), participants in the present study rated the behavior of reflection and revision of practices based on observation of learners as “important” to “very

important” for both GPE and APE teachers who work with students with disabilities. The utilization of community-based activity programs was also rated as more “important” to “very important” for APE teachers who work with students with disabilities and more important for these teachers than those in the other two environments. The use of community-based activity programs is supported in Standard 9 (Instructional Design and Planning) of the *Adapted Physical Education National Standards* (Kelly, 2006).

Mentoring, Peer/Student Teaching, and Paraprofessionals

Similar to Collaboration, behaviors related to the appropriate use of paraprofessionals/teacher aides, peer tutors, and volunteers were rated as more important for both GPE and APE teachers who work with students with disabilities than for GPE teachers who work with students without disabilities. These findings are also consistent with previous research investigating the behaviors of effective teachers who work with students with disabilities (i.e., Dillon, 2005; French, Jansma, & Winnick, 1978; LaMaster, et al., 1998) and Standards 9 (Instructional Design and Planning) and 10 (Teaching) of the *Adapted Physical Education National Standards* (Kelly, 2006).

Conclusions

Within the limitations of this study, both similarities and differences have been identified in the teaching behaviors of effective physical educators who work with students with and without students with disabilities. Statistical analyses identified no significant differences between effective physical educators in the three teaching environments in any of the 10 categories of teaching behaviors. This supports the

assumption that teaching behaviors are identifiable, stable, and consistent in the effects on students (Medley, 1985; Stodolsky, 1985) and the hypotheses of this study.

However, the number of teaching behaviors identified as “important” to “very important” for effective physical educators increased for teachers who work with students with disabilities compared to those who work with students without disabilities. Further, the number of differences identified between effective physical educators in the three teaching environments also fluctuated, with a substantial number of teaching behaviors identified as more important for teachers who work with students with disabilities compared to those who work with students without disabilities. These results support the assumption that teaching skills are subject matter and circumstance specific (Shulman, 1988). Based on the results of this study, a number of teaching behaviors are necessary for effective physical education teachers in any setting and additional teaching behaviors are required for the effective teaching of students with disabilities in both general and adapted physical education.

Recommendations

Based on the perceptions of APE professors in this study, numerous recommendations can be made for preparation programs and future research in general and adapted physical education. PETE programs preparing physical educators to work with students with disabilities should focus on:

1. Providing students with a variety of curricular models and the ability to adapt the curriculum to meet the diverse needs of all students while still meeting local, state, and national standards and legislation;

2. Applying a variety of discipline-specific concepts (e.g., motor development and learning, exercise science, pedagogy) when planning, sequencing, and implementing safe learning experiences for all learners;
3. Using a variety of assessment techniques (e.g., formal, informal, criterion-based, norm-referenced, formative, summative, authentic, curriculum-embedded, rubrics, observations);
4. Using assessment results for a variety of purposes (e.g., placement decisions, monitoring progress, developing objectives, adapting planning and instruction, program revision, motivating learners);
5. Planning for safety and risk management (e.g., using student medical information, recommending indicated activities while avoiding contraindicated activities, and using appropriate strategies, services, facilities, resources, supports, and accommodations to meet special and diverse learning needs);
6. Developing skills in classroom and behavior management strategies (e.g., applied behavioral analysis; proactive management plans such as rules and routines; methods for maintaining, increasing, decreasing, correcting, and redirecting behavior; behavior intervention plans; and functional behavior analyses);
7. Using effective verbal, nonverbal, and written communication skills that convey respect and sensitivity with individuals with disabilities;
8. Communicating managerial and instructional information in a variety of ways (e.g., bulletin boards, music, task cards, posters, video, electronic);
9. Using appropriate technology to communicate with individuals with disabilities;

10. Collaborating with other professionals (physical educators, classroom teachers, therapists, family/guardians) regarding assessment, placement, instruction, and intervention;
11. Using community-based activity programs (e.g., cycling clubs, sports programs, bowling leagues); and
12. Using paraprofessionals/teacher aides, peer tutors, and volunteers appropriately.

Based on the results of this study, several areas are recommended for further research.

First is the investigation of practitioners' perceptions regarding the teaching behaviors of effective physical educators in each of the three environments. Second, is the examination of the effects of these teaching behaviors on the performance of students with disabilities in physical education settings. Finally, future researchers should focus on the development of a performance-based method of evaluating teachers' competences through actual demonstration of effective teaching practices.

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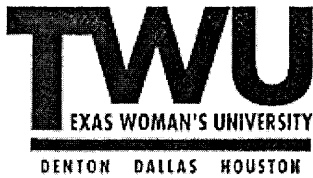
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Appendix A

Institutional Review Board (IRB) Approval Letter



Institutional Review Board

Office of Research and Sponsored Programs
P.O. Box 425619, Denton, TX 76204-5619
940-898-3378 Fax 940-898-3416
e-mail: IRB@twu.edu

February 17, 2006

Ms. Sharon Tiffany Bowers
516 Coronado Drive
Denton, TX 76201

Dear Ms. Bowers:

Re: Performance-based Teaching Skills of Highly Qualified General and Adapted Physical Educators

The above referenced study has been reviewed by the TWU Institutional Review Board (IRB) and was determined to be exempt from further review.

If applicable, agency approval letters must be submitted to the IRB upon receipt PRIOR to any data collection at that agency. Because you do not use a signed consent form in your study, the filing of signatures of participants with the TWU IRB is not required.

Another review by the IRB is required if your project changes in any way, and the IRB must be notified immediately regarding any adverse events. If you have any questions, feel free to call the TWU Institutional Review Board.

Sincerely,

Dr. David Nichols, Chair
Institutional Review Board – Denton

cc. Dr. Charlotte Sanborn, Department of Kinesiology
Dr. Ron French, Department of Kinesiology
Graduate School

Simply the **BEST**

Appendix B

Informed Consent and Questionnaire,

Performance-based Teaching Behaviors of General and Adapted Physical Educators

Performance-based Teaching Behaviors of General and Adapted Physical Educators Consent to Participate in Research

You are being asked to participate in this research study.

Title of Research:

Performance-based Teaching Behaviors of General and Adapted Physical Educators

Investigators:

Sharon Tiffany Bowers, ABD, CAPE

Leslie M. Waugh, ABD, CAPE

Advisor:

Ron French, EdD, CAPE

Contact Information:

Tiffany Bowers

Department of Health & Exercise Sciences

Louisiana Tech University

P. O. Box 3176

Ruston, LA 71272

tbowers@latech.edu

Purpose:

The purpose of this research project is to compare and contrast the performance-based teaching behaviors during the act of teaching of practitioners in three different environments: (a) general education teachers who will work with students without disabilities; (b) general physical educators who will work with students with disabilities in integrated classes; and (c) adapted physical education students who will teach students with disabilities in segregated classes.

Procedures: Participants will . . .

1. Answer the following questionnaire by ranking each of the physical education environment columns for each criteria;
2. Return the completed questionnaire which constitutes his/her informed consent to act as a participant in this research project; and
3. Be given the chance to enter or not enter his/her email address if he/she would like to receive the final abstract.

**If for any reason a participant would rather print and respond to any of the questionnaires via regular mail please send your results in hardcopy form to the address above.*

Maximum Time Commitment:

Internet survey (approximately 1-2 hours)

Potential Risk to the Participant:

Potential risk to the participant is a loss of confidentiality by the divulging of the Internet Service Provider (ISP) address of the participant. The ISP address of the participant will not be divulged by the internet survey provider to the investigators. Confidentiality will be protected to the extent that is allowed by law.

Benefits to the Participant:

The benefit to the participant is to increase the insight on the actual teaching behaviors that general physical education and adapted physical education teachers need to teach students with disabilities in an integrated or segregated setting. A copy of the final abstract will be sent to the participants who provide an email address for such an abstract.

Consent Statement:

The researchers will attempt to prevent any problem that could happen because of this research. You should let the researchers know at once if there is a problem and they will help you. However, TWU does not provide medical services or financial assistance for injuries that might happen because you are taking part in this research. Participant will give consent to participate in this research project by completing this internet questionnaire. Participation is voluntary and participants may withdraw from the study at any time without penalty.

Performance-based Teaching Behaviors of General and Adapted Physical Educators Questionnaire Instructions

1. You can print this page to use as a guide while completing the questionnaire.
2. Save the "electronic form" version to your computer or disk to complete it electronically following the directions below. If you would rather complete the questionnaire by hand, you can print the "hardcopy" version, complete it, and mail it to Tiffany Bowers, Department of Health & Exercise Sciences, Louisiana Tech University, P.O. Box 3176, Ruston, LA 71272.
3. Read the teaching behaviors listed in the first column of the questionnaire.
4. Using the drop down menus provided throughout the questionnaire and the rating scale provided below and at the top of each page of the questionnaire, rank the importance of each teaching behavior in each of the three physical education environments listed in the last three columns of the questionnaire. The definition of each of the physical education environments is listed below. A comments section is provided at the end of each section and the end of the survey for any additional comments you may want to include.
 - a. **Physical educator teaching in a class without students with disabilities**
A teacher qualified to provide physical education services in a school setting, who has completed an undergraduate or graduate degree in physical education, teaching in a class without students with disabilities.
 - b. **Physical educator teaching in an integrated class**
A teacher qualified to provide physical education services in a school setting, who has completed an undergraduate or graduate degree in physical education, teaching in a class that includes students with and without disabilities.
 - c. **Adapted physical educator teaching in a segregated class**
A teacher qualified to provide adapted physical education teaching services in a separate or isolated class including only students with disabilities.
5. Enter your email address if you would like to receive a copy of the final abstract.
6. Save the completed questionnaire and return it to tbowers@latech.edu which constitutes your informed consent to act as a participant in this research project.

Rating Scale:

1 = Not important, 2 = Somewhat Important, 3 = Important, 4 = Very Important, and NA = Not Applicable.

This is an example of what a completed survey section would look like.

Teaching Behaviors	Physical Education Environments		
	PE Teachers w/out Students w/Disabilities	PE Teachers in Integrated Class	APE Teachers in a Segregated Class
Curricular Knowledge			
Develops learning objectives based on the following:			
Federal legislation (e.g., NCLB, IDEA) and professional guidelines (e.g., NASPE)	3	4	1
State legislation and professional guidelines	NA	1	2
Local curriculum	1	4	3
Underlying goals of the curriculum	2	3	4
Comments on Curricular Knowledge: Enter any additional comments you may have regarding each section in the space provided.			

