

Looking Inward: Does physical Activity Promotion Training
Transfer Beyond PETE?

by

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ABSTRACT

Whole school physical activity (PA) programming provides additional PA opportunities at school beyond Physical Education. Physical Educators often absorb the additional responsibilities of leading such programs, resulting in some Physical Education Teacher Education (PETE) programs adopting expanded PA programming and integrating related topics into their curriculum. The Comprehensive School Physical Activity Program (CSPAP) is of interest to the present study as it focuses on Quality Physical Education and is the model utilized at the institution of interest.

Arizona State University's PETE program began integrating CSPAP concepts in 2009 and serves as the focal program for this study. The purpose of this study, which was informed by The Diffusion of Innovations and the Teacher Socialization Theories, was to determine the degree to which graduates integrate PA programming into their own K-12 schools. In a two-phase (electronic survey followed by campus visit and interview with sub-sample), mixed methods' approach, 101 graduates (between the years of 2000-2019) of Arizona State University's PETE program provided details of their current practices related to expanded PA.

Results: Quantitative findings included weak but positive relationships between year of graduation and knowledge of CSPAP and having positive perceptions of expanded PA as an innovation. Bachelors' graduates reported higher PA integration than Masters' graduates. Visual inspection of data shows a slight increase in perceptions of expanded PA as an innovation and a slight decrease in PA programming integration across years of graduation. Interviews provided evidence that more recent graduates may still be figuring out their roles, delaying their PA program. Increased perceptions scores

suggest the PETE program at ASU has been successful in providing students positive interactions with expanded PA programming. Graduates indicated they felt well prepared with strategies and resources for promoting and maintaining such programs, but they noted a need for more exposure to tools for initiating a new program. Findings can inform changes in the ASU PETE program and may be applicable in other settings. Establishing ongoing contact with graduates to provide marketing and support tools graduates can access may be beneficial as teachers often realize the need for these materials well beyond graduation.

DEDICATION

To my family who has lifted me up from the beginning of time,
none of this would have happened without your love.

To my beyond, who has been my rock
and demonstrated patience and love as he lives *one day at a time*,
'the darkest hour, is just before dawn'.

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CHAPTER 1

INTRODUCTION

“Physical Education and sport in schools take as their task the shaping of children’s bodies, both biologically and socially.” -David Kirk (1997, p.40)

The overweight/obesity epidemic in the United States (US) has turned attention to Physical Education as a possible solution to increasing physical activity (PA) levels of children (Graber, Locke, Lambdin, & Solmon, 2008). Dyson (2014) noted that due to a public awareness of childhood obesity, Physical Education has received more attention from the medical community, media, and society in general. However, this is woven within a cautionary tale whereby the assumed outcome of a health-related focus in Physical Education may be a bit loftier than reality can produce. With a push for Physical Education to be part of the solution for childhood obesity, the counter argument arises time and again that Physical Education, by itself, cannot be the panacea for reversing the obesity epidemic (McKenzie & Lounsbery, 2014). There is simply not enough time given to Physical Education programming during school during which to create a large enough impact on children’s health.

This chapter provides an overview of pertinent factors related to current issues affecting Physical Education in public schools in the US, and in particular related to an expanded role expected of Physical Educators. First the concept of a broader focus of Physical Education to include an awareness of and focus on public health concerns is introduced. Second, theoretical underpinnings for the study are explained. Third, Physical

Education Teacher Education (PETE) programming and the assessment of PETE programs are discussed. Finally, a brief description of a specific expanded PA program, Comprehensive School Physical Activity Program (CSPAP) is provided which will conclude with a view of the complex levels of connection between changes in Physical Education in the US, innovative responses to these changes, and the dissemination of key concepts and experiences within PETE programming.

Health Promotion Focus in Physical Education

There have been efforts in support of a shift in the focus of Physical Education objectives to promote a fusion among Physical Education, physical activity, and public health (e.g., Sallis & McKenzie, 1991). Sallis, McKenzie, Beets, Beighle, Erwin, and Lee (2012) looked at progress made in this health promotion regard and noted increased research evidence noting both PA's benefits and its place in Physical Education as well as increased evidence-based practices within Physical Education. McKenzie and Lounsbery (2014) similarly reminded us of the support of public health officials for Physical Education and the impact positive exercise and physical activity experiences throughout grade school can have on life-long activity engagement. This position comes with the understanding that although Physical Education is a piece of the solution, it cannot bear the sole responsibility for reversing decades of contributors to the current health situation. The recognition that learning sport skills, alone, does not translate to healthy habits throughout the life span contributed to this focal change to a public health focus. Public health organizations such as the Centers for Disease Control and Prevention (CDC), the Institute of Medicine (IOM), along with national associations for administrators (Association for Supervision and Curriculum Development, ASCD) and the Society of

Health and Physical Education (SHAPE America) have demonstrated some support of such blending of public health modeling through various means. For instance, the ASCD provides information on the Whole School, Whole Community, Whole Child model with resources for this collaborative approach. The CDC and SHAPE America, together, shared the CSPAP model and related resources for assessment and implementation of a whole-school approach to increasing opportunities for PA.

The integration of an expanded role of the Physical Educator into Physical Education Teacher Education (PETE) programming carries its own set of challenges (to be more deeply discussed later). However, the idea of training future Physical Educators to plan for PA outside of Physical Education class time has been integrated in to some PETE programs in the US (please see Journal of Physical Education, Recreation & Dance, volume 88). Descriptions from these universities of their process of integrating PA programming for their majors provides insight into the challenges and opportunities these faculty face in developing this type of inclusion.

Physical Education Teacher Education

Physical Education Teacher Education programs are a specialty area within the larger teacher education programs. PETE programs aim to produce high-quality Physical Education teachers who can successfully navigate the expectations of their roles. Developing quality Physical Education teachers comes with a host of challenges including coping with an ever-changing educational setting in the K-12 public school arena as well as being aware of policies influencing the field as well as PETE itself. Therefore, PETE faculty are responsible for not only preparing PETE students to plan and implement lessons to develop physical skills (while considering both motor

development and cognitive readiness), but also exposing future educators to topics related to knowledge, attitudes, and behaviors for the engagement in physically active for a lifetime in their future students. Additionally, faculty must also prepare future teachers for the public's expectations and policies that will impact the future of Physical Education. Considering the intention of a PETE program brings to light the question of 'what constitutes a successful PETE program? Further, how does one evaluate teacher education programs in Physical Education?

In a candid discussion of the interplay between PETE programs and the state of Physical Education in the United States, Siedentop and Locke (1997) boldly highlighted areas of potential improvements in the design and implementation of PETE programs. Their call identifies that PETE programs must, above all else, produce quality physical educators who will develop innovative and effective programs of their own that build positive physical activity experiences for students throughout their K-12 endeavor. In short, "for a program to be effective it must be more than a collection of courses" (p. 29). The charge is for PETE faculty to provide integrated curriculum that overlaps concepts throughout the degree and that allows students ample opportunities to observe model programs as well as gain experiences with actual students in schools. In a clear juxtaposition, this is no simple feat.

Learning to Teach

Lortie (1975) argued that generally one teaches like one was taught. That is, individuals learn to teach by being a student and developing their own belief systems about teaching. Occupational socialization theory (Lawson, 1986) lends some assistance when unwrapping this phenomenon. In the case of teacher education programs, college is

not the first time students are exposed to Physical Education mentors. Students have actively participated as students observing the occupation and developing beliefs and understandings about it which may or may not be in line with theories, evidence-informed practices, and methods presented once they enter an educational degree program.

Faculty's attempts to change these views may fall short in light of imprinted images from the students' past (e.g., Curtner-Smith, 1999). The present study will investigate the diffusion of an innovation in terms of modifying a Physical Education Teacher Education (PETE) program to include expanded PA programming throughout PETE-based courses and field-based experiences. The Comprehensive School Physical Activity Program (CSPAP; described later) will stand as a structural model as its five components provides a useful way to understand opportunities throughout the school day where additional PA may be offered.

Types of knowledge

It is generally accepted that teachers need content knowledge, pedagogical knowledge, and pedagogical content knowledge (PCK). Although it is commonly assumed content knowledge leads to application, establishing the level of preservice teachers' content knowledge and understanding, while useful, does not directly translate to their classroom practices. Shulman (1987) clarified pedagogical knowledge as those skills teachers must learn and utilize, regardless of their subject area focus, that relate to the more technical dimensions of teaching, such as the management of class such as, time, structure, organization, and behavior management. Content knowledge is specific information to the field, such as knowing all the skills, tactics, and rules of soccer. Where

these two sets of knowledge overlap results in what Shulman termed as PCK, which is specific to the specialty area. Rovegno (1992) suggested that PCK is more difficult to develop; perhaps explaining the delay for some students to fully understand concepts presented during a degree program that do not seem relevant until they are in the field. This delayed appreciation of content plays a role in the current study's interest in whether topics presented during PETE carry over in to a teachers' K12 practices.

SHAPE America Beginning Teacher Standards

Educators across subjects and grade levels create lessons to align with national content standards in order to ensure they prepare their students in areas of competence expected by their field's nationally recognized association (i.e., SHAPE America for Physical Educators). Similarly, for PETE programs, there are six overarching standards that represent competencies for which beginning teachers need to demonstrate fluency and be prepared to enter the work force. These standards are from of the Society of Health and Physical Educators organization (SHAPE America, 2017) and are as follows: (1) content and foundational knowledge, (2) skillfulness and health-related fitness, (3) planning and implementation, (4) instructional delivery and management, (5) assessment of student learning, and (6) professional responsibility. These headings provide a succinct topic which are then expanded upon in the document outlining the desired evidence of knowledge and competency. For instance, within Standard 2 (skillfulness and health-related fitness), an expected competency for a beginning teacher to possess is related to her/his own healthy lifestyle, "2.b Achieve and maintain a health-enhancing level of fitness throughout the program" (p.2).

