

ADAPTED PHYSICAL EDUCATION

Curricular Approaches Used by Adapted PE Teachers

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Abstract

Within adapted physical education (APE), there is a lack of knowledge regarding content and attitudes toward curricular domains, which can influence student learning. This study assessed APE teachers' attitudes toward four curricular domains. Participants ($n = 219$) completed a modified version of the Attitudes Toward Curriculum in Physical Education inventory. Results indicated that the importance of all domains, but higher for social development and physical activity. Understanding the content taught in APE will help teacher educators create programs that will provide preservice teachers with the content knowledge and pedagogy skills to meet the needs of their students.

The Office of Special Education and Rehabilitative Services (2009) reported that over 3 million students in the United States receive adapted physical education (APE) services each year. This translates to an estimated 56,000 adapted physical educators delivering services to those students (Zhang et al., 2000). Because both APE and general physical education have not been considered “core” subjects, they traditionally have experienced more flexibility in the determination and delivery of curriculum compared to other sub-

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jects (Kulinna et al., 2010). There has also been a lack of knowledge regarding the content of APE instruction, as well as how this curriculum has been determined. Research has shown that the majority of APE teachers deliver instruction based upon their own belief system (Pajares, 1992), spending the majority of time engaged in motor skill development and physical activity and fitness activities (Jewett, 1989). However, this is not always true. Chandler and Greene (1995) reported that although educators have traditionally placed a higher value on motor skill development, it was ranked third in their investigation. Traditionally, students in an APE class receive content within the five curricular areas of physical education as defined in the Individuals With Disabilities Education Act (2004), which defines what is considered appropriate content and curriculum. With a current push to increase physical activity levels of all individuals (Centers for Disease Control and Prevention, 2013), there still is a question of what content should be taught during APE classes (“Should the Main,” 2003).

Pajares (1992) stated that a person’s beliefs can be assumed to influence their decisions and behavior. Preservice educators’ beliefs have been observed to originate in several sources: (a) their K–12 physical education experience, (b) early field experiences, (c) reflections on past experiences and field experiences, and (d) their ability to reflectively and cognitively organize physical education subject matter (Kulinna et al., 2010; Kulinna & Silverman, 2000; Matanin & Collier, 2003). Behets (2001) further suggested that these preservice beliefs do not change significantly over the individual’s career. Researchers have also found that a teacher’s attitude and orientation toward specific topics and activities in physical education have the ability to influence students’ physical activity levels and overall physical literacy (Pajares, 1992; Starc & Strel, 2012).

Curriculum for physical education has been noted to involve several interrelated factors. Generally speaking, curriculum development is placed into the hands of the educators. Ennis (1992) reported that teachers’ attitudes toward the different curricular domains influenced the outcome goals they created for their classes. Ennis continued to state that most physical educators have a repertoire of teaching methods (learned during preservice coursework) and values that may shift depending on the teaching situation. This

fluid concept of what should be taught lends to the lack of research in the literature regarding curriculum for APE.

With a wide range of job duties, experiences, and qualifications, it has been difficult to research exactly what an adapted physical educator teaches during the day. Therefore, the primary purpose of this study was to determine what content was taught in an APE class and to determine the attitudes of APE teachers toward what should be taught. A secondary purpose of this study was to generate a snapshot of the typical APE teacher as well as explore potential relationships between years of experience, type of student taught, and attitudes toward curricular domains.

Method

Participants

All public school districts with a minimum enrollment of 15,000 students were recruited from across the United States. For states that did not meet this requirement, the largest school district in that state was selected to participate. Emails requesting email addresses of the district's adapted physical educators were sent to the districts' special education administrators. Special education administrators were asked to reply to the email if they did not employ adapted physical educators in their district.

Initial participants ($n = 416$) were recruited from 557 school districts across the United States. Of these, 219 surveys were completed (52.6%) with participants representing 33 states. Participants ranged in age from 23 years to 61 years and over ($M = 44.34 \pm 17.31$) with the majority of respondents being female ($n = 162$). This investigation was voluntary in nature and posed no threat to participants. Table 1 provides more demographic results. The Institutional Review Board for the university found this investigation to be exempt.