Performance-based Teaching Behaviors of General and Adapted Physical Educators

Rating Scale: 1 = Not Important, 2 = Somewhat Important, 3 = Important, 4 = Very Important, and NA = Not Applicable

Teaching Behaviors of Practitioners	Physical Education Environments		
	PE Teachers Without Students with Disabilities	PE Teachers in an Integrated Class	APE Teachers in a Segregated Class
Curricular Knowledge			
Develops learning objectives based on the following:			
1. Federal legislation (e.g., NCLB, IDEA) and professional guidelines established by national organizations (e.g., NASPE)			
2. State legislation and professional guidelines established by state organizations (e.g., TAHPERD)			
3. Local curriculum			
4. Underlying goals of the curriculum			
Differentiates the merits of several curricular models and selects and implements the most appropriate model to match learner's needs and contextual variables (e.g., climate, region, facilities), adapting it if necessary.			
Produces materials that articulate a sound vision, program rationale, and theory base that consistently aligns with NASPE, state, and local standards, including written documentation that is shared with constituents.			
Comments on Curricular Knowledge:			
Content Knowledge			
Applies a variety of concepts from disciplinary knowledge (e.g., motor development and learning, exercise science, sociology and psychology of movement, history and philosophy, pedagogy) when planning, sequencing, and implementing safe learning experiences for all learners.			
Demonstrates basic motor skills with competence.			
Demonstrates expertise in multiple forms of physical activity including, but not limited to, adventure activities, aquatics, dance, games, gymnastic activities, individual and group activities, martial arts, sports, as well as, functional living skills.			
Incorporates interdisciplinary learning experiences that allow learners to integrate knowledge, skills, activities, and methods of inquiry from multiple subject areas.			
Supports and encourages learner expression through movement.			
Comments on Content Knowledge:			
Assessment			
Uses the following assessment techniques:			
1. Formal evaluation			
2. Informal evaluation			
3. Criterion-based evaluation			
4. Norm-referenced evaluation			
5. Formative evaluation			
6. Summative evaluation			
7. Authentic evaluation			
8. Curriculum-embedded evaluation (e.g., Achievement-based Curriculum, Smart Start)			
9. Check list/check sheets			
10. Rubrics			
11. Observations			
Uses information from assessments for the following:			
1. Making placement decisions for students			

Performance-based Teaching Behaviors of General and Adapted Physical Educators

Rating Scale: 1 = Not Important, 2 = Somewhat Important, 3 = Important, 4 = Very Important, and NA = Not Applicable

Teaching Behaviors of Practitioners	Physical Education Environments		
	PE Teachers Without Students with Disabilities	PE Teachers in an Integrated Class	APE Teachers in a Segregated Class
2. Determining/monitoring learner progress			
3. Involving learners in self-assessment			
4. Developing learning objectives			
5. Adapting instructional planning			
6. Revising program			
7. Encouraging students to become competent members of movement cultures beyond the school setting (e.g., family, peers, and community).			
8. Motivating learners			
9. Supports, accommodations, and/or modifications			
Communicates assessment results to the following:			
1. Students			
2. Parents/guardians			
3. Classroom teachers			
4. Other professionals/ administrators			
Maintains records of learner performance and communicates learner progress based on appropriate indicators (e.g., IEP, report card, progress report, daily running logs, behavior charts).			
Uses student feedback (verbal and nonverbal) to evaluate and adapt lessons and units.			
Comments on Assessment:			
Planning & Management			
Implements Local Education Agency policies with regard to safety of students and staff.			
Plans for safety and risk management (e.g., proper supervision).			
Uses appropriate time spent in lesson (i.e., maximize physical activity or movement time, optimize instruction time, reduce transition time, strategies to reduce management times such as effective transitions).			
Demonstrates appropriate use of the principles of applied behavior analysis (i.e., select and define specific behaviors; observe, chart, and analyze behavior; strategies for changing behaviors; evaluate the behavior change plan) to promote learning.			
Demonstrates appropriate use of positive teaching methods for maintaining and increasing student behavior (e.g., modeling; prompting; tangible, and physical activity reinforcement; token economy; contracts) in order to promote learning.			
Demonstrates a proactive management plan, such as, designing orientation with rules and routines.			
Demonstrates appropriate use of different methods for decreasing, correcting, and redirecting undesirable behaviors (e.g., response cost, overcorrection, time out, punishers).			
Demonstrates appropriate use of other management methods/models (e.g., teaching personal and social responsibility model, teacher effectiveness training, social discipline) in order to promote learning.			
Demonstrates appropriate use of positive behavior supports, behavior intervention plans, and functional behavioral analyses.			
Uses appropriate strategies, services, facilities, resources, supports, and accommodations to meet special and diverse learning needs.			
Prepares individuals without disabilities for the inclusion of individuals with disabilities in the general physical education class.			

Performance-based Teaching Behaviors of General and Adapted Physical Educators

Rating Scale: 1 = Not Important, 2 = Somewhat Important, 3 = Important, 4 = Very Important, and NA = Not Applicable

Teaching Behaviors of Practitioners	Physical Education Environments		
	PE Teachers Without Students with Disabilities	PE Teachers in an Integrated Class	APE Teachers in a Segregated Class
Prepares all staff for inclusion of individuals with disabilities in the general physical education class.			
Plans programs using student medical information (i.e., the knowledge of medications) and recommends activities while avoiding contraindicated activities.			
Comments on Planning & Management:			
Instruction			
Uses instructional strategies based on:			
1. Program goals (e.g., IEP, curriculum goals)			
2. Safety issues			
3. Developmental levels			
4. Holistic philosophy (i.e., cognitive, affective, and psychomotor development)			
5. Learning styles (e.g., auditory, visual, kinesthetic)			
6. Learner needs (e.g., motivation levels, attention span, distractibility)			
7. Learner background			
8. Outcome of performance			
9. Correct process of the skill or technique			
Demonstrates high levels of student eagerness when the following techniques are used to make learning tasks meaningful and successful.			
1. Developmentally appropriate practices			
2. Level of difficulty			
3. Various teaching styles (i.e., command, reciprocal, task, individualized, convergent, divergent or exploratory, and cooperative learning)			
4. Task analysis procedures (i.e., duration, timing)			
5. Start and stop signals			
6. Instructional routines			
7. Transitions			
8. Anticipates preconceptions			
9. Sequence of activities			
10. Pacing of activities			
11. Class groups and formations			
12. Remembers and refers to students by their name			
13. Cues and prompts (e.g., verbal instructions, demonstrations, physical guidance, environmental)			
14. Feedback (e.g., specific, immediate, positive, corrective)			
15. Checks for learner understanding			
16. Ecological techniques			
Adapts the following based on all students' needs:			
1. Activities, games, and sports			
2. Level of difficulty			
3. Use of teaching styles (i.e., command, reciprocal, task, individualized, convergent, divergent or exploratory, and cooperative learning)			
4. Task analysis procedures			
5. Start and stop signals			

Performance-based Teaching Behaviors of General and Adapted Physical Educators

Rating Scale: 1 = Not Important, 2 = Somewhat Important, 3 = Important, 4 = Very Important, and NA = Not Applicable

Teaching Behaviors of Practitioners	Physical Education Environments		
	PE Teachers Without Students with Disabilities	PE Teachers in an Integrated Class	APE Teachers in a Segregated Class
6. Instructional routines			
7. Sequence of activities			
8. Pace of activities			
9. Test-taking			
10. Environment			
11. Equipment			
12. Class groups and formations			
13. Student-to-teacher ratio			
14. Use of cues and prompts (e.g., verbal directions, demonstrations, physical guidance, environmental)			
15. Rules			
16. Feedback			
17. Assistive devices to enhance participation in physical education (e.g., physical positioning, modified seating, canes, crutches, walkers, orthotic and prosthetic devices, PECS, or other communication devices).			
18. Various mobility aids to enhance participation in physical education (e.g., wheelchairs, scooters, bicycles, tricycles, devices for individuals with visual impairments).			
Demonstrates high levels of student engagement in meaningful learning tasks that lead to student competence in fundamental skills and proficiency in a few movement forms.			
Implements lessons that promote:			
1. Critical thinking			
2. Problem solving			
3. Decision making			
4. Individual goal setting			
5. Self-responsibility			
6. Risk taking			
7. Factual recall			
8. Reflective thinking			
9. Creative thinking			
10. Curiosity			
11. Respect for individual and cultural differences			
12. Ethical, moral, and fair interactions			
13. Learner reflection on prior knowledge, experiences, and skills			
14. The adoption of a physically active lifestyle			
15. Continued participation in movement cultures beyond the school setting (e.g., family, peers, community).			
Chooses varied roles in the instructional process based on the content, purpose of instruction, and the needs of learners (e.g., model, assessor, monitor, instructor, counselor, coach, facilitator).			
Implements a continuum of least restrictive environments in physical education (e.g., general physical education, segregated class, peer tutoring).			
Models equity and fairness for all students.			
Comments on Instruction:			

Performance-based Teaching Behaviors of General and Adapted Physical Educators

Rating Scale: 1 = Not Important, 2 = Somewhat Important, 3 = Important, 4 = Very Important, and NA = Not Applicable

Teaching Behaviors of Practitioners	Physical Education Environments		
	PE Teachers Without Students with Disabilities	PE Teachers in an Integrated Class	APE Teachers in a Segregated Class
Communication			
Uses appropriate verbal, nonverbal, and/or written communication with parents, teachers, and staff.			
Communicates sensitivity to ethnic, cultural, age, economic, ability, gender, and environmental differences.			
Communicates managerial and instructional information in a variety of ways (e.g., bulletin boards, music, task cards, posters, video, electronic).			
Models communication strategies (e.g., restating ideas and making connections, active listening, sensitivity to the effects of messages, the nonverbal cues given and received).			
Provides feedback for social, behavioral, and language skills as they relate to, and are demonstrated in, a motor (e.g., activities, game strategy) performance context.			
Uses appropriate technology to communicate with individuals with disabilities using systems sanctioned by the American Speech-Language-Hearing Association (ASHA) including using appropriate vocabulary, sign language, Touch Talkers, laptop computers, PECS.			
Comments on Communication:			
Technology			
Uses of technology to enhance teaching (e.g., PowerPoint, Excel, PDAs, e-portfolios).			
Uses technology to regularly collect data for ongoing curricular and student assessment.			
Encourages students to explore the varied uses of technology as it relates to developing and leading physically active lifestyles.			
Comments on Technology:			
Methods of Inquiry			
Applies research and/or educational trends (e.g., culturally responsive pedagogy, inclusive education, knowledge-based approaches, outcome-based education, evidence-based practices) to teaching and learning in physical education.			
Conducts and/or facilitates teacher- and classroom-based research regularly.			
Comments on Methods of Inquiry:			
Collaboration, Reflection, Leadership, & Professionalism			
Reflects upon and revises practice based on observation of learners.			
Responds to signs of distress and seeks help as appropriate.			
Collaborates with other professionals regarding the following:			
1. Assessment			
2. Placement			
3. Instruction			
4. Intervention			
Collaborates with the following:			
1. General physical educators			
2. Adapted physical educators			