Standard 6 (i.e., professional responsibility) is of particular interest to the present study. The standard's description of professionalism specifies an expectation for the new teachers to demonstrate commitment to professional development (i.e., their own lifelong learning). As well, there is an expectation for new teachers to have the needed knowledge to advocate for both physical education and promote physical activity beyond physical education classes. Within this standard is a justification and need for promoting school-wide physical activity. The subtlety of the phrasing, however, provides a nod to those supportive of a public health focus while it also captures the controversy at play as not all are on board with the idea of Physical Educators as physical activity leaders. This juxtaposition will play a role in the current project and will be visited throughout this manuscript.

Theoretical Framework

This project involves the study of the adoption of a new practice as a way of addressing the needs of K-12 students. The roots of this study lie in understanding the social aspects of change, and the ways in which individuals determine the value of an idea (in this case expanded physical activity programming beyond physical education) when deciding their own adherence to the change. The Diffusion of Innovations theory (Rogers, 1995) informs this study through descriptions of processes of change adoption and identified elements required for an individual to place value on a potential change.

Diffusion of Innovations Theory

Diffusion of Innovations theory (Rogers, 1995) provides the foundation for this project as it places perceptions and adoptions or rejections of innovations within a social change paradigm. In the following discussion of teacher education programs,

programmatic changes intended to adapt the field to meet a perceived change in the needs of society will be the innovation of interest. Theoretically, once persons are introduced/exposed to an innovation, they weigh the risks and benefits to adopting the change (Rogers, 1995). This process is said to spread within a social system accordingly. In fact, Rogers suggested the social structure itself affects the rate of diffusion. For the purpose of this study, the social system of interest is the PETE program.

The Diffusions of Innovations theory supports the idea that as the innovation becomes the norm at the level of the university program, it can be expected to diffuse out to local school districts and beyond based on the placements of student teachers and graduates attaining full-time teaching positions. A potential source of tension as the innovation is encountered and judged, is the individual's perception of how the innovation aligns with or divorces from their own previous impressions. In this case, when exposed to the expectations and responsibilities of an expanded role of a Physical Educator as a Physical Activity Leader (PAL), how does the model line up with previous ideas of what a Physical Educator is? To better understand this negotiation, it is useful to also understand the overall perception of innovations.

Perceptions of Innovations

With an appreciation for Rogers' description of the spread of innovations, it is also key to gain an understanding of the process of assessing the risk versus rewards ratio when determining the adoption of an innovation. In a 2016 survey of health educators, Glowacki, Centeio, Van Dongen, Carson, and Castelli (2016) discussed the CSPAP model's adoption process from the perspective of the Diffusion of Innovation theory by identifying CSPAP as the *innovation*, the active communication of PA opportunities as

diffusion, and teachers' working out how to implement the program at their school as *dissemination*. With this parallel, it is evident that the diffusion of innovations is not a passive process, but rather one that requires ample energy and buy-in from the intended adopter. Rogers (1995) discussed the elements of congruence for placing value on an innovation being *advantage*, *compatibility*, [low] *complexity*, *observability*, and *trialability*. Ultimately, when the perception is that an innovation is in line with one's personal values along these five areas, then there is a good chance the behavior will be adopted. These five adoption aspects have also been studied in relation to the adoption of other health-related curricula (e.g. Pankratz, Halfors, & Cho, 2002) and will play a key role in the present investigation of the CSPAP model integration and PETE programming.

Assessment of Teacher Education Programs

The American Psychology Association (APA) has weighed in on the topic of teacher education program assessment with little question as to an expectation that it is ongoing, scientific, and systematic (Worrell et al., 2014). Universities offer both a place to learn about ideas and limitless potential participants in ongoing research focused on each program's influence. With ample access to students, records, and even knowledge of job placement, these sites are ideal for researchers to learn more about the impact of teacher training. As research universities house resourceful faculty, one might expect to find a plethora of research conducted on higher education programs such as those preparing future physical educators. However, there is said to be a tendency toward avoiding turning research skills inward to investigate the quality and effectiveness of PETE programs themselves (e.g., Metzler & Blankenship, 2008).

A cursory glance at research databases using keywords of ‘teacher education program’ and ‘assessment’ provides results showing a multitude of research on various areas of teacher education preparation, however, a closer look reveals many of these resources to be unpublished dissertations that may never become circulated manuscripts for those in decision-making positions within university programming. It has been estimated that only 25 percent of dissertations like these will ever make it to publication (Evans, Amaro, Herbert, Blossom, & Roberts, 2018). This leads to programs potentially continuing with outdated and/or ineffective practices and designs that do not adequately prepare tomorrow’s teachers for what is expected of them.

Assessment of Physical Education Teacher Education Programs

Assessment informs programs, local policymakers, as well as other decision makers related to the given field (Worrell et al., 2014). Recognizing the value of PETE program assessment takes the discussion back to the earlier asked question, ‘what constitutes a successful PETE program?’ The next section focuses on assessment strategies aimed at PETE programs.

Several models of assessment have been developed or adopted by PETE programs. One strategy previously utilized for the assessment of PETE programs is to establish the level of content knowledge of the preservice teachers who have completed their coursework. For instance, Ayers (2002) looked at specific sub-disciplinary knowledge necessary for the future success of a Physical Education teacher such as knowledge in motor development, motor learning, and biomechanics. She then turned to the students to assess their knowledge of these areas as a way to assess the program’s adequacy in preparing its students as subject experts ready to teach Physical Education.

The content knowledge of students enrolled in the PETE program at West Virginia University were assessed in their first and final semesters so changes could be monitored depending on point of progress in the program. Scores were higher in those at the end of the program and specifically the highest scores were observed in the exercise physiology, historical perspectives of Physical Education, motor development, and social psychology test sections.

Some PETE researchers bring attention to the process of allowing individual program assessment to morph into program improvements. Inspired by Galluzzo and Craig's (1990) purposes of assessment, Metzler and Tjeerdsma (2000a) suggests PETE program assessment should be undertaken in order to reveal areas of and for improvement, understanding, knowledge, and accountability. In their reflection of program assessment, a point is made that clarifying the reason or inspiration of a given change is not necessarily the most important part of the process, rather, identifying when the decision was made and assessing the program. Perhaps to keep the attention on forward progress rather than on past political or controversial moves within a program. This attitude is parallel to that of the APA which uses a similar tone to reiterate that highest quality data collection in the assessment process is imperative to result in the ability for programs to actually use the data to make better decisions and make improvements (Worrell et al., 2014).

PETE Program Impact

The lasting impression of a PETE program that stays with a graduate as they become a Physical Education teacher is sometimes difficult to capture fully. As discussed previously, PETE programs aim to provide students with an assortment of teaching tools

and expose them to aspects of the field of which they may have previously been unaware. There is evidence that students maintain many of their own, personal, beliefs which are evident during observations of student teaching experiences (Graber, 1995). The observed maintenance of personal beliefs even throughout a student's pre-professional process points to the difficulties faculty face when trying to influence any student's preconceived notions and beliefs about physical education.

Conversely, Rovegno (1992, 1993) and Lee, Hagood, Kingsley and Hare (2014) reported positive influences on students' attitude towards and use of Physical Education models, such as a movement education model, and professional dispositions over the course of their PETE experience due to specific course foci/integration of such topics. With an appreciation of the difficulty in changing students' beliefs and conceptions, PETE faculty continue to look for ways to influence future teachers. Graber (1996) reiterated the need for cohesion and concluded that PETE programs need to have a thematic approach that is integrated and crosses courses throughout the program after studying characteristics of a successful PETE program. Through interviews with faculty ($n=10$) and students ($n=6$), course observations, and analysis of documents such as the student handbook and course syllabi, Graber found key themes that contributed to the success of this PETE program. Along with a thematic approach throughout the program, additional themes focused on faculty actions and included programmatic reinforcement (the thematic approach is constantly reinforced throughout all courses), providing students experience with professional development courses each semester that fall outside of their regular course work, and faculty consensus in a commitment to the direction of the program.

In a potentially overlooked avenue through which PETE programs have a lasting effect is through the placement of their student teachers. Woods and Lynn (2001) shared comments from current Physical Educators who indicated one way they stay current in their practices is by taking on student teachers. This process holds them accountable for their own skills (since they are observed more consistently) but also allows teachers exposure to new techniques the student teachers use as well as their fresh energy and excitement for teaching. In terms of the current project, an example might include current PETE students having more familiarity with expanded PA and bringing new energy to a school by sharing PA programming strategies with current Physical Education teachers.

CSPAP Overview

The CSPAP model is composed of five separate components within which the PA culture at a school can be elevated. This model provides a convenient way of visualizing PA promotion, but, as will be discussed throughout, is also a complex design that may be difficult to fully implement within a K12 structure. The keystone of the model is a quality Physical Education program; the other four components are meant to compliment the Physical Education program and get the whole school community involved. The remaining components are (a) before and after school, (b) during school such as classroom activity breaks or lunch-time intramurals, (c) family & community involvement, and finally (d) staff engagement and programming.