Instrument

The survey used for this study combined Kulinna and Silverman's (2000) tool to measure teachers' attitude toward physical activity and fitness and Kulinna et al.'s (2010) assessment to measure preservice teachers' belief systems. This 36-item inventory used a 5-point Likert-type scale with 1 being *extremely important* to 5 being *not important*. Questions were divided into nine sets of items. Reliability

Table 1
Participant Demographic Information

Demographic information	<i>n</i>	%
Grade level taught ^a		
Preschool	79	33
Elementary	206	87
Middle school	187	79
High school	177	75
Setting of school district ^a		
Suburban	148	57
Urban	76	29
Rural	49	19
Level of education		
Bachelor's	72	31
Master's	150	65
PhD	7	3
Years of experience		
0–4	38	16
5–10	71	31
11 or more	121	53

^a More than one response possible.

and validity have been shown to be within normal levels (Kulinna & Silverman, 2000). A separate pilot study further evaluated the validity of the modified instrument. Participants ($n = 20$) indicated that the survey was clear and easy to understand. Minor changes were suggested and incorporated. Reliability for each domain was calculated and determined to be appropriate: physical activity and fitness ($\alpha = .82$), self-actualization ($\alpha = .85$), motor skill development ($\alpha = .86$), and social development ($\alpha = .79$).

Protocol

A two-phase approach was used for participant recruitment. Phase 1 identified 557 school districts from all 50 states that reported

at least 15,000 students enrolled. Special education administrators in those school districts were contacted for the email addresses of their APE teacher(s). From these contacts, 261 surveys were sent to the adapted physical educators via Qualtrics. Participants were sent weekly reminders to complete surveys. Phase 2 used a mailing list of adapted physical educators, resulting in 150 additional surveys sent for a total of 416 surveys sent to adapted physical educators throughout the United States.

Statistical Analysis

Data were organized and analyzed using SPSS 20. Overall domain scores were calculated and compared using one-way repeated-measures testing. Multivariate testing, with Bonferroni adjustments if needed, established ranking of domains. One-way analysis of variance (ANOVA) determined significant differences in domain scores, years of experience, and levels of certification for educators teaching students with mild or moderate disabilities. Significance was set at $p < 0.05$.

Results

Curriculum

Because of the varied approaches of adapted physical educators, it was important to investigate curriculum being delivered in APE classes. In Section 1 of the survey, participants put in rank order the curricular areas they spent the most time engaged in. Results from this section show movement education, health-related fitness, sensory-motor integration, and lifetime leisure as the top responses (Table 2).

Domains

The second section and third section of the survey allowed participants to rate the four curricular domains relative of teaching students with mild or moderate disabilities and severe disabilities, respectively. Both groups ranked the four domains similarly (Table 3). There were no significant differences between the rankings of the domains according to educators who taught students with mild or moderate disabilities.

Table 2
Ranking of Time Spent in Curricular Areas

Curricular area	<i>M</i>
Movement education	3.66
Health-related fitness	4.40
Sensory-motor integration	4.65
Lifetime leisure	4.93
Sport skills	5.08
Individual and group games	5.08
Social development	5.84
Traditional games	6.66
Self-actualization	7.13
Dance	8.94
Aquatics	9.59

Note. The lower the value, the more time reported spent in that curricular area.

Table 3
Rankings of Curricular Domains

Domain	Mild or moderate disabilities	
	(<i>M</i>^a ± <i>SD</i>)	Severe disabilities
	(<i>M</i>^a ± <i>SD</i>)	(<i>M</i>^a ± <i>SD</i>)
Social development	4.15 ± 0.53	3.98 ± 0.67*
Physical activity & fitness	4.13 ± 0.56*	3.67 ± 0.91*
Self-actualization	3.85 ± 0.68*	3.55 ± 0.83*
Motor skill development	3.76 ± 0.67*	3.10 ± 0.97*

^aHigher value represents higher importance.

* $p < 0.001$.

The results showed significant differences in mean domain scores within the mild or moderate disability group, $F(3, 216) = 58.26$, $p < 0.001$. A Bonferroni adjustment revealed significant differences ($p < 0.001$) between physical activity and self-actualization, physical activity and fitness and motor skill development, self-actualization

and social development, and motor skill development and social development. There were also significant differences within the severe group, $F(3, 181) = 74.40, p < 0.001$. Again, a Bonferroni adjustment revealed significant differences in all combinations except for physical activity and fitness and self-actualization.