Performance-based Teaching Behaviors of General and Adapted Physical Educators

Rating Scale: 1 = Not Important, 2 = Somewhat Important, 3 = Important, 4 = Very Important, and NA = Not Applicable

Teaching Behaviors of Practitioners	Physical Education Environments		
	PE Teachers Without Students with Disabilities	PE Teachers in an Integrated Class	APE Teachers in a Segregated Class
3. Classroom teachers			
4. Physical therapists			
5. Occupational therapists			
6. Psychologists			
7. Administrators			
8. Speech teachers			
9. Family and/or guardians			
10. Students			
Understands how information from society, learner needs, learner interests, and physical education subject matter relate in the development of class structure that promotes successful inclusion.			
Utilizes community-based activity programs (e.g., community cycling clubs, sports programs, bowling leagues).			
Comments on Collaboration, Reflection, Leadership, & Professionalism:			
Mentoring, Peer/Student Teaching, Paraprofessionals			
Demonstrates the appropriate use of:			
1. Paraprofessionals/teacher aids			
2. Peer tutors			
3. Student teachers/interns			
4. Volunteers			
Comments on Mentoring, Peer/Student Teaching, Paraprofessionals:			

**These are based on the National Standards for Beginning Physical Education Teachers (NASPE 2001), Standards for Advanced Programs in Physical Education Teacher Education (NASPE, 2001), APENS (Kelly, 2006), literature review, and results from our telephone interviews.*

Overall Comments:

Thank you for your participation in this questionnaire!

Appendix C

Informed Consent and Interview Questions

Consent to Participate in Research Performance-based Teaching Behaviors Telephone Interview

You are being asked to participate in this research study.

Title of Research:

Performance-based Teaching Behaviors of Effective General and Adapted Physical Educators

Investigators:

Sharon Tiffany Bowers, ABD, CAPE

Leslie M. Waugh, ABD, CAPE

Advisor:

Ron French, EdD, CAPE

Contact Information:

C/o Dept. of Kinesiology, Pioneer Hall 208

P. O. Box 425647

Denton, TX 76204-5647

lwaugh42@yahoo.com

Purpose:

The purpose of this research project is to compare and contrast the performance-based teaching behaviors during the act of teaching of practitioners in three different environments: (a) general education teachers who will work with students without disabilities; (b) general physical educators who will work with students with disabilities in integrated classes; and (c) adapted physical education students who will teach students with disabilities in segregated classes.

Procedures: Participants will . . .

1. Give verbal consent over the telephone for this phase of the research study before the telephone interview;
2. Give verbal consent over the telephone to have the telephone interview digitally audio recorded;
3. Answer questions during the telephone interview;
4. Return the completed questionnaire which constitutes his/her informed consent to act as a participant in this research project; and
5. Be given the chance to enter or not enter his/her email address if he/she would like to receive the final abstract.

**If for any reason a participant would rather print and respond to any of the questionnaires via regular mail please send your results in hardcopy form to the address above.*

Maximum Time Commitment:

Phase I: response to initial email (approximately 2 to 5 minutes)

Phase II: telephone interview (approximately 30 to 45 minutes)

Phase III: internet survey (approximately 20 to 30 minutes)

Potential Risk to the Participant:

Potential risk to the participant is a loss of confidentiality by the divulging of the Internet Service Provider (ISP) address of the participant. The ISP address of the participant will not be divulged by the internet survey provider to the investigators. Confidentiality will be protected to the extent that is allowed by law.

Benefits to the Participant:

The benefit to the participant is to increase the insight on the actual teaching behaviors that general physical education and adapted physical education teachers need to teach students with disabilities in an integrated or segregated setting. A copy of the final abstract will be sent to the participants.

Consent Statement:

The researchers will attempt to prevent any problem that could happen because of this research. You should let the researchers know at once if there is a problem and they will help you. However, TWU does not provide medical services or financial assistance for injuries that might happen because you are taking part in this research. Participant will give consent to participate in this research project by completing this internet questionnaire. Participation is voluntary and participants may withdraw from the study at any time without penalty.

**Interview Questions for
Professors of Master's Adapted Physical Education Students
Performance-based Teaching Behaviors Telephone Interview**

Consent Questions:

1. Do you consent to participate in this interview regarding the teaching behaviors of effective adapted physical educators?
- 2.
3. Do you consent to the digital audio recording of this interview?

Interview Questions:

1. What are the five descriptive words and/or phrases that would be in your definition of an effective physical education teacher?
2. What are the five descriptive words and/or phrases that would be in your definition of an effective adapted physical education teacher?
3. How might an effective physical education teacher change his/her general teaching behaviors to accommodate an integrated or inclusionary class environment compared to an adapted physical education segregated class environment?
4. How do you evaluate your APE/PETE students on their use of technology during their teaching? What types of technology have you seen them use during the act of teaching?
5. How do you evaluate your APE/PETE students on their use of paraprofessionals during their teaching?
6. How do you use videotaping in the evaluation process of your APE/PETE students?
7. How do the videotaped evaluations of your APE/PETE students differ from in the field evaluations?
8. In thinking of your evaluation of your APE/PETE students, how would you describe the timeline (e.g., when, how often) for your teaching behaviors evaluations?
9. What kinds of certifications or licensures does your state have for general physical education and adapted physical education teachers?

Appendix D

Transcriptions of Interview Data

What are the five descriptive words and/or phrases that would be in your definition of an effective physical education teacher?

1. Knowledgeable, Responsible, Professional, Caring, and Professional-Development Minded
2. Now, listen can you really differentiate ...it seems like when I was going through it I felt it was pretty much the same thing so still you want me to repeating it or... *Yeah if you have...if they are the same 5 things that is fine but if there are differences let us know...okay, the effective teacher needs to have content knowledge...but content knowledge is...it does not mean content-related knowledge I am not sure you know...maybe that is NASPE or Oregon State lingo...okay...there are differences between content knowledge and content-related knowledge in my view...okay so a difference between content knowledge and content-related knowledge...right...and you're saying that is 1 of your 5...right is you have to have content knowledge as well as content-related knowledge...as well as content-related knowledge...content knowledge refers to actually your subject matter you are actually teaching...okay...whereas content-related knowledge is a knowledge that is supporting your subject matter...okay...so biomechanics...we...you...as a teacher you never teach biomechanics as a PE teacher...so it would be content-related knowledge...and then content knowledge would be the actual...yeah whatever you are instructing...okay, so you are putting both of those as 2 of your 5...right you have to have content knowledge as well as content-related knowledge...okay...alright...you have 3 left...another important component is you have to have enthusiasm...enthusiasm...yeah you have to have enthusiasm...it is a construct so it is hard to measure but there are people who are really enthusiastic about it and those who do not have enthusiasm...and the other one you need to have some pedagogical knowledge needs to be there...pedagogical knowledge...and then you also need to be able to relate to the students...a person needs to be able to relate to their student...they're all my 5 things*
3. I think my responses to #1 and #2 would be the same and the 5 words I would say would be Knowledgeable, Dedicated, Professional, Caring, and Fair.
4. Able to establish rapport with students, cares about the students' well-being, instills a desire to learn in each student, treats each student equally. As you can tell I didn't...this is off the cuff. I started writing these answers out and then I had to leave the other day and never got back to it. But this is kind of good. I like it on the fly. And then the last one would be...effective behavior manager. *Aha! Dr. French will like that one!* Yes he will. You better put that with some stars around it.
5. I put down behavior manager, assessment-based, on-task, great transition, goal-based
6. For the general phys ed person, no particular order, but I would say knowledgeable of pedagogy. For the APE person, I would say knowledgeable of pedagogy and how individuals with disabilities transition to adulthood, relative to leisure time behavior. For the general physical education teacher, I would look at their professional behavior, how they conduct themselves. And I would also look at the APE person in the same manner, in their professional behavior, as to how they conduct themselves.

Also, do they have a grasp of behavior modification techniques as to how they would handle the behavior of their students with disabilities? In the general category again, I would look at the professional, academic, and practicum or didactic experience or participation of that individual. And then for the APE person, I would look at their professional preparation and participation in the adapted physical education coursework and practicum experiences. In the general category, I would look at how we define qualified, is defined by your state, relative to teaching K-12 general physical education populations. And then the APE person, has that person demonstrated mastery of the APENS and also have they met their state's academic requirements to be an adapted physical educator. And I realize there is a wide margin there but...So in the state you would have to be a general physical education teacher and have passed the APENS test in my opinion to be qualified. *Okay, wonderful! Well you mentioned behavior management and APENS so Dr. French will be very happy.* Good! Throw transition in there as well.

7. Enthusiasm, attitude, knowledge, competence, and understanding of the content
8. Yeah, that's a tough question... Well, I think... I don't know that my words would be that much different... reflective... content knowledge... pedagogical skills... having good knowledge of standards... being engaging...
9. Innovative, energetic and motivating, knowledgeable about the field, well-organized, and highly skilled in teaching techniques and behavior management
10. Modifies activities and lessons, flexible in terms of instruction approach, purpose of lesson, adjust lesson plans, the difference between classes and children, designs lessons based upon children's needs and abilities, and regularly assesses the children

What are the five descriptive words and/or phrases that would be in your definition of an effective adapted physical education teacher?

1. Knowledgeable, Responsible, Professional-Development Minded, and then I had Advocate and Innovative
2. *Are there any differences for an adapted...* To some degree I was answering... the first 2 questions and I decided not to reading it because started to much more academically right answer rather than I truly think so... What I really think about the 2nd part is an APE teacher needs to be understanding teachers related to the student... means they need to have much more information related to a different type of student... so I think fundamentally they are the same however the depth of understanding... depth of content knowledge... depth of content-related knowledge... differ... *okay for an adapted physical educator the 5th component you discussed... the relating to a student's... the relating to the ability to relate to your students requires a bit more... in depth... in depth for an adapted physical educator because of the variability maybe or the disability...* right the disability and other issues... also content knowledge is the same thing because APE teacher does not necessarily teach... although it is required to be by federal law... the general curriculum... the curriculum may quite differ... if you are talking about MOVE curriculum... the typically developing... the general education teachers doesn't need to

know MOVE curriculum because those things are not the content you will teach...whereas the APE teachers need to have a different set of content...depends upon what you will teach. Does that make sense to you? So, as a global knowledge as phrases or word I don't think it has a huge differences but as to what it takes to be an effective teacher is as to the component. But there can be differences.