CSPAP within PETE

During a recent Physical Education Teacher Education and Health Education Teacher Education (PETE/HETE) conference, Corbin, Le Masurier, Brusseau, Mitchell, and Lambdin (2018) encouraged PETE programs to integrate whole-school modeling

since it may eventually be the ‘norm’ and prospective students may then enter these institutions already expecting to fill the expanded role of the Physical Education specialist and campus physical activity leader. This is where PETE programs take the keystone position in creating change in the field. Hunt and Metzler (2017) completed a literature review of CSPAP adoption in K-12 schools. One noted strategy for overcoming barriers to implementation was increased integration of the CSPAP model in PETE programs to prepare future teachers for a role as campus-level PA leader in schools. Interview data from faculty specifically selected from PETE programs deemed as ‘highly effective’ provides additional support for CSPAP integration in a study by Webster et al. (2016). They reiterated the idea that PETE programs need to reflect on the evolving role and expectations of Physical Educators and adjust their program offerings to adequately and responsibly prepare future educators for success such as integrating CSPAP preparation.

Current State of PETE in Arizona

Arizona is fortunate to be a state that employs certified Physical Education specialists in schools to teach Physical Education at the elementary level. It is important to note that according to the 2016 Shape of the Nation report (SHAPE America), having credentials with a specialty in Physical Education is not required to teach such classes at the elementary school level for all states; for instance, the 2016 SHAPE report indicated that 31 states indicated classroom teachers (also called generalist teachers) were permitted to teach Physical Education classes. This means any person holding a valid teaching certificate, although not trained in specific pedagogical content related to Physical Education, may be teaching children Physical Education. This is a topic separate

from the focus of the present research yet worth noting as it does reflect the educational values represented in the state and effects the quality of programs offered to children, on which public opinion and values are potentially based.

In Arizona, there are three university bachelor's programs offering degrees in Physical Education: Arizona State University, Grand Canyon University, and Northern Arizona University. Echoing trends across the United States (Blankenship & Templin, 2016; Ward, 2019), the Physical Education bachelors' degree program in the first established university in the state, the University of Arizona, was disestablished in 2009; this university now only offers a minor and an athletic coaching certificate. Arizona State University is the only state program offering baccalaureate and post-baccalaureate degrees in Physical Education. The master's degree program also offers an initial teacher certification program in physical education for individuals who hold a bachelor's degree.

Of particular interest for this line of research is ASU's commitment to the inclusion of CSPAP in their PETE program. Applying lessons learned from previous research suggests that it is important to have an intentional PETE program focus (e.g. Graber, 1996; Webster et al., 2016), faculty consensus on the focus (Graber, 1996), to provide resources for, and include assignments related to the focus across programs. In the case of the current study, the conceptual PETE programmatic focus is training for an expanded PA programming in addition to quality Physical Education program.

The Journal of Physical Education, Recreation and Dance (JOPERD) devoted a full issue to PETE programs, including ASU, that have adopted the CSPAP model into their curriculum (JOPERD, volume 88). In the opening discussion, Castelli, Carson, and Kulinna (2017) use Rogers (1995) vocabulary naming teachers as *change agents*. This

themed issue shared experiences from eight PETE programs which represents a minority among programs; in a 2016 dissertation study (Kwon) surveyed 144 PETE programs and found 74.3% were void of any CSPAP integration. This demonstrates why PETE programs who have begun integrating CSPAP components into their curriculum are viewed as early adopters in the Diffusion of Innovations' terms.

Study Purpose & Overarching Research Questions

Considering concerns surrounding youth sedentariness, Physical Education's role in promoting positive physical activity experiences, and PETE programs' role in setting the standard for future physical educators, the purpose of this research study is to evaluate the influence of a specific PETE program on its graduates related to integrating an expanded physical activity program in their teaching positions. There are inherent challenges from the outset of CSPAP model implementation such as school-level decisions that may fall outside of the teacher's control. For instance, a PETE program graduate getting a job at a school whose administration does not support CSPAP versus a graduate who gets a job at a school that already has a thriving CSPAP. In an effort to investigate transfer of physical activity programming from a PETE program to PETE graduates' implementation, a mixed methods' project is being used. Transfer will be investigated through: (a) investigating graduates' perceptions of PA programming, (b), and examining graduates' level of implementation of expanded PA programming at the school where they are currently employed (c) observing programs lead by graduates to learn about the PA culture and programming in these schools as well as to conduct fidelity checks of reported programming, and finally, (d) by sitting down with physical

educators to discuss PA programming and their alma matter's influence in their current teaching practices.

To achieve the stated purpose, the following research questions will be asked:
Sub-questions will be examined along each line of focus and will be addressed in subsequent chapters.

RQ1: What is the level of implementation of PA programming beyond Physical Education class by Physical Education teachers from Arizona State University?

RQ2: What is the perception of expanded PA programming by Physical Education teachers from Arizona State University?

CHAPTER 2

LITERATURE REVIEW FOR CSPAP IMPLEMENTATION AND STAKEHOLDER PERCEPTIONS OF CSPAP IMPLEMENTATION

Introduction

Aspects critical to understanding both the changes to the roles of physical educators and the needs of curricular adaptations will be discussed in this review. Topics to be visited include Physical Education Teacher Education (PETE) assessment, understanding the components of the Comprehensive School Physical Activity Program (CSPAP) as a specific whole-school physical activity (PA) model, and the theoretical foundation related to Diffusion of Innovations. With a clear understanding of these topics, this review will close with a discussion of the connecting thread along the path pulling these topics together within PETE programs.

Preparing Physical Education Teachers for Their Future Roles

In the discussion of PETE programs, identifying what makes an effective Physical Education teacher is imperative. The Society of Health and Physical Educators (SHAPE America, 2017) has clarified national standards for expectations of competencies beginning Physical Educators should have. Broken up into six general categories, the full document provides detailed components within which a Physical Education teacher candidate should reasonably be expected to demonstrate competence. The standards cover the following areas: (1) content and foundational knowledge, (2) skillfulness and health-related fitness, (3) planning and implementation, (4) instructional delivery and management, (5) assessment of student learning, and (6) professional responsibility.

In one commentary, Dyson (2014) provides some insight into the complexities surrounding teacher education in general. Specific to Physical Education, the author focuses on quality Physical Education as containing three influences: content knowledge, holistic approach, and policy impact. In regards to content knowledge, Dyson refers to Shulman's (1987) distinction between general content knowledge and pedagogical content knowledge. With this distinction, the emphasis for Physical Educators turns to the specific knowledge that is required to teach the intricacies of movement skills and tactics. Dyson placed himself in slight contrast to the articles he was reviewing by noting an absence of affective domain in the descriptions of quality Physical Education. The suggestion having been that qualities such as interpersonal relationships and emotions are naturally part of a good Physical Education program. To this point, Ennis' (2011) description of Physical Educators who address the whole child and promote healthy lifestyles all around was used as support. Finally, Dyson promoted participation in policy as important in Physical Educators roles. Specifically, he noted the tendency for policy makers to equate Physical Education with *fitness* and a reliance on the field in using a medical model with policy intentions aimed at single-handedly conquering the obesity epidemic. These echoes from Dyson and Ennis imply that PETE programs need to include all of these dimensions in their processes of preparing future Physical Educators.

Silverman and Mercier (2015) took teachers' content knowledge point a step deeper and provide a visual depiction of the interconnected variables effecting Physical Education outcomes (Figure 1). Authors provided a discussion of the need for Physical Education teachers to have the pedagogical content knowledge necessary to develop and implement lessons specifically aimed at student learning in the area of motor skills.

Extending this a bit further, authors also drew on literature regarding perseverance and students' attitudes in Physical Education, noting Physical Education teachers must learn how to deliver these lessons in a way where students are enjoying themselves – hence building their confidence and increasing participation versus negative attitudes interfering with student learning.

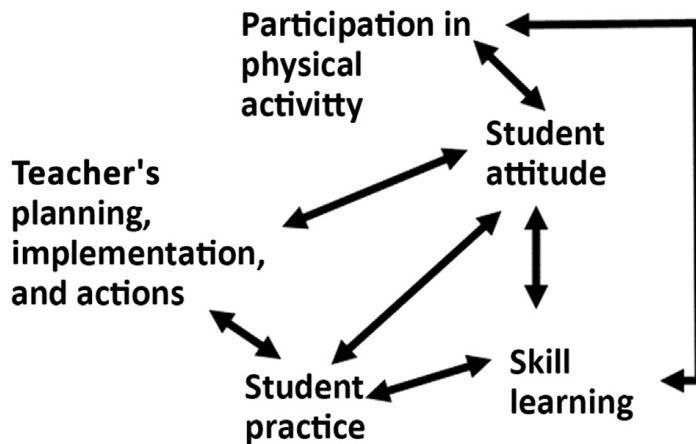


Figure 1: A model of the instruction and learning variables in Physical Education. From Silverman and Mercier, 2015.

Preparing future Physical Education teachers requires understanding these complex and dynamic relationships in order to set up current PETE students for success in future teaching roles. Richardson (2011) pointed out the need for teaching future teachers how to be effective within the current limitations teachers experience such as limited time, space, and resources as opposed to setting them up to only be effective in an ideal settings with abundant support.

