The Physical Educator Vol. 74 • pp. 606–626 • 2017
https://doi.org/10.18666/TPE-2017-V74-I4-7499

PEDAGOGY

A Descriptive Analysis of the Application of PETE Standards

Andrea R. Taliaferro, Suzan F. Ayers, Lynn Housner

Abstract

Background: *In 2008, Ayers and Housner published a descriptive analysis of undergraduate PETE programs' application of the 2003 NASPE standards. The shift in emphases from the 2003 to 2008 standards motivated the examination of how U.S. PETE programs address current standards.* ***Purpose:*** *Based upon recommendations for future research, this study investigated how the 2008 NASPE beginning teacher standards are assessed. Technology, diversity, and adapted physical education (APE) were also analyzed.* ***Method:*** *Data were collected from 156 PETE program directors through a revised version of the Ayers and Housner online survey.* ***Results:*** *Programs utilized a variety of methods to assess teacher candidates' (TC) skills, with methods of assessing each standard reported. An increased number of programs required a multicultural/cultural diversity course (77.2%), APE coursework (96.5%), and at least one technology course (91%).* ***Discussion:*** *PETE programs have continued to improve in faculty and TC diversity as well as responding to standards. Future standards must be written to address identified weaknesses.*

Andrea R. Taliaferro is an associate professor, Department of Coaching and Teaching Studies, West Virginia University. Suzan F. Ayers is a professor, Department of Human Performance and Health Education, Western Michigan University. Lynn Housner is associate dean emeritus, College of Physical Activity and Sport Sciences, West Virginia University. Please send author correspondence to andrea.taliaferro@mail.wvu.edu

Physical education (PE) continues to be undervalued as a content area in American educational systems, and a long history of research indicates that PE is considered a marginalized subject in PK–12 school settings (Kahan & McKenzie, 2015; Lux & McCullick, 2011; Ward, 2013; Woods & Lynn, 2010). Despite research indicating the positive, evidenced-based effects of school-based PE on students' physical activity levels, fitness, skill acquisition, and even academic achievement (McKenzie, Sallis, & Rosengard, 2009; Silverman, 2005), the dominant view of students, fellow teachers, administrators, policymakers, and the public is that PE is not very important (McCullick, Belcher, Hardin, & Hardin, 2003; Rink, 2013; Solomon & Garn, 2014). This marginalization is further evidenced by the fact that PE continues to be largely overlooked in educational reform movements (Rink, 2013), leading Solomon and Garn (2014) to argue that school PE is in a state of peril and in need of revitalization as a core element of the school curriculum.

Strategies to address marginalization include creating quality PE programs in schools, improving school policies, and increasing accountability (Kahan & McKenzie, 2015). This process begins with quality, standards-based PE teacher education (PETE) programs (Richardson, 2011). Such programs are critical in ensuring physical educators are prepared with the knowledge, skills, and dispositions to develop, implement, and assess quality PK–12 PE programs (Crum, 2012; Heidorn, 2014).

The National Initial Physical Education Teacher Education Standards (National Association for Sport and Physical Education [NASPE], 2008; PETE standards in this paper) represent the essential knowledge base needed by teacher candidates (TC) to design, implement, and evaluate the essential components of quality PE. NASPE adopted versions of PETE standards in 1995, 2003, and 2008. As PETE standards have evolved, significant societal changes have been important in determining the standards emphasized in teacher education. For example, technology, diversity, and the practice of PE in PK–12 schools have emerged as important areas influencing PETE standards (Ayers & Housner, 2008; Davis & Frank, 2014; Jin, Yun, & Wegis, 2013; Gibbone & Mercier, 2014; Wyant, Jones, & Bulger, 2015).