3. I think my responses to #1 and #2 would be the same and the 5 words I would say would be Knowledgeable, Dedicated, Professional, Caring, and Fair.
4. I would keep the same 5 and the difference would be knowledge about characteristics and...characteristics of kids with disabilities as well as ways to modify activities to include them safely and successfully. But everything else is the same. That's the only difference I see. ***Okay, so knowledge about the characteristics and how to modify activities?*** Yep. How to modify activities and what activities might be contraindicated. So what would be indicated activities, you know, what do you for sure want to do. Like for a kid with CP, you would for sure want to do some stretching. Or what would be some contraindicated, like you wouldn't want to put that same kid in cold water.
5. Some of the same. Behavior manager, assessment-based, goal-based, can teach to diverse populations, understands a wide range of program indicators and contraindications...I'm going to give more than 5 so you can just...you can make it A and B. They have the skills to collaborate with large populations including parents, and they should be able to consult. Then, the key is the quality. And they should be able to, because you're a behavior manager, you should have a wide variety of behavior management systems that the general physical educator doesn't have. Assessment, you should have loads of other assessment tools that a general education teacher doesn't have. You have that plus. So you make a statement like assessment, that's everybody, but it's the degree. Goal-based, because of IEPs we are a lot more sophisticated than the classroom teacher. And then you also have BIPs and you need to know what is going on with the BIPs. Classroom teacher should but not in the depth that we need to.
6. See answer to #1 above.
7. Knowledge, inter-personal skills, enthusiasm, writing skills, communication that's a big one
8. I would use the same words to describe an effective adapted physical educator there would be some differences in the kinds of content knowledge they would have...***so maybe not really the words but the quality or the type of knowledge***...the type of knowledge exactly...I would expect an adapted physical educator to have all of the same things a general physical educator had and then additional content
9. The 2nd one's a problem because of course I think they should have all of the ones in the 1st one also but there are a couple of other things I think they need to have in addition...***What would those be?*** empathy...being able to put yourself in the place of someone else...curious meaning they seek out information and ideas and skills from others...and then also in the knowledgeable area they of course need to be more

knowledgeable about disabilities and the modifications needed, you know all the things associated with a knowledge base associated with disabilities

10. Okay, I would answer the same way as I did for a general physical education teacher because regardless of whether you are an APE or general PE teacher, for me, you should have those 5 characteristics or qualities to become an effective teacher.

How might an effective physical education teacher change his/her general teaching behaviors to accommodate an integrated or inclusionary class environment compared to an adapted physical education segregated class environment?

1. I think that, to me, the first thing would be to consult with an APE specialist if they had an APE specialist in their district. And then, to me, one then might then use certain units of instruction or curricula to foster inclusion. For example, you know, cooperative games. One might use that as a means by which to try to accommodate kids with disabilities in a regular PE class. Or another one might be adventure ed. because adventure ed. fosters this working together type of idea. You know, so that's what my ideas were.
2. Can you define the segregated environment as 1-on-1 instruction or are you talking about a segregated class as a bunch of multiple type of disabilities students together...*It can be either one just an integrated or inclusionary class being those with and without disabilities typically a larger class with a general physical educator and then a segregated class environment might be a class of individuals with different disabilities or a 1-on-1 or smaller group or partner type setting...*if 1-on-1 situation there are huge differences there you know...when I was in the public school if you are pulling out a student in a 1-on-1 situation...you are obviously doing some of their individual-based education so there are huge differences between the inclusion classes and the segregated classes...but also if you go to segregated classes as a group there are also differences...you have 3 different situations rather than 2 different situations...*okay*...because segregated class is sometimes 5 of them 6 of them all together versus you pulling out a child and working on a single child...so I don't think you can making same conditions...but I will start with the inclusion classes...inclusion classes I believe you have to meet...conceptually you have to meet everybody's needs but I think that is often high education jargon...nobody is trying to meet every students needs...so I am encouraging to do objective-based education rather than activity-based education...objective-based education is your each student or group of students need to be what oparticular objective and I have a student with a disability come in and he or she may not have once we start to do objective-based education I think inclusion will be easier...so I will elaborate a little on that...what do I mean by onjective-based education...in soccer unit often activity-based education we are interested in teaching soccer a child in a wheelchair rolling into a the teacher says I cannot teach soccer anymore...because of the activity so all other children are activity-based so his goal is objective...doing activity itself doesn't have any intrinsic meaning...I'll give you...basketball I think is easier because often our modification recommendations are a lighter ball or a larger ball to inclusion

success...but what happens is if child is coming and no intrinsic meaning what is the goal and if improving strength participating in activity but the persons objective is entirely changed...maximize a strength exercises...one case the child's goal was walking and the unit was a rock-climbing since goal is walking we put the cones

3. Okay...I think that my response there would be the teacher would be able to think out of the box, modifying activities, individualizing and personalizing instruction
4. Okay...thinking on this one. **No problem.** So you want to know the difference between how a regular PE teacher includes kids with disabilities and we're comparing that to how an adapted physical educator works with kids with disabilities in a segregated setting? **Yeah, what does a general PE teacher have to do differently when they have kids with disabilities in their classes? To include those kiddos. So how do their teaching behaviors change? Their performance how does that change?** First of all, they need to know about kids with disabilities. Like I said before they have to know what their characteristics are, they have to know what activities they should do and shouldn't do with those kids. They need to set up some kind of a system so that the kid with disabilities is included as much as possible. So they could modify games, they could use peer tutors, they could use teacher aides to help the child, they could use groupings, different groupings like ability groupings or heterogeneous groupings so that you've got somebody who knows how to do it in each group. I mean I think that it's not that much different than what they do for regular kids that are just a little slow. What's confusing me is comparing it to the adapted PE teacher in a segregated setting. **Yeah. I think that what we were thinking was that an adapted physical educator in a segregated setting...it might be a one-on-one setting or a smaller group, to where they are doing things differently because of the small setting...And this other setting is a general physical educator who has children with disabilities included in their larger class. I think, I mean, I would come up with the same things the modifications, the peer tutors, the groupings...** And then the student progress monitoring. I would make sure that I was monitoring the progress that they were making in the class so that if, in fact, they were falling behind I could do something to change the techniques or increase their instruction so that they would be up with the rest of the kids. But I would monitor every kids progress. I would make sure to do that. It's not that I would do it differently with a kid with a disability in the class I would do it with all my kids.
5. First, consult with an adapted physical educator. You need to have the ability, a number of techniques, to combine students with mild and maybe moderate disabilities within a large group. That's what you need. So maybe mild/moderate, as opposed to us in adapted physical education, is a real big separator. Like APENS, you have 15 competencies that general physical educators have. We need the same 15 competencies but a lot more and our quality needs to be a lot better. When I was developing the undergraduate program, starting that, I had 4 people evaluate 4 competencies that I thought were related to teaching...They evaluated all the competencies, I wanted them to look at, in terms of undergraduate, master's, and doctoral programs. What was the difference that separated the 3. And 80% of those

competencies, the only thing that separated them was the quality. They know more about something, or the quality had to be at a higher level about something, but the something didn't really change that much.

6. One, I would make sure that I spoke about disability with my general students so that they understand what that is about. Second thing I would do is, I would see if I couldn't establish or structure peer relationships. I don't mean peer-tutoring but kind of inter-peer interactions among those student or students with disabilities with those students without disabilities. And I would make sure that the general physical education teacher individualized. Oh, first of all, did assessment with their students of their skills and had expectations that all students were going to actually learn. And I would have also that expectation for my students with disabilities. That I would assess those students and I would have an expectation that they would learn. Now what they ultimately do, at their mastery level in that class, may be different than a student without a disability...maybe I learned to play Beep Softball as opposed to regular softball, become aware of pushing a track chair rather than running on a track, not just my manual chair but a track chair. That means I may have to become aware of, expand my knowledge of journals in the field, know about PALAESTRA, Sports n' Spokes, rather than just JOPERD
7. I would say, first thing is they have to get some information about the child with a disability. Second thing, I would go to attitude. It's got to be a personal "I want to do this." That's important. I think maybe observing someone who is doing a good job of it would be helpful. And then, I would say they just have to experiment. Try it. Experiment, see if it works and go from there.
8. Honestly, I think if they are a highly effective teacher they're not going to have to change that much...if they really are doing some sort of differentiated instruction for the various abilities within their class to begin with...then they wouldn't need to change that much...now they should be using a variety of equipment choices....they should be having a variety of...maybe different kinds of games based on different skills levels for different kids so in my opinion it's just expanding on what's effective teaching a little bit to make sure you've got all the spectrum of abilities included...the challenge that I think is often we're not having effective teaching going on in the gym...and so it's a problem to begin with...it's a problem for all of the kids not just the kid with a disability...because the teachers are teaching 1 way for all 50 kids in their class and it's because they are doing group management as opposed to instruction...*okay so that's comparing the GPE teacher without kids with disabilities in their class and then with disabilities in their class...now what about a GPE with disabilities in their class...how would their teaching be different than an adapted physical education teacher that just works in a segregated environment...okay so the GPE teacher is teaching an inclusion class...yes...and the APE teacher is a segregated class...yes...how would those 2 be different...yes how would their teaching behaviors be different...teaching behaviors...in terms of how they interact...well in theory they shouldn't be different...I mean if you think about effective practice, and giving feedback, and using student's first names, and moving*

around the room, and getting to everybody, and working on skills...none of that really should be different...what may be different is the...the things that may be different have nothing to do with teaching behaviors they have to do with class size...and they have to do with the content that may be taught and the equipment that may be used and some of the other factors.

9. What they need to do... is a variety of teaching styles, being able to freely adapt what they are doing at any moment...changing equipment and so forth, and the primary thing is that they need to change their curriculum possibly because it needs to be a developmental approach where they are looking at individuals and not one size fits all so they are going to need to change how they teach possible depending on how they teach so it is more individualized, small group activities, more non-traditional activities... And finally what I think what they need to do,... any educator would do this, is to actually deliberately teach tolerance, respect, and valuing each individual for their unique differences.
10. Okay, I would say that when you say general teaching behaviors, are you referring to teaching behavior in terms of instruction in terms of master management in terms of program planning and so on? Yes, all of those. All of those, so therefore, my answer would be if the PE teacher... if the PE teacher or the APE teacher does not have the qualities that make them an effective teacher therefore they should change their behaviors into having those five descriptors that I mentioned in the 1st and 2nd questions. Okay.

How do you evaluate your APE/PETE students on their use of technology during their teaching? What types of technology have you seen them use during the act of teaching?