Dyson and Williams (2013) provided insight into the use of a prior edition of PE Metrics (National Association for Sport and Physical Education, 2010) to train PETE students in the use of standards-based assessments which lends credibility to their future

programs by establishing ongoing student assessments of K-12 students' skills acquisition through Physical Education classes. The author draws a connection to the national Physical Education content standards (SHAPE America, 2017) as the assessment of skills through this tool allows Physical Education teachers to objectively assess students "in a variety of motor skills and movements" (p.2) which satisfies Standard 1. Additionally, for PETE program implementation, modeling the practice of integrating PE Metrics prepares PETE students by providing resources to increase their own content knowledge (Standard 1; listed as 'a' previously) and to plan for student assessment (Standard 5; listed as 'e').

PETE Program Assessment Literature

Previous academics have referenced to the lacking teacher education program assessment in the research agendas suggesting the topic slips into a crevasse between studying teaching and teacher education (Galluzzo & Craig, 1990). In a stinging statement, Graber (1988) proclaimed "teacher educators seem to know more about what happens to students in public schools than they do about what happens to students in their own classrooms" (p.2). Metzler and Tjeerdsma (2000a) expand this observation to include that it is also due to a failure to link ongoing program assessment with program actions already in practice.

In this section, the existing body of literature was investigated to better understand how PETE programs are currently evaluated in the United States and to reveal how these procedures may be applied to examining innovative programs and their impact on future teachers. With these goals in mind, a review of the literature was conducted using resources available within a large research university library system. The *advanced*

search features within the university search engine served as the basis for identifying relevant literature. The phrase “physical education teacher education” was entered in combination with “effectiveness” and the results were filtered to those articles including both portions in the article abstract. In an effort to address apparent gaps in the collection, a secondary search within the search engine included the phrases “PETE programs”, “physical education”, and “assessment” again within the abstract; together, these searches resulted in 78 articles with topics spanning from assessing the use of technology in PETE and physical education programs, to assessing PETE programs themselves through students’ preparedness to teach or through students’ accounts or opinions of their readiness to teach. Any duplicate listings were removed and the articles’ abstracts were evaluated for inclusion. As articles were included, their reference lists were used to find any resources that had not surfaced through the key word searches. If they met the inclusion criteria, they were also added to the collection for synthesis.

After applying the inclusion criteria to the abstracts, 44 articles were included and their full texts were read to find pertinent information. Although the collection represents a broad range of evidence around assessment, ranging from how students are evaluated to the actual evaluation of a program itself, the following synthesis offers useful insight into PETE assessment practices. This discussion will begin with articles focusing on PETE program assessment itself followed by assessments used within PETE programs.

Socialization Theories

A clear preference to understand the process of becoming a Physical Education teacher through socialization theories was evident. Of the twenty-one studies that included a theoretical framework, about half of them ($n=11$) were grounded in some type

of *socialization* theory. Occupational Socialization Theory (OST; Lawson, 1983), and Social Learning Theory (SLT; Bandura & McClelland, 1977) provided support to understanding the fact that learning to be a teacher begins in early childhood as we observe Physical Education teachers in action (OST calls this *acculturation*; SLT refers to it as *observational learning*) and begin to compose a personal understanding of what it means to be a Physical Education teacher. This process continues into professional development in PETE programs as well as into the stages of formally becoming a teacher.

Longitudinal Studies of PETE Programs

Some PETE programs have established ongoing assessment strategies and shared processes of assessment development, data collection, and results and suggestions for program improvement as a result of the reflective process. In the US, Georgia State University and the University of South Florida have both shared longitudinal program assessment experiences in the literature.

Metzler and Tjeerdsma (1998, p. 470) define program assessment as “the sum of the related activities used to gather, interpret, analyze, and use information for making decisions and improvements in the implementation and effectiveness of an initial certification program.” Included in the literature are accounts from programs that have developed ongoing systems to accomplish this in their PETE programs. Through Metzler and Tjeerdsma’s piece, the PETE community is exposed to one suggestion for ongoing, comprehensive program assessment that they refer to as the Development, Research, and Improvement (DRI) model. The authors clearly indicated all PETE programs are not the same and, therefore, cannot be expected to benefit from a single type of assessment. The

DRI model was suggested as a tool that programs may make use of to customize their own assessment process. This assessment process centers around specific questions intended to glean clarity on what success means to a given PETE program. Specifically, the questions for each stage are: development stage – ‘what are we doing in this program?’ and ‘why do we do these things?’. During the research stage, the questions would be – ‘what evidence will we accept as indication of program effectiveness?’, and ‘how will we obtain this evidence?’. And during the improvement stage – ‘how do we use the collected evidence for making improvement in the program?’ (p.473).

In the years following its development, the DRI model was put to use at Georgia State University, and Metzler and Tjeerdsma (2000b) shared the outcomes of the model’s application in a JTPE Monograph. They shared reflections from the development stage which included engaging the full faculty in discourse to discern what the program goals really were and to get buy-in for participation in this assessment process as well as commitment to make changes based on the outcomes. During the research stage, the faculty worked to identify the most valid sources of student work to demonstrate knowledge and skills acquisition. For their program, the faculty chose to look for evidence students were meeting the NASPE (1995) National Standards for Beginning Physical Education Teachers. Once the faculty agreed on which projects, assignments, and/or grades would be used as their evidence, they additionally decided to collect data from faculty and cooperating teachers. Finally, in the improvement stage, authors share of the benefits of having all these outcome markers organized regarding program assessment. Data allowed for tracking full cohorts’ changes over time and checking

individual or single assignment outcomes for quality/relevance in addition to assessing alignment to meeting the NASPE beginning teacher standards.

Woods and Lynn (2001) presented findings associated with continued program assessment practices involving following up with six students both in their first and tenth years after graduating from the University of South Florida. Three were actively engaged in being Physical Educators while three were in the process of leaving the profession. There was evidence the teachers were continuing to use a lesson content development method (e.g., informing, extension, refinement, and application tasks; Rink, 1998) that was introduced and promoted in their PETE experience and comments by the participants indicated the practice was indispensable in their planning and organizing of classes (Woods & Lynn, 2001).

Another lesson communicated by the authors was that all six participants indicated their learning process continued beyond graduation and into their professional experiences. In relation to program assessment, this might imply the PETE program encouraged students to continue their efforts as a life-long learner and to seek out quality professional development. Woods, Richards, and Ayers (2013) reiterated this message in their advice to PETE programs encouraging the offering of continued education to practicing Physical Education teachers in order to not only foster the development of new content-specific knowledge and skills but as a way to positively engage with practitioners and strengthen the number of high-quality programs in the field.

Gurvitch and Blankenship (2008) reflected on their ongoing process of data collection for the purpose of assessment of their PETE program at Georgia State University. Through this practice of contacting graduates, questionnaire and interview

data were collected investigating whether recent graduates (within five years of the published study) were using Instructional Models in their current Physical Education classes. Although the results showed many former students were primarily using traditional/direct teaching models, there was also some evidence of impact on exposure and practices related to other teaching models. For instance, when discussing facilitators to use of teaching models such as Sport Education Model, Cooperative Learning, or Tactical Games Models, former students referred to their exposure during their PETE program; their own comfort, and personal familiarity with the model as major influences of their use of these models as a teacher. In terms of looking at slippage or, what is called ‘washout’ (Gurvitch & Blankenship, 2008), these results support that what goes on during professional training in a PETE program influences future teachers by providing many experiences for students to learn about and experience such models and feel comfortable with their continued application beyond graduation (as opposed to doing away with the practice and reverting back to a traditional approach). The authors left readers with a suggestion for future research to focus on non-implementers to learn about why they are not implementing practices taught in their university programs.

Singular Studies of PETE Program Effectiveness

Another category of the literature falls under singular investigations of individual aspects of PETE programs. For instance, several studies look at the effects on students related to their participation in a particular course within a PETE program (Crawford, O’Reilly & Luttrell, 2012; Harvey, Curtner-Smith & Kuklick, 2018; Braga & Liversedge, 2016; Renhaw, Davids & Brymer, 2016; Webster, 2017). Although the studies do not directly reflect on PETE program assessment, their methodologies represent programs

and/or courses with clear objectives related to influencing PETE students' practices once they enter the profession. Meaningful information gleaned from this category include promising evidence that PETE programs can challenge students' preconceived notions (built in acculturation) of what Physical Education entails. For instance interview data from preservice Physical Education teachers demonstrated that through a models-based approach, students who entered their PETE program leaning towards a coaching orientation recognized the benefits of focusing on pedagogical techniques and adopting a more moderate teaching orientation (Harvey et al., 2018).

Similar findings were reported from a course focusing on a tactical games approach (Grubacs-Collins, 2007) during which preservice teachers experienced a shift in their beliefs about using such an approach as well as demonstrated increases in their content knowledge for teaching skills and tactics in games. In another study involving one curricular approach, this time, Sport Education, preservice teachers involved in their clinical teaching opportunities were observed teaching and also participated in focus groups to discuss their use of the Sport Education model (Braga & Liversedge, 2016). Major themes of challenges discussed by participants about the use of the Sport Education model were time/energy of planning, establishing fair teams, and assessing skills development. Facilitators included getting exposure to the Sport Education model in a specialty class for Physical Education majors prior to their field experience; although this outcome does not directly relate to PETE program assessment, it does imply the importance of exposure to various models for Physical Education majors. The other themes for facilitators were establishing consistent routines and having a knowledgeable

and helpful supervisor; both of these themes offer useful points to consider for programs expecting similar model use by their students during their field experiences.