A third purpose of this study was to examine potential relationships between experience levels and whether the APE teacher was teaching students with mild or moderate disabilities and severe disabilities and the teacher's curricular beliefs. Overall domain scores for mild or moderate disabilities associated with years of experience appear in Table 4.

Table 4
Domain Scores for Mild or Moderate Disabilities by Experience

Domain	Low experience	Moderate experience
Physical activity and fitness	37.08	36.42
Self-actualization	35.44*	32.98*
Motor skill development	35.42	33.25
Social development	38.28*	36.27*

* $p < 0.05$.

Differences were observed between those with little experience (0–4 years) and those with moderate experience (5–10) in regard to self-actualization, $t(216) = 2.32, p = 0.021$, and social development, $t(216) = 2.43, p = 0.016$, suggesting that teachers with little experience viewed teaching these curricular areas as more important than their more experienced counterparts did.

Investigation into the ranking of the curricular domains by those who taught students with severe disabilities revealed significant differences in the domain of physical activity and fitness, $F(2, 181) = 3.084, p = 0.048$. Further investigation showed that the difference lies between those with moderate experience and those with high experience, $t(181) = 2.26, p = 0.025$. These results suggest that those with 11 or more years of experience place more importance on physical activity and fitness than do those who have 5–10 years of experience.

Demographics

Two hundred nineteen participants completed the entire survey. Table 1 shows demographic data collected. Through the survey, it was discovered that 50% of the school districts required some additional training or certification to be hired for an APE position. As depicted in the data, 114 participants noted that special training was a district requirement to be employed as an adapted physical educator. Of the 142 responses that indicated types of special training, 39% reported that their district required an APE certification. Of the 230 participants, 143 reported that they held a state-level endorsement, certification, or license, and 113 adapted physical educators reported being a Certified Adapted Physical Educator.

Discussion

This study investigated what physical education content was being taught, the attitudes of adapted physical education teachers pertaining to curricular domains and their importance, and if years of teaching experience and level of certification affected attitudes toward curricular outcomes.

The results of the study provide an idea of what adapted physical educators may place as the highest importance for APE curriculum. Although from a potentially small representation of APE teachers across the United States, the data show that APE educators focus on the social development and the physical activity and fitness of their students. Kulinna and Silverman (2000) noted that educators might value all orientations and that one may emerge as a dominant value orientation at a given time.

Physical Activity and Fitness

Similar to educators in other studies, adapted physical educators in this study reported high importance for all of the domains, including placing the highest importance on the physical activity and fitness domain. The field of physical education as a whole is trending in the direction of placing physical activity and fitness as an integral component in the foundation of physical education curriculum. Physical activity and fitness are seen as integral areas of physical education, especially since governmental agencies and national organizations have declared physical education as one of the best places

for students to satisfy their recommended amount of daily physical activity (Centers for Disease Control and Prevention, 2013; Kulinna & Silverman, 2000). For adapted physical educators, physical activity and fitness were rated highly across all levels of disability, certification, and years of experience. Yet the only real difference in attitude toward physical activity and fitness was between adapted physical educators with 5–10 years of experience and adapted physical educators with 11 or more years of experience.

Self-Actualization

Self-actualization has been noted to be a natural by-product of success in physical education. Adapted physical educators have mentioned that those two domains tend to go hand in hand within the physical education environment (“Should the Main,” 2003). When a student is successful, self-esteem, self-efficacy, and self-concept increase, which raises the question, which came first, success or increases in self-esteem, self-efficacy, or self-concept? The aforementioned position statement questions why is there a need to choose self-esteem or motor skill development as a primary focus for their physical education class. It suggested that both domains should be considered primary domains, and both domains should be the focus of APE because a desired outcome of APE is student success in physical education, as are increases in student self-esteem and self-concept for physical activities. By its nature, APE tends to feature the development of self-esteem paired with motor skill development because increased self-concept and self-esteem within the physical environment will increase the likelihood that the students will be more physically active outside of the school environment.