1. Well, technology is always a component when we evaluate. When we have our, well they're not doing actually, the people that I have don't do their student teaching. It's a Master's program so they do clinical experience, they do practicum experiences. So when they do that we have a form, an evaluation form, and on the evaluation form is proper use of technology. And so we expect people to use technology to the extent that they can use it. But it is a component of our evaluation. And then the types of, give you examples okay? And they're not really high tech at all you know? Our people have used step counters, they've used tri-track devices that you put on kids and they calculate the energy expenditure and so on. And then for kids who are more severely impaired our people will make use of, let's say, communication boards for kids who are nonverbal. That's really sort of the extent. Sometimes the kids bring the technology to the gym, you see. So by default they are using technology. As opposed to thinking about technology and how I am going to incorporate technology into my classroom or my teaching. I think the main thing is appropriate use of technology. We just don't want people just using technology for technology sake.
2. So, as (State)... does not mean me particularly, but as (State) our PE student is... we have a... a student... has a palm pilot... those technology is... or is video taping it... technology is using as itself an evaluation tool. So, in order to really talk to you

about it, I want to clarify what you mean by “evaluating your PE student”? Are you talking about a summit to evaluation or a summit to assessment or are you talking about a much more global sense of evaluation? ***Just any ways you evaluate it... formative...summative.*** Right. OK, there are... in any higher education system... the ultimate summative evaluation is the giving the student a grade. There are multiple... components of a grade system... and you end up with a grade. But actually in the assessment in evaluation, the important part is the ultimate goal of the student is trying to... the gaining or obtaining of knowledge or skills. So, formative values or formative assessment is actually much more critical part than summative evaluation in the graduate school. Our teacher education program is all graduate program, so, the trying to... as a pedagogy program PTP is the videotaping and such they do is a systemic analysis of themselves. So, how much time is spent on instruction, management of time, so on, they have to evaluate themselves. ***So, they have to evaluate themselves using the palm pilot?*** No, they are using the video system. At this time they are using only the physical activity. The palm pilot is as a systemic analysis of every second of the recording of the level of the physical activity. They will be able to see what percent the student is actually engaging in moderate to vigorous physical activity. ***Are you evaluating them with the palm pilot or video?*** It is not me evaluating them. It is them evaluating themselves. So, videos and palm pilots are formative parts of assessment. So, in finishing the teacher education, they need to make a teacher portfolio and then there are ten teacher criteria... And they have to demonstrating their work sample...this is one of their teaching criteria. The use of the technology... the ultimate goal is they need to demonstrate all the teaching criteria.

3. I...one of the things I was going to mention to you is that ...and this may have some implications on some of the other questions...I’m not...well lately in the last few years...I haven’t been the person who has been supervising our teachers that much in their student teaching experiences...probably [name] on our staff...in terms of adapted...has done that more than any of the others...we haven’t been assigned that responsibility...but I just made a note that I know that we do some of the computer stuff with the Brockport Fitness test...there’s videotaping that goes on from time to time...and you know pedometers are used in terms of like talking pedometers...those kinds of things
4. I’ve seen them use computers and I have an assignment where they use palm pilots. ***Okay.*** But for the most part they don’t use very much. ***What do they do with their palm pilots?*** Well, what we did was we had them do the TGMD and we had it on the palm pilot. ***Oh yeah?*** And then they would go out to the schools and evaluate the kids on the TGMD. ***Okay.*** And record it on their palm pilot that was an assignment for a class. I’m really going to work on that. This next semester I teach that assessment class and that’s one of the things I’m really going to push them to get. What they have to do in this class coming up is develop a testing protocol and put it on the palm pilot and then go out and collect data on it. ***Oh okay.*** On motor skills and fitness, those 2 areas. So they are going to be doing more but I don’t do enough of it.

5. They do it in simulation in [course number]...You have video listed down lower but that's something we use. Computer stuff. And now, we have, with assessments we are using hand held palm pilots, we are just starting with that...I don't know what they do in elementary and secondary in terms of technology...pedometers...demonstrate the use of pedometers.
6. They would have to know how to use a laptop to store and access information as well as being able to store and access information via PDA, or palm pilot. **Okay. Anything else on technology? How do you evaluate your students on using technology? Do you use them in your practice or classes or anything?** They have to give me an assignment on a CD or electronically send me assignments. They have to give me a printout of, if I have them collect data on an assessment they have to show me that on their [print].
7. We don't really evaluate whether or not they use technology. In other words, we don't say I am looking to see that you are using these types of technology and I am going to check to see if you are using it. If they use something, you know, it's great but we don't really encourage it, or discourage it, or talk about it too much. **Okay.** What I have seen my students do is use a digital camera to make pictures for picture board for children with autism. **Okay.** I don't know if you can count using CDs but music...that's something they do. **Okay.** I've seen them using the computer to download pictures from BoardMaker to make pictures for picture schedules. **Okay.** Not really for teaching but they all use a computer. All our IEPs are computerized now so they do their IEPs and they email people. I guess email is a big one too. Emailing and communicating with me and emailing and communicating with the teachers. **Okay.** That's the things they do. Now, again, I don't evaluate any of those things. Those are just some things they do.
8. Well, that's a good question. I would say that we don't really grade them on that very much. Our focus is more on their teaching behaviors then it's on their use of technology. And, the types of things I've seen them use... depending on how you're defining technology, would be things like heart-rate monitors and pedometers and adapted equipment. **Okay... that's how we're defining technology, anything like that.** Exactly... There's hand cycles, there's adapted wheelchairs, there's adaptive skis, those kinds of things. **Okay.**
9. You know I... I don't do this with PETE students and I... and in APE... I can't really say that we use much technology. **Okay.** If you want to say that equipment is technology... and currently there are modifications to our equipment, but I don't specifically evaluate them when they use this technology. Now it may be that... that pedagogy supervisors do focus in on that but as far as I know we're not using palm pilots... we're not using computers... **Okay...** you know, as a general rule... The only thing I've seen in there that might be considered as technology is... you know about, oh I'm blanking on the name... It's one of these videos that do dance, you know... Videage Dance, Dance Revolution. **Okay, yes!** I had a couple of students that went to a workshop on that at the APE conference and then they taught it in one

of our professional preparation classes. *Okay!* I guess that might qualify, but I don't typically evaluate them specifically on the use of technology. *Yes, okay!*

10. Well, when I do my... when they do their internship, graduate students... some of them are public school teachers, okay. And so, when I go out there to observe them in action what I have seen with the combination of, some of them, use the television set to show a video tape of aerobic stands and therefore everybody, you know, would do that based upon what they saw on the tape. And then another one was the Geomotion activities that the teacher would show to the students and, and they would follow also based upon what they saw on TV. Another one was a lot of... that would be affect... recorder or CD player. What else did I see... Yeah, the... I would say the pacer, the Fitnessgram assessment tool, and the backboard, the pacer part of it. What else? I think that's about the general things that I saw that they used when I observed them. You know, in action. *Okay.*

How do you evaluate your APE/PETE students on their use of paraprofessionals during their teaching?

1. What we do is before...we really don't have like a formal means...I mean there is nothing on our clinical experience form or practical experience form...use of paraprofessionals...but what we do is we talk about the appropriate use of paraprofessionals in a class...in our graduate level APE course and then we talk about that in seminar...and then what we do is, when we go out, if our people are placed in situations that have paraprofessionals...how do they use that and it's more like a qualitative evaluation when we debrief...how do you think the session went, how could you better use the paraprofessional, how did you use the paraprofessional for your...it's not on our actual form but we talk about it and we talk about it in relationship to that teaching episode or that specific experience...should they have them...you know we have a number of clinical experiences where...they do not have paraprofessionals
2. The GPE teacher programs are not generally using...I don't think...the inclusion of a paraprofessional much at all, to tell you the truth...The APE teachers...I don't think we have a formal education about how to use paraprofessionals, however, we have the university program providing a segregated physical activity/exercise program for children ages 18 months to 21 years old and we have about 90 children participating...and those programs basically you know our MS students is leading the groups and UG students is giving the instruction and those UG students only about one-third is a requirement and the other two-thirds is pure a volunteers...so the idea is how to maximize a non-professional who does not have the knowledge to give instructions or lecture...we do not have a specific this is a paraprofessional and you are using it but we try to give some idea about how to maximize people who don't have a substantial background to give the instructions. *So, your graduate students and your one-third of the participating students who are PETE or APE students...* Not APE, we don't have undergraduate APE students at all. *Ok, so your master APE students are...* How it works is, we have the MPAC program... We have about 90

children coming and we have a doctorate student leading that program. So, they need to learn how to manage funds... fund is less significant but, they start understanding how the system works. And also, they need to know how to manage or supervise master students. And under that doctor student we have like 10 master students. And, each master student is charged with about 8-12 children with disabilities. And it depends on age and if not, it depends upon their ability. So, for this 12 or 8-10, number of children he/she is responsible for creating lesson plans and providing services. So, this is a kind of segregation process. Each one is assigned to a volunteer and that volunteer... that one third is [course number] practicum... that is, [course number] Introduction to PE practicum students. The remaining about two-thirds is pure volunteers. Some students have a background, but, many of them don't have a background what so ever. So, the group leader which is MS has to come up with lesson plan, modification report... and how to communicate with each volunteer to work with that child. It is not formal paraprofessional idea, but is an idea... trying to create a pure tutor program or a paraprofessional program... plan for that We don't have the means to manipulate to provide a paraprofessional program... ***But they could use the same skills is what you are saying...*** Yes

3. There is a competency that we have in our program that relates to working with paraprofessionals. We have 1 competency in the field experience that relates to using teaching assistants. We don't really use the word paraprofessionals but it could be teaching assistants. One of our faculty members, [name] again, worked with AAHPERD and developed a little manual on working with paraprofessionals. We do think it is important and we do have a competency that relates to that particular thing. ***Okay is there an evaluation form that is used when you're...*** Yeah, we have a field evaluation instrument when students go out for field experiences. It has certain competencies on it and they are checked off by the person who is qualified to do so.
4. I don't evaluate it at all. ***No?*** No, we've had trouble in the schools. The aides will come and sit. I mean sometimes you get really good aides and other times you...you don't. ***Yeah.*** And so they just sit on the wayside and they are actually more of a hindrance than a help. Because they'll yell at the kids. So we talk about that in classes but I don't evaluate them on using them. But every time I evaluate them and we have them sitting on the side I bring it up that they need to use them. But you know what that is a really good thing to put down on my evaluation form is the use of paraprofessionals. Because that's key...but I didn't think of it. ***Well especially I think for the, well I don't want to say especially APE needs them too, but for the PETE students like you said before with the kids that are included they have to use peer tutors and teacher assistants and things so...*** Uh huh... ***Yeah...*** paraprofessionals and peer tutors...Okay that's great...***And especially when you are going out in the school district as a [University] student and you don't work for that school district it's hard to say you have to work with my students.*** That's exactly right or to tell them how to teach because some of them are so damn negative with the kids that it's really hard you know to say you know lighten up and will you let me control this class because

then the kids don't know who is in control and they just go wild. I mean I've seen it happen.