A separate study, also involving Sport Education model adoption, tied together the two former concepts of shifts in orientation and implementation of the curricular model (Curtner-Smith, Hastie & Kinchin, 2008). This study crossed international boundaries by interviewing both American and British Physical Education teachers in their first or second year post graduation. They found that even those teachers who began their PETE experience with a stronger *coaching* as opposed to *teaching* focus embraced the Sport Education curricular model and were actively applying it in their teaching practices (although only four used the full model while three more had a watered down approach, and the last two were said to be misinterpreting the model and, therefore, applying it incorrectly). All participants indicated their PETE program had a positive effect on their preparedness to be successful in the field. Again, although not directly tied to a particular program's assessment, this study provides strong support that PETE students benefit from clear program objectives as demonstrated in these focused studies.

Providing Recommendations to PETE Programs

A notable selection of articles (n=8 or 22%) presented suggestions based on personal experiences and observations within the field rather than coming from a single, original piece of research. Siedentop and Locke (1997) reflected on the connection between Physical Education and PETE programs observing that changes in one area were slowly evident in the other. This brings to focus the importance of monitoring change, but also that change is a slow process. These authors also provided their take on the main objectives for PETE: “(a) initial preparation of teachers, (b) continued professional

development of teachers, and (c) the improvement of Physical Education through development and sustainment of better school programs” (p. 28).

Melville (2009) called on PETE programs to make changes to reflect the evolving role of the Physical Educator that requires PETE graduates to prepare for a role as a wellness promoter in addition to a skills and content specialist. This reflective piece referred back to national survey data from 2006 ($n=755$ preservice PETE students) noting previous cohorts of preservice PETE students indicated their desire to be an athletic coach as their motivation for choosing the major 2:1 over those who believed the field aligned with their own beliefs in living healthy and being fit. The author left the reader with suggestions for recruitment fliers and student questionnaires aimed at filtering out prospective students who may not align with the current needs for Physical Education teachers.

The reality, however, with the current state of diminishing programs or decreased enrollment, many programs would probably avoid leaving out these prospective students and, instead, look for ways to more positively influence changes towards *teaching* orientations. For example, in a recent recruitment survey of PETE programs, of the 210 program coordinators who completed the survey, 34 indicated they were no longer accepting applicants; this represents a loss of 16% of undergraduate PETE programs just in this sample (Richards, Killian, Graber, & Kern, 2019).

A consistent theme related to the assessment of PETE programs was a reference to preparing future physical educators to be Quality Physical Educators with support for this objective being pulled from the Institute of Medicine’s 2013 clarification that instruction should be the primary purpose of Physical Education. Additionally, several

authors pointed to the need for educators to align with national standards from the Society of Health and Physical Educators American (SHAPE America) in order to focus on needed skills and attitudes to engage in lifelong physical activity. Finally, there was also a frequent reference to accreditation and the need for the ongoing collection of artifacts demonstrating students' successful attainment of required elements (MacDonald, Uhrich & Chepko, 2016; Marti, 2014; Wiegand, Bulger, & Mohr, 2004). The implicit suggestion being to wisely multitask and collect data that can stand as both accreditation documents as well as data for program assessment.

Ask the PETE Participants

One frequently used strategy for assessing PETE programs was to directly ask PETE stakeholders about the effectiveness of the program. In these articles, stakeholders included PETE faculty, PETE students, K-12 students of PETE student teachers, graduates and current Physical Education teachers. In this section, each category of stakeholder will be more deeply discussed in its own section.

PETE Faculty

The topic of student retention becomes vital to the growth and sustainability of any academic program; in terms of a program assessment, student retention could well be an area to be used for demonstrating effectiveness. Richards and Graber (2019) requested feedback from PETE program coordinators across the US to learn about the current practices and barriers related to PETE student retention. PETE coordinators perceived some practices as being more effective than others; the top three effective practices were 'Provide access to academic advising' ($M=4.93$ out of 6), 'Encourage positive faculty-

student relationships' ($M = 5.02$), and 'Develop a sense of student camaraderie' ($M = 5.15$).

PETE Students

Gentry et al. (2014) conducted a study involving both current PETE students and graduates who were employed as Physical Education teachers. Authors discussed concerns raised by participants indicating their PETE programs did not adequately prepare them for challenges related specifically to classroom management and the promotion of lifelong engagement in physical activity.

In a much earlier study (Graber, 1988), direct observations of PETE students' behaviors in class were conducted along with interviews in order to fully understand students' actions. As opposed to actions being based on what they would need in their futures as educators, behaviors were based on what was going to get them the best grade with the least effort and with the least detriment to their reputation. As an example, Graber noted that students' class notes were generally focused on what was going to be on the test, rather than suggestions from the teacher on items that would contribute to success as a Physical Education teacher in the future. Graber closes this particular piece with a suggestion that PETE program faculty be more aware of the emotional stress students face in order to help them manage their anxieties (1988); such awareness might lend opportunity for faculty to promote PETE student learning of skills needed for future success teaching in the field rather than just what a test might cover.

K-12 Students of Student Teachers

The children being taught by preservice Physical Education teachers were interviewed to investigate the effectiveness of the student teachers (McCullick, Metzler,

Cicek, Jackson, & Vickers, 2008), which, by association, also assessed the effectiveness of the PETE program. Part of the purpose of the study was to evaluate the ability of K-12 students to even provide such feedback and the results proved promising in that regard. Clearly, the K-12 children were unaware of beginning teacher standards or pedagogical techniques, however, their conceptions of what makes a good teacher is critical in considering how to develop engaging classes for this age group. Further, the student teachers were rated high in content knowledge, class management and motivational abilities, and in their planning and instruction. These are all valuable areas with which to assess a PETE program's effectiveness.

Current Physical Education Teachers

For those individuals currently engaged in the practice of teaching, these studies offer validity to teachers' voices through reflection on their past experiences with PETE and what aspects they have found most useful as well as what they feel might be missing in PETE programs. Demonstrating a need for PETE programs to expose students to movement integration, Hill and Brodin (2004) reported that only about half of the teachers surveyed felt their PETE coursework included a focus on movement integration (58.2%). Teachers also indicated that areas where they experienced difficulty and would have benefitted from additional preparation included issues with facilities and equipment (53.5% of respondents), discipline (49.5%), inclusion practices for special needs populations (46.0%), dealing with schedule interruptions (45.7%), and personal fatigue (44.1%). In another study, Georgia teachers also reported on their PETE programs.

Georgia Physical Education teachers provided their thoughts through interviews about what they felt should be included in a PETE program (McCullick, 2001). Current

teachers felt PETE students would be successful teachers if they loved physical activity, liked children and people in general, and had their own personal fitness practices leading them to be both fit and flexible. Additional comments included that the PETE faculty also need to love physical activity and have genuine concern for the undergraduates' development as future teachers.

Finally, MacPhail and Hartley (2016) followed up with 12 PETE graduates in Ireland (six first year teachers and six teachers who had been Physical Education teachers for six years). The study included both interviews and a written reflection or journal that provided prompts throughout the year looking to get thoughts from teachers in the moment rather than solely relying on recall during the interview. Authors reported that teachers felt frustrated by large class sizes and increasing coaching responsibilities (e.g., being the only person on campus expected to oversee all planning and scheduling of athletic teams and facilities). Respondents also felt that they would benefit from having had additional resources to initiate collaborations with other teachers on campus and to prepare for the isolation that can come with being the only Physical Education teacher at a school. One teacher remarked, 'I am the Physical Education Department.'

Assessment Within PETE

Rink (2013) reminded us that research on assessment is not a new practice; dating back to the 1940's, researchers sought to find links between student performance and teacher characteristics. For students in PETE programs, a common practice for their assessment trends towards requiring demonstrating Physical Education content knowledge through course grades, projects, and successfully passing certification exams

(Tjeerdsma, Metzler, Walker, & Mozen, 2000). Similarly, Lund and Kirk (2002) note the use of journals and portfolios to address this line of student assessment.

It is safe to imagine that how and what a PETE program chooses to assess of their student body provides at least a keyhole view into that program's values regarding their product (Larsson, Skinner, & Schenker, 2018). For instance, Baghurst, Richard, Mwavita, and Ramos, (2015) argued that in order to be an effective teacher of Physical Education, one needs to be personally physically competent in movement and skill proficiency and suggested that motor skill and/or fitness tests should be included in PETE assessment, thus conveying the message of skill proficiency value to the program.

In this spirit, Webster et al. (2017) studied 22 PETE students to document changes in personal skills' performance as well as content knowledge needed for teaching Physical Education due to participation in a gymnastics activity course. PETE students performed movement skills and were rated against a rubric created by South Carolina Physical Educators which was created to assess elementary students' skill proficiency. In the college students, both areas (content knowledge and skills) improved due to enrollment in the course. The positive implications here lie in the potential for improved teaching of these skills due to deeper knowledge of the content and personal experience with the skills.

Summary of PETE Assessment

From the existing literature, it appears there are various ways PETE programs assess their students' achievement. It seems logical to surmise many programs (even outside of Physical Education) are comfortable allowing student success on knowledge and certification exams to stand as a beacon of their effectiveness. However, as many

authors have suggested, and as noted previously, as the field continues to change, the measure of effectiveness and success of PETE programs should also reflect this plasticity and incorporate new ways to monitor their impact. Photovoice, for example, could easily fit in to a clinical experience or methods course in Physical Education to give PETE students a medium with which to demonstrate their level of preparedness or understanding of the expectations of the field (e.g., Langdon, Walker, Colquitt, & Pritchard, 2014). Another qualitative method of evaluating PETE student performance could be through the use of concept maps of major concepts in a course or across PETE programs (Lee, Jang, & Kang, 2015). Regardless, an integral piece appears to be the consistency of the collection and analysis of assessment data and a commitment to program effectiveness (Metzler & Tjeerdsma, 2000a). The DRI model (Metzler & Tjeerdsma, 2000a) provides a framework to assist PETE programs in imbedding these practices into a program's coursework to allow for longitudinal self-assessment of program effectiveness.