Motor Skill Development

Another discussion point within physical education is the balance of motor skill development and physical activity and fitness as primary objectives within physical education. Historically, physical education has been dominated by content and curriculum focus in these two areas (Jewett, 1989). Traditionally, motor skill development has been the foundation of physical education. As reported in the data from this study, participants rated motor skill development as third and, in some cases, fourth in terms of importance. These results agree with other studies of preservice and in-service

physical educators who rated motor skill development as the third most important domain in their respective studies (Kulinna et al., 2010; Kulinna & Silverman, 2000).

Interestingly, although participants in this study ranked motor skill development as third or fourth in terms of importance, they also reported that motor skill development was the physical education domain in which they spent most of their instructional time. Chandler and Greene (1995) found vastly different results in their study. Participants of that study reported spending 28% of their instructional time in motor skill development, ranking it the third domain out of five in terms of reported percentage of instructional time spent in that area. Adapted physical educators in this investigation demonstrated a disconnect between their belief system and their actions toward teaching motor skill development based on their reported time spent in motor skill development. Motor skill development had an average rank of 3.66 out of the 11 curricular areas, making it the highest ranked curricular area for adapted physical educators. Further research should be done to answer this question and to discover the amount of actual time spent and emphasis on physical activity and fitness and motor skill development in adapted physical education classes and to determine the correlation between time spent and the educators' reported belief system. Similar to physical activity and fitness, the selection of curriculum content is affected by many factors (Kulinna et al., 2000). Somewhere in the process of APE teachers selecting and delivering curriculum content for their belief system, interrelated factors may cause them to continue focusing on motor skill development despite what they may think is important for physical education.

Social Development

When teaching students with mild and/or moderate disabilities, participants in this study ranked social development as the second most important domain after physical activity and fitness. Others have reported different results. Kulinna and Silverman (2000) stated that physical educators reported social development as the fourth most important physical education domain. Similar results have been reported with preservice physical educators (Kulinna et al., 2010). It has been reported that 1 in 68 children are diagnosed with autism spectrum disorder (Baio et al., 2014). With this increase,

the number of children with autism spectrum disorder in adapted physical education has risen as well. Autism as defined by law is a developmental disability that significantly affects verbal and nonverbal communication and social interaction (Individuals With Disabilities Education Act, 2004). Students with autism who are nonvocal may have difficulties expressing enjoyment, frustration, and comprehension of physical education content, as well as have difficulties comprehending traditional physical education direct instruction. Similar to a barrier between a teacher and a student who is an English language learner, a barrier between the student with autism and the teacher will require the teacher to modify and adapt this instruction to provide instruction to this student. The social needs for students with autism may explain the amount of importance that these adapted physical educators placed on this domain.

Years of Teaching Experience

Results from this study showed that novice teachers of students with mild and/or moderate disabilities and minimal experience placed significantly more importance on self-actualization and social development than did teachers with moderate teaching experience who teach students with mild and/or moderate disabilities. For teachers who work with students with severe disabilities, results showed those with 11 or more years of experience placed significantly more importance on physical activity and fitness than did teachers with moderate experience. Novice teachers, on the other hand, might see all domains as important and equal objectives for physical education; they may also see basic classroom management as a much more important objective (Kulinna & Silverman, 2000). A teacher with more teaching experience, rooted in their belief system and having a firm grasp on classroom management, may shift their belief system to the foundations of physical education.

Conclusion

Obtaining a snapshot into the field of APE allows the field to know itself better. The demographics gathered in this investigation provide a better idea of the “traditional” APE teacher. With this information, recommendations can be made to better prepare preservice general physical educators and adapted physical educators. Full preparation programs create better, more efficient teachers (Darling-Hammond,

2000). Instructing preservice adapted physical educators on how to represent all domains of physical education within their early lesson plan writing experiences will help to build and maintain the habit of focusing on all or some of the domains. This will also help to limit “rolling out the ball” and teaching only one physical education content area. Learning from practicing APE teachers can help preservice educators prepare for their future job duties. It is obvious that current adapted physical educators place importance on all domains and at most times they might be doing a combination of two, three, or even four domains at one time. Preservice adapted physical educators must be prepared for the multifaceted and individualized nature of the current job responsibilities to contribute to the field and be effective right away.

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