5. On Fridays, there are paraprofessionals that come to our on-site practicum and have the opportunity to impact our students. Sometimes, the teacher and paraprofessional may interact with the university students via email. In our summer program, paraprofessionals are an integral part of our program and interact with our kids giving feedback back and forth. That's where the major emphasis is in our program regarding the use of paraprofessionals. But to evaluate them, we have forms that we use to evaluate our students' teaching and the use of the paraprofessional in their teaching.
6. I don't. I don't have to deal with that. **Okay. Do you have paraprofessionals in [state]?** Well they're called...do you mean aides? Is that what you mean, use of aides? **Yes.** Yeah, I haven't. All of my...my APE teachers do not do any training of aides. **Okay. Are the aides in general PE?** Yes, they are in general PE and they are trained by...My APE students work under APE people out in the school districts. Those APE people and the special ed classroom teachers have trained the aides.
7. I usually look for do they talk to the paraprofessionals and let them know what the expectations are, do they have written things for the paraprofessionals, do they thank the paraprofessionals at the end of the session, are the paraprofessionals active or are they sitting on the side, are the paraprofessionals dressed appropriately, I mean it sounds kind of silly but if they know that they are going to be needed then the paraprofessionals are going to come and be more prepared, those are the main things I say I look at with paraprofessionals and my students...I also like to see them asking paraprofessionals their opinion about things too
8. I would say that...I would say first off that our students aren't getting enough training in that before they get out and that is something that we are looking at and trying to find ways to include that more in the content...but once they get out I would say that they get pretty much the trial-by-fire on-the-job training with paraeducators and they get feedback then when the supervisors come out or their cooperating teacher works with them...so let's say they are working with the special day class and they are working with that whole class and there are 3 or 4 paraeducators in there...the APE teacher who supervises them is the one who is really training them on how to work with those people and then the University supervisor who goes out and does periodic evaluations would also be looking at that piece as well
9. I don't specifically do that either... when I do only 2 or 3 observations during their student teaching and if a paraprofessional is there, of course, I would talk about their use of the paraprofessional but, I don't have a specific evaluation of that item...**Okay, so it is seen during the observation of their...is that their student teaching?** Yeah, which is the only place that I could imagine seeing it would be during their student teaching and then, you know, if I saw how they used them, if they were using paraprofessionals then I certainly would include that but, I don't make a special effort to see them working with paraprofessionals.
10. Actually...they did not...the students did not actually have paraprofessionals during their teaching because the students were actually with the teacher...the PE

teacher...the adapted PE teacher...and so in my observation they were interacting with the paraprofessionals but asking them to do this thing or that thing did not occur because they were all, including the adapted PE teacher, paired up with small groups of students and therefore everybody was busy with a student. *Okay.*

How do you use videotaping in the evaluation process of your PETE students?

1. What we do is...we use the videotape oh let's say at least 3...we have a quarter system here...a quarter system is a 10-week term alright as opposed to most places are semesters and semesters are like 15 or 16 weeks...we have a 10-week quarter...so what we do is we typically evaluate our people...we videotape them about 3 times a quarter...now these are the people that are full-time students...we do it 3 times a quarter when they are in clinical experience we'll do it like the 1st week, the 5th week, and the 10th week...what we do is again, it's an informal way of doing it, where we videotape a lesson or a portion of a lesson and then in seminar the following...we have seminar on Friday but... then we would go and we would view the videotape or portions of the tape and then discuss the tape...during the seminar ...and they don't get a grade on that videotape...what that is it serves to help them reflect more on their teaching...and the actual evaluation form itself when we go out and we observe and check off the criteria and so on that's the way they are formally evaluated...but the videotape is more of a professional development way of looking at it over the course of the quarter...we are looking for some improvement over the quarter so that in week 10 if we pointed out some things in week 1...we've expected students to work on them and show some improvement ***You said you videotape them 3 times a quarter that was 1, 5 and 10...yeah, typically...not exactly...close to the first week or two, fifth or sixth, ninth or tenth, you know it depends***
2. *You spoke about videotaping before how do you use...* Our PE PETE student... teacher education students have to use the videotaping of their public school teaching. ***Okay, during the student teaching?*** Yes, their student teaching. It is a formative information...They have to hand in their, what you call, their work sample. And they need to coordinate... how many reinforcement giving. Good job verses why you are doing a good job. That has to be evaluated, but as a faculty, we don't look at their video tape... because their portfolio has to demonstrate their work sample. We are encouraging this is a beginning... this is end. ***Ok, so they video tape their student teaching as a work sample and they code it themselves and it's a formative assessment for themselves, but the faculty don't evaluate it.*** Right! They have to demonstrate their work sample in their portfolio. ***What about the APE student? Is it any different?*** Right now we don't use the video taping at this point. ***Just if they do the public school?*** Right, just if they go to public school.
3. Well see 6, 7, and 8 kind of relates to the idea that...I don't...I haven't been doing that lately...so it's hard for me to respond to those...I uh...***How was it done when you were doing it?*** When I was doing it, we didn't...I never videotaped...I just would go there and I would observe the students and evaluate them that way...***So you would***

do the in the field evaluations? Yeah so...when I did it...we...I never videotaped a student...This is about 15 years ago.

4. Okay, what I have done before and I did it 2 years ago. I had the students videotape each other while they were teaching. Then I had them view that videotape and write down their strengths and weaknesses as a teacher. And then I had them bring that videotape to the group, it was a grant meeting, and we watched the videotape and we evaluated their teaching and gave suggestions, you know, and said well I think you did this well and you did this well, you might want to try this or you might want to try that. Just maybe a 10-minute clip. So this year though, [name] is going to, with the PETE program we are going to digitally videotape them and put it on WebCT. He knows how to do that I don't. And then we're going to be able to just bring that up and watch them teach from our own computers and give them feedback right away. *Oh, that's nice.* So that's in the future. Hopefully by the end of this year we'll have that up and going but I haven't done that yet. *When you videotape them is it, or they videotape each other, is it in a class or a...* Yeah, while they are teaching...*Okay while they're teaching their fellow students at [University]?* No, while they are teaching in the field. *Oh, in the field?* They do that in the methods classes here, they videotape them teaching their peers, but I don't do that. *You do that when they are in the field? Your grant students?* Uh huh.
5. We used to use it. We don't use it. We need to get back to it. I think it's highly important but we have a 1-hour class and other faculty members need to do their job and start using it. I think that's the truth. We don't do it enough. So now we do it upon request for teacher ED students.
6. We no longer use videotaping for that. And the reason why is because of permissions. *Oh, okay. Permissions like for?* Getting permission to videotape children in the schools. Cause all of our practicum settings are site-based in the schools they are not here on campus so I don't have much control over that.
7. We don't do it right now. *Okay.* We used to use it but we don't do it...as of right now we don't do it. I go out and I personally supervise them so we don't do any videotaping.
8. Yes we do as much as we can, but some schools are really sticklers and won't let us. So, we do use it whenever we can and if we can't we'll do audio tape, but most of the time we can get the video in.
9. I assume you talking about pre-service as well... I mean like... pre-credential as well as during credential or do you mean just during the credential program? *Just any of your APE students.* Okay. So, they're in their undergraduate work before they start working on their credentials. In the pedagogy classes... we use video taping, and I don't teach that. One of our other faculty members teaches that, an APE Systematic Observation... using video taping. And then, when I use it personally is in my... I teach a professional preparation class in dance and I have them... I video tape them doing their Peer teacher assignments and then they evaluate themselves, and have to write it up and then I evaluate them also and it's innovation to their specific criteria about dance. I have a sheet of evaluation criteria that they're supposed to address

when they evaluate themselves. So, I don't use systematic evaluations, but the pedagogy faculty do. *Okay, so in your course... in those other courses they use the systematic evaluation, and in your course there's an evaluation sheet?* Yeah, it's more qualitative. *Okay.* And then, when they're in the credential program I know they have to do one or possible two video tapes of themselves teaching and I actually don't know how they use that... if it's in conjunction with the credential classes. I don't really the specifics of that, how they use it. *Okay, it that the APE credential class or the general?* Both of them would be taking that class, APE and PETE. *Okay.*

10. Okay, I use that... you see... right now we lined with my project with the public school teachers doing their internship, not their internship, but observation. They can not do that because they are full time public school teachers. So, they have cooperating teachers who will work with them. So, okay, it would be teacher to teacher here. And what I did ask them to do last semester was to produce video tapes of them teaching their classes inclusive, all of them are teaching inclusive PE classes. And so I told them to produce a video tape of them teaching an inclusive GPE with a child or children on the tape. And that's what I... that's what we did to observe it and to analyze their teaching behavior and their teaching management skills. And after watching the video tape, I would ask them to sit down with me and we went through the tape and me telling them... you know...constructive criticisms. And, and telling them my feedback about what could have been done and how to improve and so on. That's how we used it last semester. *Okay.*

How do the videotaped evaluations of your PETE students differ from in the field evaluations?

1. For the in-field evaluations...what we do is we go by what we've observed ...actual observance for that class...so, I mean, we don't take the videotape and evaluate them...I'll have a practicum supervisor go out and evaluate a portion of a lesson and then provide the student with direct feedback right after the lesson...see with the videotape it's going to take us maybe a week before we get to it
2. In field evaluations is a faculty goes and watch how a student performs. *Ok, so the faculty goes and watches...* Or a doctoral student... a pedagogy doctoral student... usually goes. *And they evaluate them. Is there a form that they use?* It depends upon the field and also at the end of the term the supervisor teacher has to fill in the forms. It's not really a check list, or systematic forms, they have some forms using it. An APE teacher is... what we are doing is... on Friday the program is over... Friday they start discussing it and they need to hand in lesson plans and then our supervisor can after the meeting... and give them common and then they implementing it. And then Friday night the meeting is over, everybody sit together and discuss as a group what went well and what did not went well... *Okay, on Friday night the on-campus program that you have, they submit...* Every Friday night after the program is over they have to sit together and we discuss. In the beginning they are much more critical to themselves. "I need to do this. I need to do that." There are discussions and

generally they want to go, at the end of a term they want to go home, so everything is good 'kind of' attitude is coming up, you know. *So they turn in their lesson plans to the doctoral student...* Right, the supervisors. *Before that Friday...* There has to be, their lesson plan has to be turned in this premier term, it changes a little bit, but they have...By Tuesday and then, or Monday... Every Tuesday they have to hand in their lesson plan and progress report and a report for what happened last year. The reflection report. And then by Thursday the doctoral student has to be coming back to their group leaders. And then Thursday... Friday they are communicating with their volunteers... and then implementing the class. And then you're calling back... And then next Tuesday you need to writing on another lesson plan. You know, what happened. *What happened last week.* Right! *Okay. Then a reflection. Okay!*