To be successful in today's school environments, PETE programs have placed increased focus on preparing TCs with competencies regarding the pedagogical applications and adoption of instructional technologies (Gibbone & Mercier, 2014; Wyant et al., 2015). Ayers and Housner (2008) found that the majority of PETE programs integrated a variety of instructional technologies across their curricula, indicating that programs had begun to provide TCs with technology skills delineated in the 2003 NASPE standards. Although research on undergraduate PETE programs indicates that a single-course strategy that includes hands-on learning can enhance TC knowledge and self-efficacy, it has also been noted that a combination of approaches including modeling, stranding of technology-related learning experiences, and differentiated learning experiences with technology across the curriculum are needed for programs to facilitate meaningful learning and change (Ertmer & Ottenbreit-Leftwich, 2010; Wyant et al., 2015).

With the increasing cultural diversity in American schools (Kena et al., 2015), there have been calls for teacher education curricula to include coursework and clinical experiences to facilitate TCs' ability to work with students from diverse populations (Davis & Frank, 2014). Researchers have argued that physical educators may be ill-equipped to handle the increasingly diverse student population in PK–12 schools, with PE teachers reporting misconceptions about and lack of confidence in teaching students of color or with disabilities (Casebolt & Hodge, 2010; Hodge & Elliot, 2013). Although increased attention has been given to diversity, many PETE programs offer only an isolated course or two, with little attempt to infuse diversity-related concepts across the program (Ayers & Housner, 2008; Piletic & Davis, 2010). Given this approach, comprehensive treatment of diversity continues to be an area of concern within PETE programs (Jin et al., 2013).

We have learned more about standards-based PETE programs since Ayers and Housner (2008) reported on PETE programs' lack of diversity, emphasis on providing TCs with pre–student teaching field experiences, an overarching absence of curricular model emphasis, and the predominantly single-course method of "integrating" technology and diversity. Hetland and Strand (2010), for example, conducted a descriptive analysis of the PETE programs

from 44 colleges and universities in the central district of the United States and reported that 12% required skill testing as a graduation requirement. Only 21% of the institutions surveyed required TCs to pass fitness tests in courses. The content of the PETE programs in their study included NASPE and state standards (86.4%), curricular models (79.5%), fitness and wellness concepts (75%), and NASPE appropriate practices (68.2%). Technology was taught to TCs mostly through infusion rather that a stand-alone course, and adapted PE (APE) was covered in all programs with the majority (55%) of surveyed programs offering stand-alone courses. They also reported 27% of programs required TCs to join a professional organization.

Ayers and Housner (2008) proposed several recommendations for future research including analyses of PETE programs that are more detailed; investigation into how curricular models translate into practice; how existing curricula are updated; the impact of technology integration on faculty and TC knowledge and pedagogical skill; and how multicultural issues including faculty and student diversity, programming within the PETE curriculum, and effects of programmatic experiences are addressed. The shift in emphases from the 2003 to 2008 NASPE standards warrants this examination of how U.S. PETE programs are addressing current standards, as well as how technology and diversity content are being integrated.

Purpose

Based on Ayers and Housner's (2008) recommendations for future research, this study was designed to address the following research questions:

- What strategies are undergraduate PETE programs in the United States currently using to assess each of the six PETE beginning teacher standards (NASPE, 2008)?
- How are technology and diversity being addressed within U.S. PETE programs?

Method

Participants

The researchers assembled an initial list of undergraduate PETE programs in the United States (N = 609) through various sources including the PETE Program Directory (Ayers, Housner, & Kim,

2004) and Internet searches. From that list, 156 program directors responded to the survey request with completed and usable surveys (25.6% response rate), which primarily included programs at Master's Large (32%) and Baccalaureate/Diverse (20%) Carnegie level institutions from 44 states and 1 U.S. territory. Although the responding programs do not represent a random sample of PETE programs, they vary in size, type, geographic location, and programmatic emphasis.

Measures

The survey used in this study was a modified version of the survey used by Ayers and Housner (2008) for data collection. As Ayers and Housner explained (p. 55), this instrument was designed to collect strictly descriptive data, and face validity is acceptable for the interpretations made in this paper. The present survey included questions addressing (1) PETE Program and Faculty Information (16 questions), (2) PETE Program and Application of NASPE Standards (13 questions), (3) PETE Field Experiences (7 questions), (4) PETE Candidate and Faculty Professionalism (12 questions), (5) Diversity (14 questions), and (6) Technology (5 questions).