This review of PETE program effectiveness does not, however, unequivocally define what effectiveness looks like in PETE. Lessons learned include those presented in the preceding paragraph as well as an understanding that goals of individual PETE programs will differ from other programs. Therefore, faculty at any singular program will assess effectiveness differently. There are commonalities through the beginning teacher standards, however, it is clear there is not agreement across PETE programs as to what indicates proper preparation for future Physical Education teachers.

Comprehensive School Physical Activity Program Overview

With a more complete understanding of PETE programs and their associated assessment efforts, the following section describes the CSPAP model and its role in the Physical Education field. An expanded role for the Physical Education teacher is becoming more common as an appropriate adaptation to the changing educational model of recent. The CSPAP model provides a convenient compartmentalizing opportunities for providing additional opportunities for PA within the school day. Although there are other whole-school PA models, CSPAP is used in this study as its focus is solely on PA as opposed to other healthy habits such as eating healthy foods or sun safety.

Castelli and Beighle (2007) hold strongly that the Physical Educator is the logical and most educated person to fill the role of the PAL. Beighle and colleagues investigated the need for PETE programs to adequately prepare their graduates for this role and highlight specific skills needed to fill the role (Beighle, Erwin, Castelli, & Ernst, 2009). For instance, authors noted the need for knowledge about the five components of the CSPAP model, and the skills in how to plan, implement and assess their effectiveness. Physical activity leaders need to know how to organize events and promote them to not only the students but to the staff and the families and communities surrounding the school. To that end, Physical Educators need to also engage in advocacy for their programs and for physical education as a field, including being aware of the impact of district policies. Finally, an understanding of not only the difference between Physical Education and physical activity, but also of the intimate relationship between physical activity and public health and where Physical Education and the Physical Educators

themselves fit in to the whole picture are all important areas for discussions about CSPAP.

CSPAP Components Details

The five CSPAP components work together to seamlessly integrate additional opportunities for PA for all members of the school community. This includes students, teachers, staff, and also family and community members. The model requires the cooperation of many stakeholders to truly create a fully integrated program.

The Physical Activity Leader

Within a school setting, there is an individual who acts as the energetic center for the integration of a school-wide physical activity program. This champion is called the Physical Activity Leader (PAL). Often, the position of the PAL is filled by a Physical Education teacher at the school (Carson, 2013).

Challenges related to the position of the PAL include additional responsibilities added to often full schedules and limited resources (Karp, Scruggs, Brown, & Kelder, 2014). There are also more systemic issues such as policy and funding for education (van der Mars & Lorenz, 2020). Kulinna and colleagues (2016) share reflections from four Physical Education teachers who all were dually filling the role of PAL at their school. Authors indicate PALs felt positive about CSPAP involvement but noted challenges in finding support from teachers and administrators. On the other hand, participants also commented on their satisfaction with seeing members of the school community engaging in healthy behaviors while on campus.

Quality Physical Education

Quality Physical Education (QPE) is the keystone of the CSPAP model. Contrary to the concerns of those who claim the emphasis on physical activity ‘essentially abandoned the goal of motor skill competence’ (Bott & Mitchell, 2015), QPE is the one component that includes formal instruction with learning outcomes focused on educating competent movers. Situated at the top of most visual representations of the model, QPE provides students with physical activity, fitness, and sports knowledge and skills as well as opportunities to utilize these in a positive environment. NASPE (2004) provided descriptions of characteristics of QPE which included three components: (a) opportunity to learn, (b) meaningful content, and (c) appropriate instruction. The document includes markers of what it looks like to meet these expectations. LeMasurier and Corbin (2006) expanded upon these markers to provide Physical Educators with justifications as to why they would want to create a QPE program. Reasons focused on disease risk and obesity prevention leading to national economic benefits, lifetime physical activity participation and physical fitness promotion, and more personal, cognitive benefits such as QPE helping students learn self-regulation, and lifelong learning of new skills.

Through a review of international documents aimed at defining QPE, Webster et al. (2014) systematically identified eight indicators of QPE: (a) it is available to all students as a right, (b) it is taught by professionally and continually trained teachers, (c) it is allocated adequate curriculum time, (d) it provides a positive and adequate learning environment, (e) it utilizes assessments to enhance learning in a way that is consistent with other school subjects, (f) it is learner-centered, (g) it promotes personal and social development toward healthy, active living, and (h) it is research-based (p. A-162).

Although these characteristics are useful to identify, it is clear that several are outside of the control of the Physical Education teacher; for instance, the allocation of curriculum time is often handled at the district- and state- level. For this reason, identifying personally-controlled aspects of quality teaching in Physical Education is also critical for this component of CSPAP.

In an attempt to standardize the observation and assessment of QPE, a tool was developed for use while observing a teacher in action (Chen, Mason, Staniszewski, Upton, & Valley, 2012). This tool is called the Assessing Quality Teaching Rubric (AQTR). Key aspects of a teacher's skills are coded to indicate a teacher's performance; these are (a) task design, (b) presentation information, (c) class management, (d) guides students' learning over the course of a lesson.

In a 2014 study of nine Physical Education teachers, teachers' QPE levels were investigated to learn about the influence of them on students' physical activity both during and outside of the school day (Chen, Mason, Hypnar, Zalmout, & Hammond-Bennett, 2014). To assess QPE, Physical Education teachers were videotaped while leading their fourth- and fifth-grade classes (63 classes over a two year period); these videos were used to complete the AQTR assessment. Students in these classes ($n=2,123$) used a self-report, 7-day physical activity record to monitor PA from after school the previous day or over the weekend, and at the end of the school day regarding Physical Education class or recess. To investigate the predictive ability of QPE level on students' daily physical activity, linear regression was used. Authors found QPE significantly predicted daily physical activity for both boys and girls both for opportunities during school as well as outside of school. Further, when comparing students from classes taught

by Physical Education teachers who scored above average versus below average in their QPE, those from above average QPE teachers had significantly more daily minutes of physical activity outside of school.

Chen, Zhu, Mason, Hammond-Bennett, and Colombo-Dougovito (2016) also assessed students' performance on manipulative skills. Students' skills when dribbling a soccer ball, overhand throwing, and striking with a paddle were all assessed using PE metrics for these skills (NASPE, 2010). The four QPE aspects assessed in the observations were found to significantly predict soccer skills (predicting 12.4% of the total variance), throwing skills (predicting 19.1% variance), and striking skills (9.1% of the variance).

Physical Activity Before and After School

Opportunities such as intramurals after school and walk-to-school days are examples given of CSPAP program events falling under the current heading (Webster et al., 2016). The intention is to make use of time students are already on campus either as a result of arriving early or staying around campus after classes have concluded by offering additional opportunities for access to physical activity. After-school physical activity programs can positively affect daily physical activity levels (Beets, Beighle, Erwin, & Huberty, 2009). There is an important caveat in the CSPAP program that focus is on physical activity in these opportunities as opposed to more traditional after-school programs that often provide time for students to do homework, eat, rest, arts and crafts, or enrichment activities (Beighle & Moore, 2012). To provide ideas for the PAL, the authors included potential before and after school programs that could be included in a CSPAP with collaborations with community organizations to reduce some of the burden from the

Physical Education teacher. Ideas shared include making use of community sports clubs, special interest activity clubs (i.e. jump rope, running, or dance), joint-use agreements providing access to new physical activity facilities, and active commuting to and from school for special “walk weeks” or events (this often requires additional support from the community, but has been successfully used in the US and elsewhere).

Preservice Physical Education teachers participated in the promotion and facilitation of a physical activity program offered to high school students before school with mixed lessons learned during their internships (McMullen, van der Mars, & Jahn, 2014). Data were collected from five PETE majors who were responsible for a before-school physical activity program they made available to students at the high school twice a week. Lessons learned included noting PETE students engaged in less program marketing or physical activity promotion after the third week due to positive response from the high school students in the form of participation. However, this was potentially a contributor to numbers the numbers of participants dropping over the rest of the program. Other important lessons were related to the need for constant communication with high school students while also working on not internalizing being “shot down” when a student was not interested in joining in the physical activity. McMullen et al. recognized that the preservice teachers’ confidence in this arena grew as the semester progressed. Some of their early hesitation to verbal promotion was related to the fear of rejection.

Another study involved a before-school program that occurred at two schools twice a day for five weeks (Stylianou, van der Mars, Kulinna, Adams, Mahar, & Amazeen, 2016). A running/walking club was offered to students as well as incentives

for participation (i.e., shoe-shaped charms and pencils). Data was collected related to the participation and activity levels of participants. An interesting finding included students reporting no PA before school on days the run club was not offered. Additionally, the during-school activity accumulation on days of their participation was not affected; in other words, one might expect PA during school to be less to compensate for the additional morning activity during the run club.

The same project was used to investigate students' on-task behavior in class for the first 45 minutes of the academic school day (Stylianou, Kulinna, van der Mars, Mahar, Adams, & Amazeen, 2016). Investigators looked at the relationship between days students participated in the before-school PA program and their behavioral actions in class afterwards. In both schools involved in the study, students demonstrated more time on-task on days they attended the run/walk program. This behavioral response was evident in comparison to both days without the PA program as well as to the baseline observations that were conducted.