3. Not asked. See answer to question #6.
4. Well, in the field evaluations I have been using this teacher performance competency sheet. *Okay.* And what I do is I give them a copy of it before I go out, and that's the one I am going to send to you. *Okay.* And then I go over with them and ask them to tell me how they did on each one of the issues and I've got things written down on my side and then they're looking at their side. *Oh okay.* And you know they are telling me what they did well or what they could improve on. *Okay, alright.* This is just me though, I mean, and I would really like your feedback on this form. *Okay*
5. They don't. There is a form that we use that is the same as [course number] on the videos that is kind of old. But, out in the field, there are different types of evaluations that we use in the graduate program that are different. It's not as sophisticated as the one we use with our student teachers. It's more state focused, which is about 80% behavior management. So there's the difference between the two.
6. In site-based, the APE teacher they are assigned to fills out an evaluation form on the student. The student fills out an evaluation form on the APE teacher. And I, and the supervisor of that APE person, which generally is me, not always but generally is me, also will review their lesson plans, they'll review their assessment plan, and that involves writing a mock IEP/transition plan and that is evaluated as well. As well as, they have to do four critics and each one has three practicums.
7. *Okay, when you supervise in those field evaluations how do you evaluate them? Is there a form?* How do I evaluate my students? *Yes.* First, I evaluate that they prepared. They should have a written lesson plan and they should have the environment all set up. Second, I evaluate the quality of the lesson. Some quality indicators are: having a clear beginning, a clear middle, and a clear end for their lesson; lots of feedback that they are giving to their students, both positive and corrective feedback; they are directing their volunteers and paraprofessionals what to do; the kids are spending most of the time being active; the activities are going to be age-appropriate for the children; the activities are going to have a thematic element...some type of a skill focus, in other words, I can say they are working on throwing today or they are working on high and low today something like that; and interpersonal skills with the staff they are working with just, you know. a friendly

- attitude, thanking them, telling them what to do, I can just tell everything is running very smoothly and they are appreciated by their staff.
8. Yeah, they're very different actually. Their video analysis, we have them go through and look at some stuff systematically, like you know... use of first name... how they interact with male versus female students... how are they acting one on one versus a group... the different types of feedback they're using... how they move around the classroom. They do an analysis of the activity versus instruction versus management... terms of how they're spending time in the class. And also how they're using support... So, when they video tape their lesson, they're doing all of those things. So, they might need to watch their own tape several times and there's coding forms for all those things. But when someone from the university goes out and does an observation, typically it's a descriptive observation... of what took place. *Yes...* Then at the end of that narrative... That's really just a systematic observation. It's just an observation. It's not even systematic. It's a descriptive observation... and at the end of that, usually the university person will then make a list of things, a summary sort of, of what the student did really well and then things that they need to work on. They're recommendations. And if there's something specific like... feedback... you know, they're not giving enough specific feedback... Then we might work with the cooperating teacher and say, "Okay, next time, next week when they're teaching, just try coding how much they're giving specific versus general feedback." So, some of that might get infused... a little bit, bits and pieces to help the student improve certain areas along the way.
 9. I would say... the video taping evaluations in pedagogy classes are more systematic observations... like they're actually tallying the specific behaviors that they see... like how many times they use names and how much time the kids are active and, you know, stuff like that, or how much time the kids are active. So, in my video tape for my dance class, they set up a list of questions. The field evaluations like when I'm observing student teachers, they get a simply different form that they are using and, you know, essentially I'm looking for similar things, but in student teaching I would expect a little more advanced demonstration of teaching skills than in the undergraduate. *Okay.* So, that would be one way, but I think in the field or video tape, you're looking for similar kind of things but maybe you're looking for them in a different way. *Okay.*
 10. Well, in the video tape evaluations, actually the students could see themselves performing in the video, on the tape and therefore is able to analyze their performance with me right beside them. And it was a centerpiece for us to describe what we saw in the tape, the good things that they did, areas of improvement and so on, versus the field evaluations were in our just, you know... observed them and analyzed them and write down whatever I wanted to tell them after that, my observation and so on and my suggestions and so on. And, I think that video tape evaluations are a lot better than the actual field evaluations, because of the fact that they can see what I was... what I am trying to tell them. *Okay.*

In thinking of your evaluation of your APE and PETE students, how would you describe the timeline (e.g., when, how often) for your teaching behaviors evaluations?

1. You mean actually going out and observing you know is that what you are talking about? *I guess any evaluations.* I'd say it's at least 3 times a quarter...like I mentioned...and again, all of my answers are prefaced by these are graduate level APE people...they're not physical education teacher education people...*Okay, so 3 times a quarter?* Yeah...it's about 3 times a quarter. *That's out in the field...out in the school district?* Right...it depends on the experience...it would either be in the field, off campus, or it might be in a program that we have on campus...you see we have a couple of programs on campus that our students partake in...so it's either on campus or off campus but it's...we consider it a field experience or clinical experience
2. My evaluations, or? *Just the evaluations...* As we are describing, the Friday program, I just described how often every week it has to be due. As our Pedagogy people, [name] is a pedagogy specialist supervising, and she is going every two weeks or every three weeks, they have public school that has to be evaluated. *Every two to three weeks she goes to the public school?* Yeah, the public school. And there are consultings going on. We have our APE and PETE; there are more than two-thirds, about more than half of the teacher education pursuing APE as a PE together. So not all teacher education student will have the same type services.
3. Not asked. See answer to question #6.
4. Ideally, this is not what I did last semester but ideally, my project coordinator, who is [name], will go out and evaluate them 3 to 4 times each semester and give them feedback. I like to go out at least once, sometimes twice. It depends. And when we go out we will watch an entire class and get there before the class starts. Watch all the set up and stuff and then, if possible, debrief them afterwards. Immediately afterwards. Now sometimes they've got to run to another class. *Yeah.* So it doesn't always work but most of the time it does. *Okay, and when you videotape and watch those videotapes in your seminar...How often are they videotaped and...* We only did it once. *Once this semester?* I want to do it at least every semester. But it's too much. But it could happen now, I mean now that I only have 4 instead of 8. But if I get my new grant it will start in January so then I'll have another 8.
5. In all field experiences, they are evaluated by the field supervisors. In student teaching they are evaluated by student teaching supervisors. In internships, APE undergraduate and graduates, they are evaluated by the professionals supervising out in the field.
6. I will see them twice during, we are on quarters, so I will see them twice during a quarter and then they get an evaluation at the end of the quarter. *Okay. That's when you see them. And what about their site-based supervisor?* That's what I mean, I go to the sites. And then their site-based APE person, at the end of the quarter turns, in an evaluation on them.

7. Right now I see each student twice a week. I take it back, I see each student for, I'm going to say, a total of an hour once a week. I do that starting in late August and I go all the way through like the third week in November. So, pretty much every week I see each student for an hour-for at least an hour. ***How many students do you have?*** We have nine this year, so it's been a little more challenging for me, but usually we have seven and I can get to everybody. This year I've had to do some a half hour per week and the next time I see them for an hour. I see everybody once a week. I'm still managing to do that. I have to go from school to school to school. I may see four different students in a day, but pretty much from about eight-thirty till about three I'm out and about at the schools.
8. Well, it depends on if you mean just during student teaching because our students go through seventeen, eighteen units of course work and so, they're evaluated all the way through all of that. ***Okay.*** For example, when they take an assessment class, they have to do practice assessments with standardized tools and those reports have to meet a competency levels. So, they're evaluated through out the course work, as they go through to meet content knowledge and apply that; and then again when they're out in the field actually being the teacher in charge during their student teaching. ***Okay.*** It's an ongoing process. So they get it, it's formative and summative. They get it along the way, in each class through out, and they get it during student teaching through out and then at the end they have a culminating portfolio they have to put together, that gets reviewed. ***Okay. At the end of their student teaching when and how often are they observed?*** The cooperating teacher gives them feedback on a weekly basis. They should be meeting and then they get observed by two different university people. One is from the general education department... and they go out I think six times during the semester. ***Okay.*** But I'm not sure if that's exactly right. ***Okay.*** And then on top of that our... we have somebody from specifically from Adaptive PE go out at least two to three times. ***Okay. So, do they do they're student teaching for... students that want to do APE, is that... do they complete their general physical education student teaching and APE student teaching at the same time?*** Yeah, they do it concurrently... most of our students do it concurrently, if somebody already has single subject credential then they can come back and just do APE, but most of the students are coming through if they're just getting their first license or they do them simultaneously.
9. Okay, so this would be more relevant for, like, my undergraduate dance class and then the Intro to APE class when I observe the Peer teaching. ***Okay.*** They do it twice a semester and they do two Peer Teaching lessons in each of those courses and they observe themselves and they evaluate themselves and then I evaluate them. ***Okay.*** And then in the Predential program, they get, the PETE students, they get six visits per semester by a university supervisor. The APE, it's two to three visits per semester. And then they also get evaluations from their mentor teachers. And I'm not sure of the number of those, but it's probably about four evaluations with the mentor teachers... over the course of the semester. ***And the mentor teachers, are those the ones at the sight.*** Yeah, those are the... what do you call them... I can't

remember what we call them in [state]. *I can't either; it's like sight-based supervisor.* It's the teacher that they're paired with, whose class they're taking over when they do student teaching. *Yes, okay.* Here we call them mentor teachers. *Okay.*

10. Well, I usually would go there if they are out in the field, either doing field observations and actually engage in teaching the student. I try my best... and... that regularly would be two times a semester. That is the most that I could afford, because of, you know, the other classes that I teach and other responsibilities that they have. And therefore, much as I would like to be there more than twice during the semester, I possibly can not do that, but if I have the time I try to go out there more than twice a semester, but the most is twice per semester. *Okay, is that, like, early and then later?* That's right, yeah. Maybe give them a little time to adjust. Maybe if... like this semester, for example, I... the first time I went there was in late September because we started in August, and before they were sent out there it was the first week of September. I try to give them some adjustment time with the situation in the public school and the classroom and so on, before I go in there, so they feel comfortable. When I go out there and then I will probably repeat that at the end of November. And will see if there is any changes in whatever... situations that they have or any adjustments they have to do at that time would have been done. Okay.

What kinds of certifications or licensures does your state have for general physical education (PE) and adapted physical education (APE) teachers?