Data Collection and Analyses

PETE program directors at identified programs in the United States were invited via e-mail to complete the online survey. The invitation e-mail contained information regarding the study, notification of IRB approval, and a link to the online survey. Completed survey data were submitted to a secure Web-based data collection system. The initial contact resulted in 130 responses, and a second request, sent 1 month after the first contact, yielded 26 additional surveys. Data collection was stopped after the second reminder, based on the low number of third-reminder responses reported by Ayers and Housner (2008). A total of 156 programs responded with completed and usable surveys (25.64% response rate).

Upon completion of data collection, the database was downloaded into SPSS and verified for accuracy prior to analysis (correctly formatted and accurately visible). Descriptive statistics including percentages, means, and frequencies were calculated per item to identify practices within PETE programs.

Results

The findings are organized into three sections: Program Demographics, Strategies Employed to Assess PETE Standards, and Strategies Employed to Address Technology and Diversity. Because some of the individuals who reported data for the 156 participating institutions did not fully complete all parts of the questionnaire, and because some items included a yes/no response option and others asked respondents to check all that apply, items yielded different numbers of responses. Many questions offered respondents an option of "other," allowing them to provide an open-ended response regarding how they did or did not measure a particular standard.

Program Demographics

Of 156 responding programs, 72.1% indicated employment of one to three full-time PETE faculty, 20.7% reported employing between four and seven full-time PETE faculty, and 5% reported employing between 12 and 15 full-time PETE faculty. Approximately one third of responding programs (n = 56, 37.3%) were located within a college or school of education, 35.3% within a department of kinesiology or PE (n = 53), 2.7% (n = 4) within a college or school of sport and exercise science, and 24.7% (n = 37) were housed elsewhere. About one half of programs (51%) offered a BS degree, while 23.2% offered a BS in education, 14.2% a BA, and 11.6% another degree. Just over 43% of programs (67/154) required candidates to obtain a health licensure, and 28.6% of programs (44/154) indicated this was optional and 27.9% (43/154) indicated that a health licensure was unavailable. A K–12 teaching certification was most often offered (69.2%, n = 108) by responding institutions, with PK–12 the next most frequently offered certification (25.6%, n = 40). Less than 5% of responding institutions offered other certifications, including K–6 (3.8%, n = 6), K–5 (2.6%, n = 4), and both early childhood and 6–8 (1.3%, n = 2), with some institutions offering multiple certifications.

Faculty and TC Diversity

The results indicate that PETE faculty (91.2%) and TCs (78.7%) remain overwhelmingly White/Caucasian, with TCs being a more diverse group overall. On average, just over 5% of PETE faculty were African American and just under 3% were Hispanic, while 13%

of TCs were African American and just under 8% were Hispanic. Further, 54.5% of PETE faculty were female and 42.4% of TCs were female.

Strategies Employed to Assess PETE Standards

Over one half of the 156 respondents (53.2%) reported use of the 2008 NASPE standards within their undergraduate PETE programs. This section shares predominant examples of assessment strategies employed by these responding programs (n = 83) to achieve the NASPE standards.

Standard 1: Scientific and theoretical knowledge. The most common ways of assessing this standard, in descending order, were the Praxis II exam (60.2%, n = 50), course grades (50.6%, n = 42), and self-designed exams (25.3%, n = 21). Other reported measures of assessing Standard 1 provided through open-ended responses included state certification exams (n = 12), student teaching evaluations (n = 2), and program-designed exit exams (n = 2).

Standard 2: Skill and fitness-based competence. Responding programs conducted skill assessment through application in games (51.8%, n = 43), using critical element skill analysis and skill rating scales (47%, n = 39/83) and video analysis (20.5%, n = 17). Team sports still dominate the most common areas in which programs required TCs to demonstrate competence: soccer (65.1%, n = 54), basketball (60.2%, n = 50), volleyball (57.8%, n = 48), softball/baseball (49.4%, n = 41), and football (41%, n = 34). The most common individual or lifetime activities in which programs required competence included tennis (54.2%, n = 45), weight training and social dance (both 51.8%, n = 43), golf and gymnastics (both 42.2%, n = 35), and line dance (41%, n = 34).