Physical Activity During School

Research studies support the idea that physical activity aids in student learning through improved focus, time on task, enhanced working memory, and showing a decrease in fidgeting and behavioral problems in the classroom (Allan, McMinn, & Daly, 2016). Additionally, there is evidence of improvements on both executive function and mathematic achievement following exercise with purposefully selected children based on elevated body mass index (Davis et al., 2011). Barriers to integrating physical activity into the school day are noted in the literature such as time and limited resources for the integration of physical activity with subjects such as English and Language Arts

(Webster, Zarrett, Cook, Egan, Nesbitt, & Weaver, 2017), and pressures to apply time to assessments and test preparation (Cothran, Kulinna, & Garn, 2010). However, there are also several positive supports noted to influencing teachers' positive perceptions of such integration. For instance, Cothran et al. (2010) found teachers' conception of their responsibility to teach the whole child as well as their own interest in fitness and healthy lifestyles as themes supportive of teachers' adoption of activity breaks in the classroom.

Castelli and Ward (2012) provided suggested ways to integrate physical activity into the school day by dissecting two students' school-day schedules and identifying opportunities during which physical activity could be included. For instance, for morning physical activity, authors suggested schools help students transition from their sleep and home routine to school and work focus through a wake-up assembly. A middle-school specific example includes offering what is termed drop-in activities during lunch periods where arrival time and participation time are not required to be universal to all students; an example of this would be frisbee golf or access to the weight room. This invites students to participate in physical activity recreationally and at their own pace.

Classroom Physical Activity. Also called movement integration (Webster, Russ, Vazou, Goh, & Erwin, 2015), there are three ways physical activity is typically included in classroom practices. One is to include movement directly connected to an academic lesson such as participating in jumping jacks while reciting times tables as a class or using movement during review questions and having students jump up to indicate a question is true or squatting down to indicate false. A second way to integrate movement is as a break between topics or after a given amount of time; this strategy is often called a brain break or physical activity break. The other way to integrate movement is as part of

a transition time such as hopping around as a way to create the line to walk to lunch as a class (Webster et al., 2015). Beighle, Erwin, Webster, and Webster (2020) shared reflections of successful movement integration in the academic classroom. The teacher in the case study noted students' benefited from not having to sit too much during the day and described using several strategies to incorporate additional physical activity into their classroom practices. The behavioral benefits related to including movement is often noted in the literature as teachers reflect on using physical activity breaks whenever students get 'wiggly' (Webster et al., 2015).

Based on the research related to perceptions of the addition of physical activity throughout the school day, it seems stakeholders have positive opinions of its inclusion. In a study of elementary and high school teachers serving a high-health-risk population in the Southwestern US (McMullen, Kulinna, & Cothran, 2014), 12 teachers participated in professional development to increase their depth of knowledge related to providing activity breaks during academic class time. Positive perceptions and frequency of implementation of physical activity breaks indicated a successful integration. Ways authors noted teachers tended to use physical activity in the classrooms included elementary teachers focusing on math and spelling and high school teachers using physical activity while reviewing content such as tossing around a beach ball to determine who asks or answers a content question.

Recess. As of 2016, only ten states had a statute or regulation in place indicating that physical activity could not be taken away from students as a punishment (SHAPE America, 2016). In a three-year national survey at the district level, Turner, Chriqui, and Chaloupka (2013) reported 28.3% of elementary school districts included such policies

stating students were not to lose access to recess due to behavioral issues and 26.7% had a policy indicating the same but as a consequence for not completing academic work. This is important because recess is a key opportunity for students to engage in physical activity (Erwin et al., 2012). Beighle et al. (2020) note benefits to students from having time outside of the classroom include (i.e., recess) that students can be physically active and socialize with their peers.

Staff Involvement

There is some overlap here between physical activity during the school day and the staff involvement component. This is because in order for physical activity to happen during the school day, outside of Physical Education, it is necessary to involve other teachers and staff members. Egan and Webster (2018) provided resources grounded in social learning theories such as Teacher Socialization Theory (Lawson, 1983) and Self-Efficacy Theory (Bandura, 1986) as well as change theory like Rogers's Diffusion of Innovations Theory (1995) to help a school's PAL encourage teaching staff to buy into a CSPAP. For instance, providing classroom teachers opportunities to practice leading physical activities and providing opportunities to share with peer groups challenges and strategies are ways to build teachers' confidence and competence leading to increased likelihood they will include these practices in their own classrooms.

Staff involvement also looks like a grass-roots worksite wellness program involving getting staff members personally involved in physical activity. Heidorn and Centeio (2012) suggests PALs can offer before or after school physical activity programs for staff members similarly to how they are recommended for students. Additionally, authors encourage sharing opportunities with staff related to how they can include

additional physical activities outside of school hours that can easily fit into an already busy schedule; creating contests and points for various activities is a way to give staff this information in a fun way.

For example, Langley and Kulinna (2018) provided details of a successful involvement of staff in a walking program, with suggestions such as getting support from administrators and communicating with personnel at the district level. Similar to the previously mentioned point system, Langley and Kulinna suggested integrating some type of tracking system so participants can see their own involvement. Although there was fluctuation across the semester-long study, staff participation ranged from 63.4% (off all staff at the school) in January to 20.7% in May indicating there was interest in and use of the designated walking area and times available for walking by school personnel. As research dedicated to staff involvement in a CSPAP is still in its infancy, this article shares positive outcome from steps taken to increase staff physical activity successfully.

Family and Community Engagement

Parents influence children's physical activity participation. This has been demonstrated through various studies with foci including parental support (Loprinzi & Trost, 2010), modeling (Freedson & Evenson, 1991), and through noting the actions of parents that communicate support such as providing access and transportation to events (Sallis et al., 1992; Welk, Wood, & Morss, 2003). In all of these cases, positive parental engagement benefitted children's physical activity participation. Allar et al. (2017) note that within CSPAP, the family and community aspects are often the least enacted components. This results in many programs failing to fully realize the full expression of the intended CSPAP model.

Allar et al. (2017) pulled upon Epstein's 2008 discourse surrounding types of parental involvement in schools. This framework outlines six types of involvement and authors suggested ways to exploit these opportunities to fully benefit a CSPAP. The six parental involvements include: (a) parenting, (b) communication, (c) volunteering, (d) learning at home, (e) decision making, and (f) community collaboration. Egan and Miller (2019) expanded on Allar's suggestions in a practical piece where explicit descriptions of CSPAP's connection with Epstein's framework were outlined. For instance, when it comes to communication, Egan and Miller explained how Physical Education teachers can use social media, newsletters, and even collaboration with classroom teachers (since they send home folders with homework each night) to provide parents information about their CSPAP upcoming events and volunteer opportunities.

School-wide Physical Activity Promotion as an Innovation

Physical Education Teacher Education (PETE) programs are the ideal place for future teachers to learn about an expanded role of the Physical Educator including how to promote additional PA beyond formal class sessions (Kwon et al., 2018). The term *innovation* refers to the introduction of something new and is expanded to involve new ideas or new methods (Merriam-Webster, 2018). Traditionally, PETE programs prepare students to be effective teachers through focusing on pedagogical content, class management strategies, curricular options, and exposure to applying these skills in real-world settings. In fact, McMullen, van der Mars, and Jahn (2014) indicate that historically, the majority of preservice Physical Education teachers generally have no exposure to physical activity promotion beyond physical education in their PETE training. In some universities, however, this situation is changing. In a study of fourteen

preservice Physical Education teachers from six different universities, the initial theme discussed in the results was the students' positive experiences with CSPAP in their K12 clinical experiences as a consequence of CSPAP integration in their coursework; the theme indicated their courses were the primary way they learned about CSPAP (Kwon et al., 2018).

In light of the changes previously noted to the public school schedule and appeals from public health and physical education alliances, adapting PETE programs to include a focus beyond of the traditional values and practices of Physical Education that embrace a whole-school physical activity promotion role for the Physical Education teacher seems to appropriately fit the inclusion criteria for being labeled as innovative. Some suggest Physical Educators need the following competencies to adequately fill the role of PAL in their schools: (a) understanding of physical activity promotion beyond Physical Education classes, (b) leadership and coordinator skills, and (c) technologically literate for research and program promotion (Zhang, Gu, Zhang, Keller, & Chen, 2019). This particular practical piece recommended PETE programs adjust to appropriately address these needs in order to properly prepare preservice teachers for their successful transition to Physical Educator.

McMullen, van der Mars, and Jahn (2014) corroborated this notion with the conclusion PETE students would benefit from exposure to physical activity promotion outside of the classroom as they did with PETE students administering a before school program. Preservice teachers who shared their perspectives of university-level aspects supporting their confidence in leading CSPAP indicated professors modeling activity breaks and CSPAP integration within their college courses was useful. PETE students

also shared suggestions from their experiences that additional instruction is needed in the area of cooperating and coordinating with others at the school to fully develop a CSPAP (Kwon et al., 2018).

Scholars in the field have also used the term maverick to describe those faculty spearheading the inclusion of CSPAP and other similar whole-of-school physical activity initiatives into their PETE programs, which also nods to these PETE programs' embracing of innovative practices. In a 2004 study, over half of the current Physical Educators surveyed indicated they felt underprepared to teach movement integration (Hill & Brodin). The current section demonstrates a parallel need, suggested by former PETE students, for more time spent in PETE programs on training physical activity leaders and CSPAP programming as well as more implementation of CSPAP programming experiences. The voices represented in this piece support the need for PETE faculty to include such topics in their teacher preparation programming.