1. [State] has a pre-K-12 physical education teacher education licensure...and then in [state] an add-on to that would be the APE endorsement certificate...so one would have to hold physical education teacher education licensure and then they could work toward an APE endorsement certificate...but if they don't have the PE licensure you know they can't work toward the APE endorsement certificate... it's an add-on...the APE certificate is an add-on to basic licensure...*Okay, and then to teach GPE you have to have the basic licensure?* Yeah right. *And then the add-on is the APE?* Um hm. *Can the APE be added on to a Special Education?* No, no. *It has to be PE?* Right.
2. [State] has general education, you know, you have to have the initial license and continuation license... and then APE teachers... the APE adds their own endorsement. *So, after you get your PE license...* And then you can have... actually, I believe anybody who has teacher license... you have to have... you can have... add on the endorsement... I don't think state government is different. You can have PE and add on the endorsement. But in reality, it's not going to happen. *Ok. So, you could have someone with a Special ED teacher certification...* I don't know wording of their teacher credential, but I think it is possible... *and then you have an APE endorsement.* APE, I think is an add-on endorsement. Somebody has to have a teaching license and then you can add on... you have to have eighteen credits. *Ok, to add on to the APE. Now, do you have to have that APE endorsement to teach?* It's not necessary for sure. The add-on endorsements have been, what, eighteen years.

The state has recognized for about eighteen or nineteen years of add-on endorsement, but it's not necessary to teach APE. You have to have an add-on endorsement. A lot of schools are asking for but, we are not politically pushing it because the number of people who have add-on endorsement is so small. If we are pushing it, you know, my gut feeling is they will reduce the requirement. Right now it's being just eighteen credits additional, physical education related, extensive eighteen credits. When I was in [state] you have nine credits which is two APE classes with one special education class, you've got to add on endorsement. If you don't get the APE endorsement, you don't get the job at [state]. The problem was basically one intern class and one additional class and you got the endorsement. So, eighteen credits is not a lot of hours and we cannot at this point, in my opinion, be politically pushing it. School's not making noises because they cannot find enough APE teachers. ***Would you have to have a PE certification to teach APE?*** I don't know. ***Okay.***

3. In order to teach physical education in [state]...you have to have a degree to teach...and that could be a regular educator or a physical educator...so classroom teachers can teach elementary PE for example...now to teach adapted physical education a person must be a certified physical educator...and the state also has recommended 12 hours of adapted phys ed for anybody teaching adapted for a majority load but it's not a requirement it's a recommendation...a recommendation for 12 hours of adapted for persons with a majority load in adapted physical education...so we don't have any...I guess the certification we have in [state] is to teach adapted you have to be a certified physical educator...which doesn't apply to regular physical education...***regular physical education can be taught by any certified teacher***...yeah and that's for the elementary level...***and then to teach adapted you have to have a PE certification and then it's recommended that you have 12 hours of APE courses.*** That's correct.
4. That's easy. None. ***None?*** They have them for general physical education teachers but they only have secondary licensure. ***Okay.*** They don't have elementary because we don't have, I mean, we don't have elementary PE in the schools. Now a principal could say I want to have elementary PE and could find money in the budget to do that...and some of them do and some of them don't. But when they hire somebody they don't have to be licensed. I mean they could hire...the librarian's sister. ***Wow. To teach PE at the elementary level? And then some elementary schools don't even have PE?*** Yeah, some of them don't. ***Wow.*** Then they say the teachers are responsible for going out and teaching PE to those kids and most elementary schools teachers don't even know anything about teaching PE so they just go outside with some balls and if kids want to bring balls they can bring balls out and then they chat with their friends and watch the clock and blow a whistle. ***So it's just a recess?*** That's right ***Okay, and then at the high school you have secondary certification for physical education?*** Yes, for junior high school and high school. Both have PE and they are certified teachers. ***Okay, and then is there a certification or endorsement for APE?*** There is not...but they always call me and ask me if any of my...I mean we have 4 jobs right now. You know they will take my kids if I have them but if I don't

- have them they will take anyone. *And is that all of [state] that doesn't have PE at the elementary...* All of [state]. Yep, it went out in the mid 80's...87 maybe...
5. If they are general they get certified in general PE. If they are APE, they have a minor or an emphasis area in special ed and they can sit for the exam and get the certification in PE. And then the masters students, they get certified in APENS as one of the ways to complete the masters program. Ninety percent of the students take this option.
 6. The state of [state] has a multi-age license, which is essentially K-12, license in physical education. *Okay.* They also have a multi-age license in health. *Okay.* In the state of [state] we also require an adapted physical education endorsement onto your K-12 physical education license. *Okay.* For example, you cannot be endorsed to teach adapted physical education in [state] unless you first have a degree in phys ed. Multi-age license in phys ed. *Okay.* You can do those at the same time but you can't come from...accounting, for example, or early childhood and get a Master's in adapted PE and go out and teach it. *Okay, so you have to have a degree in physical education...that is correct...and a certification in physical education to teach physical education.* Yeah, we call them a licensure in [state]. *Okay, a degree and a license in physical education to teach physical education.* That is correct. *And then to teach adapted you have to have a degree and a license?* Well, you don't have to have a degree, we call it an endorsement... Well, I guess it would be a degree because here in [state] you have to have...20 semester or 30 quarter hours in the adapted physical education program that is recognized by the state of [state]. So you have to have a recognized...all the schools in the state just can't put a bunch of courses together and say here is an APE program. The state has to approve those. *Okay, so you have an endorsement from a program that is approved by the state.* That is correct. *And is there an extra...is there a license also or...* Well the endorsement is attached to your physical education license. *Oh, okay.* The other thing is, at our program here and at [other university], in addition to that, you have to have passed the APENS exam before we will consider you a program completer to receive your endorsement. *Oh, okay.* So we go above what the state of [state] requires. *So the state requires the endorsement that is attached to your license...* That is correct. But here at [university] and at [other university], if you don't pass the APENS exam you're not, whether you are an undergrad or a grad student, you're not considered an APE program completer until you pass that. *Okay, so just at those two schools out of the state.* Yes, those are institutional requirements. Yeah, the APENS exam isn't state required at this time.
 7. For General PE it's a health and physical education. It's a combination, so you... you can't be certified in one and not the other. And as far as I know it's a Pre-K through twelve. I don't think, any more, can you be certified in just like Pre-K to six and then secondary, so I think it's all Pre-K to twelve, Health and PE. And as for Adaptive we don't have any certification requirements in the state of [state]. *OK. Now, to teach General PE you have to be the Health and PE certified?* Yes. *And then to teach APE, you don't have a separate one for Adaptive, but do you have to be PE*

certified... General PE, Health? That's a good question. In going back to teach PE, you also can be an Elementary or Special Education teacher. **OK.** And that's the same for an Adaptive PE. So, in some of our really rural districts you don't have to have a Special ED specialist. The elementary teacher will do it or the Special ED teacher will do it. **OK...** And that's true for Adaptive. It's rare, but that's legal. **OK, but then otherwise Adaptive, they have to have the General PE and Health certification?** Right.

8. We have a single subject credential for PE, that's K-12... **Okay...** And it is a five year program and so they have to have a BA in content knowledge, in PE subject matter content knowledge and they have an additional year of student teaching. **Okay.** And then if they are doing APE we have a state recognized APE specialist credential. **And is that completed in that fifth year?** Yes, but... and it also varies from campus to campus. We all have to meet... the state has a three-two standard for competency... **Okay...** So any [state] state university who has an APE program has had to illustrate how they meet those thirty-two standards for competency. **Okay. And do they meet those before they do their student teaching, in that fifth year?** **Or?** Most of them will do it on top so they are graduating with a degree in PE, but they've taken a bunch of extra course work because they're adding the Adapted. And the numbers of courses across the [state] varies a little bit. Some of them... more stuff is infused and some last and so it ranges somewhere from twelve units to twenty-five units... Something like that depending on the program and where the person is getting their licensure.
9. The state has credentials for both... they're a different type of credential. **Okay.** So, for general physical education there's two kinds of credentials. They can get the primary one that they use is the single-subject credential and that's... they're authorized to teach kindergarten through twelfth grade. And then you can also be authorized to teach PE when they get a multiple-subject credential, which is like an elementary ED credential. **Okay.** Those folks are also authorized to teach physical education, but they don't have nearly the extensive training that the single-subject folks do. **Okay.** They can take one or two courses whereas for general PE they don't have a major. So, I mean for the single subject, it's their major. And APE, the APE credential has to be attached to another credential. It's not a stand-alone credential. **Okay.** So, it's called a specialist credential. So, it either has to be attached to the single-subject PE credential or multiple-subject credential. So, in other words, they have to do everything that general educators have to do, general physical educators have to do...in terms of preparation and in addition they have to do additional course work which is... in my program it's twenty-six units, a subject matter and an adapted PE. Some of that 26 units is overlapped with their general PE, so, actually it comes down to about 15 units I think that's equivalent to an APE. **Okay.** And then they have to do student teaching in APE also. **Okay, and is the student teaching in APE, can that be done at the same time as their student teaching in general?** Yes and what we've worked out here is we have to teach the equivalent... you have to teach at least the minimum of one class in general PE and then the equivalent of one class in

- APE, which would be, like, five hours a week in student teaching. *Okay.* And they have to do a third class also as part of their student teaching and that can be either general PE or APE or it can be a supplemental area in science or math or something like that. *Okay, now the APE specialist credential, you said it's attached to another credential, does it have to be the single-subject PE or elementary ED credential or can it be any credential that that's attached to?* No, just those two. *Just those two, okay.* We wanted... We're actually starting to work on the idea of a... We're working on... what I would like if it could be attached to a special ED credential... also because, actually those folks have to deliver a pre-design PE often, though I'm not sure how much they do it. So, if they're authorized to do that, then I think they ought to also give all the data on the APE credential. That's why I'm safe here.
10. Unfortunately, we do not have any for APE. We do not have... we do not have any endorsement or we do not have any certification. We only have the teaching certification for the General PE teacher, that's all. *Okay, and is that K through twelve?* Yeah! *And to teach APE do you have to have General PE or no?* No, actually here in [state] they could just ask you to teach, you know... Oh, do you mean APE or PE? *APE.* Oh, APE. There is no required policy to follow in hiring a teacher to teach APE here. Still there are PE teachers, you know, and that is why there is really a dire need for certification or endorsement of APE here in the state. Yeah. *So, General PE you have to have the K through 12?* Yeah. *And with APE could be... do you have to be certified in anything or no?* No, they have to be... I guess be certified in... certified as a teacher... a PE teacher, the initial teacher certificate, BA. That is what they have to have to be able to teach PE. And anybody... you know but there is no extra, extra certification to teach APE. *Okay, so they could be certified in general PE to teach APE?* Yeah. *They could be certified in something like Special ED?* No. *APE?* Yeah. *Oh, they could?* No, no, no they couldn't. *Okay, so to just teach APE you just have to have the General PE.* Yes, right, right. General PE, right. Usually everybody has three credit course and the undergraduate program that is all they have. So, after you get a... really... I could teach APE or inclusive PE for that matter. *Okay.*