Responding program assessed fitness-based competence predominantly using the FitnessGram assessment (48.2%, n = 40), with ActivityGram and President's Council physical fitness tests also being used minimally (7.2%, 6/68). Two programs reported through open-ended responses that they do not collect data to assess this standard.

Standard 3: Planning and implementation. The most common areas in which programs required TCs to plan and implement included technology use (98.5%, 64/65), content progressions

(97.4%, 76/78), lessons aligned with objectives (96.3%, 78/81), and goals and objectives aligned with standards (95.1%, 78/82). Nearly all of the programs (92.5%, 74/80) also required TCs to plan instructional adaptations for diverse learners and to plan and manage resources equitably (82.3%, 65/80). Technology and diversity are integrated across multiple elements in this standard.

Standard 4: Instructional delivery and management. The most frequently used assessment strategies required TCs to demonstrate how they use management rules, routines, and transitions (98.7%, 76/77); use strategies to foster personal and social responsibility (98.5%, 67/68); use, demonstrate, and/or explain cues (97.5%, 79/81); provide instructional feedback (96.2%, 76/79); demonstrate effective verbal and nonverbal communication (95.1%, 78/82); and adjust instruction for a dynamic environment (87.2%, 78/78). The curricular models that PETE programs reported emphasizing most frequently were health-related fitness (80%), Sport Education (69%), movement education (65%), and Teaching Games for Understanding (64%).

Standard 5: Impact on student learning. The predominant manners of assessing the effect that TCs have on student learning were to select and conduct assessments (95.1%, 78/82); use assessment before, during, or after instruction (93.6%, 73/78); utilize logs, journals, or the reflective cycle (90%, 54/60); and provide student learning data (75%, 60/80).

Standard 6: Professionalism. Professionalism, a critical element of a TC's dispositions, was a new addition to the 2008 NASPE standards. Responding programs' predominant means of assessing professionalism included engagement in a professional organization (86.4%, 57/66), use of dispositions rubrics (82.5%, 66/80), participation in a major's club (64.2%, 34/53), and engagement in community service (48.2%, 40/83).

Strategies Employed to Address Technology and Diversity

Technology. Nearly all (91%, 100/110) of the responding programs reported teaching PE-specific technology and required at least one technology course in the PETE curriculum. Table 1 outlines the types of technologies that programs reported teaching their TCs to use and those which TCs use in field experiences.

Table 1
Reported Technology Use in PETE Curriculum

Technology	Candidates taught to use %	Candidates use in field experiences %
Heart rate monitors	61.5	41.0
Pedometers	59.6	50.0
MS Office programs	55.8	45.5
Electronic game systems	25.6	12.2
Video editing	26.9	4.5
Flip camera	37.2	25
Internet/websites	57.1	35.3
Portfolio programs	29.5	14.7

Diversity: Multicultural diversity. Slightly more than 77% (88/114) of responding programs required a multicultural/cultural diversity course, 93.2% (110/118) provided culturally diverse field experiences or student-teaching placements, and nearly 30% (35/118) actively recruited international or minority candidates. Programs reported providing TCs with field experiences outside of student teaching to observe in rural (61.1%, 66/108) and urban (77.3%, 58/75) settings and to teach in rural (38.5%, 60/156) and urban (39.1%, 61/156) settings.

Diversity: APE. Over 96% of the responding PETE programs reported requiring APE coursework. The most commonly emphasized inclusive teaching strategies were modifying activities ($n = 112$), modifying instruction ($n = 111$), modifying equipment ($n = 106$), behavior management ($n = 102$), and communication strategies ($n = 101$). Just over 91% of programs reported covering APE and inclusion principles in other courses in some way (infused as an integral part of another course, $n = 66$; as a topic in other courses, $n = 33$; part of an existing topic, $n = 20$; or as a unit in other courses, $n = 14$).

Nearly 89% of programs included hands-on practical experiences associated with APE courses. Of these, 60.4% were held in off-campus locations and 33.7% were held on campus. APE practicum experiences were held in a variety of settings including school-based (48.5%), community-based (41.6%), and camps (8.9%)

and were designed as inclusive (36.5%), specialized for individuals with disabilities (28.7%), and/or reverse inclusion (8.9%). Examples of other settings described through open-ended responses included observing and assisting within special education classrooms, Special Olympics, TC-selected sites, experience across multiple settings, and single-day events. Reported hours required in the APE practicum placements ranged from 4 to 200.

Discussion

This descriptive study addressed the strategies that PETE programs in the United States use to assess the six PETE (NASPE, 2008) beginning teacher standards and how these program are addressing technology and diversity. The results of this study indicate that PETE programs utilize a variety of assessment methods, with more variation among programs in the assessment of Standards 1, 2, and 6. Reported assessment measures for Standards 3, 4, and 5, which focus on instructional practices, were thematically consistent. This section discusses the connections among the findings from this study and recommendations for future practices in PETE programs.

Program Demographics

Ayers and Housner (2008) found that PETE programs were underrepresented in terms of minority faculty and TCs, with the majority being Caucasian, and females representing less than one half of PETE faculty (48%). They therefore called for university programs to develop procedures to increase diversity among PETE faculties and prospective teachers. Results of this study indicate a continued lack of diversity, with PETE faculty remaining largely White/Caucasian (91.2%). The percentage of female faculty has remained fairly consistent at just under 55%. It appears, however, that TCs are becoming a gradually more diverse group, with 21.3% reported as non-Caucasian.

These results align with the findings of Boyce, Lund, and O'Neil (2015), who found that PETE faculty were less than 15% non-White and doctoral candidates were 25% diverse. Although researchers have found a continued lack of diversity in PETE programs (Hodge & Wiggins, 2010), the results of this study may foreshadow progress in this area. Like Ayers and Housner, we affirm the need for PETE programs to persist in deliberate recruitment strategies in an attempt

to attract future teachers who more closely resemble their PK–12 students. Strategies for recruitment and retention of highly qualified TCs from underrepresented populations, such as those proposed by Bulger, Jones, Taliaferro, and Wayda (2015), should be increasingly incorporated into PETE programs.

Strategies Employed to Assess PETE Standards

Standard 1: Scientific and theoretical knowledge. By far, Standard 1 had the least diversity of assessment approaches, which is logical given the factual content of the standard. However, one might argue that pedagogical and assessment strategies that are more authentic could make foundation knowledge more meaningful to TCs. There has been a long-standing debate regarding the relevance of discipline knowledge such as motor learning, biomechanics, and even exercise physiology, when taught from a highly theoretical perspective detached from application (Bulger & Housner, 2007; Ross, Metcalf, Bulger, & Housner, 2014). Researchers have suggested a number of strategies for integrating disciplinary knowledge with practical applications in teaching PE (Bulger & Housner, 2007; Bulger, Housner, & Lee, 2008). PETE programs can use these strategies to make explicit connections between the various disciplines and best practice in teaching PE: (1) making clear theory-to-practice connections in coursework and clinical experiences through curricular stranding, (2) using a wider variety of instructional methods to increase student engagement, (3) incorporating frequent experiential learning requirements in alternative settings, and (4) increasing professional expectations.

Standard 2: Skill and fitness-based competence. There appears to be a disconnect between current PETE curricula in the United States, which focuses primarily on team sports, and the types of activities most popular among and available to adults, individual, noncompetitive activities such as aerobics, swimming, jogging, strength conditioning, and cycling (Ham, Kruger, & Tudor-Locke, 2009). It is possible that team sports continue to dominate PETE programs because of the emphasis on this content in PK–12 settings. Although the philosophical issue of the tail wagging the dog is beyond the scope of this paper, we suggest that PETE programs are responsible for guiding the shift in PK–12 curriculum to more closely match lifelong learning skills that students will need after

high school. In doing so, future PK–12 teachers will be prepared to provide this relevant content.

Evidence suggests that PETE programs may not prepare TCs to facilitate the development of factors necessary to promote children's physical activity and fitness (Bulger, Mohr, Carson, & Wiegand, 2001). This highlights the need to provide such opportunities in PETE programs. TCs' skill and fitness levels have been debated in professional circles for many years, with little supporting research linking effective teaching or modeling of fitness to teachers' fitness levels (Webster et al., 2014). Philosophically, however, we support the idea of PE teachers serving as role models and possessing skill and fitness at levels that will allow sufficient demonstrations.

FitnessGram© is the only nationally supported fitness assessment in the United States, so these assessment techniques will likely become more common in the future, particularly in light of the role that health-related fitness assessment and practical use of those results play in the SHAPE America Comprehensive School Physical Activity Program initiative. In addition to well-established PK–12 curricular models and instructional approaches such as SPARK (McKenzie et al., 2009) and Physical Best (Ayers & Sariscsany, 2011), researchers have proposed a new approach, the HOPE model (Health Optimizing Physical Education; Metzler, McKenzie, van der Mars, Barrett-Williams, & Ellis, 2013), to help teachers assist PK–12 students in achieving health-related fitness knowledge and practices.

In addition, although the 2003 NASPE standards focused on health-related fitness in schools, as well as collaboration with parents, colleagues, and the community, it is reasonable to assume that the next iteration of the standards will contain language promoting the creation of physical activity opportunities beyond school-based PE classes, particularly given the emphasis in the National Physical Activity plan on the Comprehensive School Physical Activity Program (Castelli, Carson, & Hodges Kulinna, 2014). Linked to this will be the need for TCs to possess the knowledge and skills to help PK–12 students design and implement individual, scientifically-based fitness plans, which is central to the Physical Best approach that many U.S. PETE programs employ.

Standard 3: Planning and implementation. One unique component of Standard 3 is the requirement that TCs demonstrate these skills, not just plan them. For many U.S. PETE programs, this was

a notable change in the 2008 PETE standards with programs now required to provide evidence of TCs' instructional effectiveness and planning effectiveness. Standard 3 is critical to the eventual implementation of standards-based curricula in schools. Chen (2006) examined how teachers used standards in their teaching and found that only four of 25 teachers integrated NASPE standards into their curriculum and instructional practices. Castelli and Williams (2007) investigated the fitness knowledge of 73 middle school teachers and found that they did not have the knowledge base to meet the ninth grade expectations of the South Carolina assessment program. Finally, in a monograph, Graber, Woods, and Castelli (2007) examined children's achievement of national standards, asserting that no data are available to suggest that attaining standards is possible in PE programs. Clearly, U.S. PETE programs need to reconsider how they address PK–12 national standards.

Standard 4: Instructional delivery and management. Each aspect of instruction and management includes the themes of communication and adapting to changing instructional environments as opposed to unique standards as existed in former versions of the U.S. PETE standards. Responding PETE programs used curricular models as foci of their programs much more than did those in the Ayers and Housner (2008) study, in which 50% of programs had no curricular emphasis. It is encouraging that PETE programs have placed more emphasis on using evidenced-based curricular models. Now that these models are being used frequently in PETE programs, one would hope that they are filtering down and being used more frequently in PK–12 PE programs. Future research will need to address this important issue.

Standard 5: Impact on student learning. The role of U.S. PETE programs in determining the effect that TCs have on PK–12 students' learning reflects current educational trends. One of those trends includes an increased emphasis on teacher accountability for documenting student learning in the gym and classroom. Unfortunately, evaluation and grading in PE often remains based primarily on measures such as participation, effort, and "dressing out" (Young, 2011), which may perpetuate negative perceptions of PE and its teachers (Collier, 2011). When assessed in a reasonable way, factors such as effort and participation contribute to, but should not dominate,

the grading process. It is therefore encouraging that TCs are being equipped with authentic assessment strategies that focus on student learning of subject matter and the factors that underlie student learning (Baghurst, 2014).

Standard 6: Professionalism. The finding that over one third (37%) of responding programs required either state or national professional organization membership prompts one to consider if membership in a professional organization or major's club alone is adequate to develop and foster professionalism at the level necessary to improve the provision of PK–12 PE. Although not the primary focus of this study, ways to foster professional beliefs, behaviors, and attitudes in millennial and Generation Z candidates is a research area that is ripe for exploration and that can be connected to the vocational aptitude and predominant altruistic tendencies that McCullick, Lux, Belcher, and Davies (2012) reported from their national sample of U.S. PETE candidates. Although beyond the scope of this study, professionalism relative to socialization is an exciting area that deserves focused attention from PETE scholars.

Strategies Employed to Address Technology and Diversity

Technology. The findings in this study were a major change from those in the Ayers and Housner (2008) study, in which technology was integrated as a part of other courses rather than in a stand-alone course. The information in Table 1 reveals that although the majority of programs were teaching TCs to use PE-specific technologies, far fewer required the use of these technologies in field placements. More U.S. school systems are adopting the use of handheld or personal devices such as tablets and iPads, but technology funding for some PK–12 PE programs may still be limited. Pedometers were implemented during practical settings (50%) almost as much as TCs were taught to use them in PETE programs (59.6%). This provides evidence that current practitioners are implementing technology as much as context and budget limitations allow, so technology-savvy graduates will be well-placed with these skills.

As technology continues to advance, and as PK–12 schools continue to adopt and expand instructional technology, it is important that PETE programs stay current in offerings and in preparing TCs to use and apply technology to enhance student learning (Wyant et al., 2015). Although the application of technology in field expe-

riences might be a challenge at the beginning level, perhaps this would be a reasonable advanced standard that could demonstrate how teacher preparation standards can be integrated in a progressive manner with advanced standards building on beginning standards.

Diversity. Ayers and Housner (2008) reported that a majority of PETE programs identified coursework as the primary strategy for addressing diversity and multiculturalism. These programs also listed practicum experiences and adapted PE courses as ways of addressing diversity, but provided no detail regarding these experiences (Ayers & Housner, 2008). This study reveals an improvement from Ayers and Housner's finding that 66% of responding programs addressed multiculturalism via coursework. Of the 156 programs in this study, the majority required a multicultural/cultural diversity course, provided culturally diverse field experiences, and provided TCs with opportunities to observe teaching in culturally diverse settings. Given the increasing cultural diversity in American public schools (Kena et al., 2015), and given the goal of PETE programs to prepare TCs to engage with students from diverse backgrounds effectively (Davis & Frank, 2014), it is promising that U.S. PETE programs are actively planning for related preparation and field experiences in their curricula.

The 96% of responding PETE programs that required APE coursework in this study was a notable improvement from Ayers and Housner's (2008) finding that only 19.3% of programs included an APE program or course and higher than Hetland and Strand's (2010) report that 56.8% of programs taught adapted content in a separate course. It is promising that a majority of programs included hands-on practical experiences associated with APE courses, which has been found to be successful in improving TCs' attitudes, perceived competence, and self-efficacy (Taliaferro, Hammond, & Wyant, 2015). However, the majority of practicum experiences took place in noninclusive settings and this raises the question, what type of practicum design and experience will best prepare TCs to teach in inclusive environments?

Conclusion

Since their inception, NASPE standards for PETE have played an important role in moving the preparation of beginning teachers forward. Although the results of this study should be interpreted

with caution because of the small sample size and less than robust response rate, the findings indicate that PETE programs have continued to improve in response to standards. It is therefore critical that future standards are written to address weaknesses identified in PETE programs. Some of these areas stemming from this study include the need for improvement and further research in the areas of diversity, technology, and faculty development.

Additionally, future standards will need to align with the standards adopted by the Council for the Accreditation of Educator Preparation (2013), the accrediting agency for teacher education programs in the United States. With accreditation-driven program revisions, many professionals may find it challenging to keep up, particularly in a higher education environment in which curricular changes may be cumbersome. The good news, however, is that this study revealed that since 2003 the majority of PETE programs reported changes that have improved the quality of teacher preparation for future physical educators. PETE programs will further improve as they continue to embrace standards-based teacher education in the future.

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