Diffusion of Innovations

Rogers & Shoemaker (1971) remarked "at the heart of all social change is an innovation, defined as an idea, practice, or object perceived as new by an individual" (p. 768). The spreading of an innovation over time follows observable stages as members of a social system join in the new behavior. Factors influencing the speed and reach of spread are: (a) the innovation itself, (b) communication, (c) time, and (d) a social system (Rogers, 2003). Rogers expressed that behavior change happens within the context of social systems; in order for an innovation to be self-sustaining, there must be wide adoption within the system. A final aspect of this theory deals with categories of adopters. Figure 2 represents these categories visually and shows how the predicted

adoption follows a bell-shaped curve. *Innovators* take risks and adopt the innovation openly. Early adopters are next and experience challenges related to adoption of the innovation but work through them to experience success. The *Early Majority* see this success and their hesitation is then laid to rest, so they, too, adopt the innovation. This is followed by the *Late Majority* who eventually succumb to social pressure to try and hear tales of success, followed last by *Laggards* who are those who hold out until the innovation is more common and expected of them.

Gurvitch and Blankenship (2008) discussed Rogers' diffusion of innovations and the contextual facilitators in the decision to adopt an innovative practice such as previous exposure to the practice. Specific to Physical Education, Gurvitch and Blankenship (2008) pointed to positive experiences with curricular models and increased knowledge about program implementation during PETE programs as points of opportunity for a preservice teacher to gain the requisite exposure influencing their adoption of innovative practices.

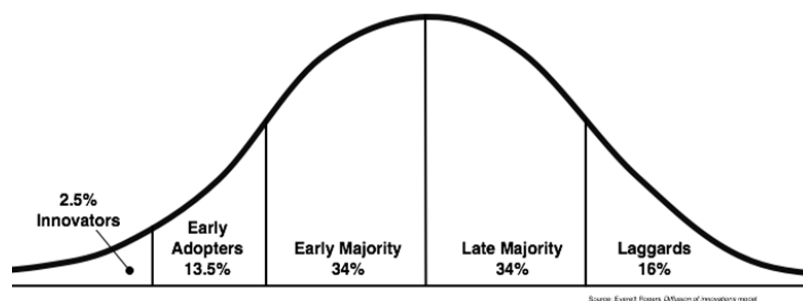


Figure 2. Bell curve of Diffusion of Innovations Theory

An Innovative Program Change in Physical Education

In response to the evolving role of Physical Educators and a national focus on academics resulting in limited time in Physical Education, Arizona State University chose

to adapt their PETE program to include whole-school PA integration. As a model university program did not yet exist, the decision was made to begin by integrating select components of the CSPAP model; providing quality physical education was already a focus, therefore, including before and after school physical activity opportunities and additional during-school activities outside of physical education were the logical components to add (please see Appendix A for a rough timeline of this PETE's PA integration). This curricular innovation started in 2008 (van der Mars, Lorenz, & Kwon, 2017). Applying lessons learned from previous research, the program has pushed for integration throughout the PETE program rather than a singular course (Graber, 1996) as well as establishing consensus among the faculty (Graber, 1993) in their commitment to the program direction.

Research Questions

In line with the need established for additional research in the area of PETE programs, and specifically related to the innovation of integrating a CSPAP model focus within a PETE program, the following research questions are used in the present study. The methodology for addressing each question and sub-questions within each topic will be further discussed in the following chapters.

Study 1: What is the level of implementation of Expanded Physical Activity by Physical Education teachers who graduated from Arizona State University?

Study 2: What is the perception of Expanded Physical Activity by Physical Education teachers who graduated from Arizona State University?

CHAPTER 3

FLATTERY THROUGH IMITATION: LEVEL OF IMPLEMENTATION

Introduction

With the need for schools to embrace the movement towards whole-of-school physical activity models (e.g., recommendations from the Society of Health And Physical Education [SHAPE America], 2014, and the Centers for Disease Control and Prevention [CDC], 2013), Physical Education Teacher Education (PETE) programs are the natural place for future physical educators to gain exposure to and strategies for implementing whole-of-school physical activity (PA) programs. The Comprehensive School Physical Activity Program (CSPAP; SHAPE America, 2013) is a specific whole-of school model for the identification and integration of additional opportunities for physical activity within a school's culture and served as the conceptual framework for the current study. The integration of this model into PETE programs in the United States (US) is in its early stages and the lasting effects of such a curricular shift warrants further investigation.

This study situates whole-of-school PA programming as an innovative solution to a changing landscape of Physical Education programs in public schools in the US. This paper begins by discussing the theories supporting the study, including Diffusion of Innovations and Occupational Socialization, then issues related to the CSPAP model are discussed including implementation, evaluation, and preparing teachers to include expanded PA. Although CSPAP is used in this study to identify additional opportunities when PA may be offered to students, staff, and community members, its inclusion in the study is not intended to suggest it is a simple model to fully adopt. The intention of the model and the organizational benefits (including online resources for teachers) are well

designed and further the field of Physical Education. However, there is extensive evidence of challenges to the implementation of CSPAP (e.g., Deslatte & Carson, 2014; Jones et al., 2014; Mulhearn, Kulinna, Lorenz, & Stylianou, 2019), therefore, in this study, the implementation of all five components is not deemed necessary for a program to be recognized as implementing expanded PA programming.

Diffusion of Innovations and Occupational Socialization Theories

In helping understand the spread of curricular innovations, the theory of Diffusion of Innovations (Rogers, 1995) aids by providing a structured view of how innovations spread across social groups. Similarly, Occupational Socialization Theory (Lawson, 1983) provides insight into the process by which individuals become teachers, both through informal and formal training. The use of these two theories in this study is useful as they can help shed light into the processes individuals go through when determining if they will adopt a new behavior. Within these two theories, it is reasonable to expect that if a pre-service teacher is exposed to an innovative way of teaching by their PETE faculty during their professional socialization, there is more of a likelihood that after graduating they will adopt at least some of the practice.

Rogers (1995) suggested attributes of an innovation that effect its adoption rate which include: (a) the relative advantage, (b) compatibility with values and needs of adopters, (c), trialability or the ability to try it out rather than an all or nothing approach, (d) observability or visibility in that others can see the successful trials of adopters, and (e) complexity or perceived difficulty. Rogers explained that innovations perceived as high in the first four and low in the final attribute will be adopted and spread more rapidly than others.

Occupational Socialization Theory (OST) describes how teachers acquire their understanding of the role of physical educator through three phases; acculturation, professional socialization, and organizational socialization. Through first-hand experiences and observations during one's passage through primary and secondary education, there is direct interaction with Physical Educators allowing the formation of personal beliefs surrounding the roles and responsibilities of a teacher in this field. This initial stage of building understandings, called acculturation, weighs heavily on a future Physical Education teacher as the beliefs about the teaching position are cemented well before the individual ever begins formal training in the field (Lawson, 1983). Graber (1995) noted positive changes, such as changes in belief systems, in preservice teachers due to the influence of their professors further implying a fair assumption that intentional integration of expanded PA concepts during PETE training may lead to increases in graduates' practices.

CSPAP

The CSPAP model aims to increase all students' PA opportunities by providing schools with resources to assess their need and readiness for implementation, organize goals and action plans, and coordinate with school and community stakeholders to fully engage those connected with the school in a commitment to wellness (CDC, 2013). Although other models exist, this model is used in the current study as the focus is clearly on the addition of PA opportunities as opposed to the added levels of integrating other healthy behaviors; it is also the model used in the PETE program being investigated. The CSPAP model consists of five components that each represents an opportunity to increase access to PA. These components include: (a) physical education (the centerpiece/anchor

component), (b) PA before and after school, (c) PA during school, (d) staff engagement, and (e) family and community involvement. As a coordinated school-health initiative, the CSPAP model relies on a socio-ecological theoretical framework (Sallis, Owen, & Fisher, 2015) which recognizes interrelated and interactive levels of influence upon individuals' healthy behaviors like being physically active. A useful visual guide (Appendix B) was developed that depicts the alignment between the CSPAP framework and a socio-ecological design paradigm (Carson, Castelli, Beighle, & Erwin, 2014).

CSPAP Implementation Studies

Currently, there is little research related to measuring the adoption of CSPAP in K-12 schools. Previous studies have looked at barriers (i.e., Cothran et al., 2010; Deslatte & Carson, 2014; Jones et al., 2014; Mulhearn, Kulinna, Lorenz & Stylianou, 2019) and facilitators (i.e., Bulger, Housner, & Lee, 2008; Cothran et al., 2010) associated with CSPAP implementation. Following a systematic review of literature on the extent of the adoption of CSPAP, Hunt and Metzler (2017) indicated a clear need for more empirical research on the topic. They found limited studies looking at full CSPAP implementation but attributed this to a 2011 survey that indicated only 16% of elementary schools, 13% of middle schools, and 6% of high schools implemented all five components of a CSPAP (American Alliance for Health, Physical Education, Recreation and Dance, 2011). Their review was divided into the five CSPAP categories. Connected with the Diffusion of Innovations theory, however, implementing part of the CSPAP model may be a strength of it in that there is ample evidence of its triability, which Rogers (1995) noted as supportive of individuals adopting an innovation. In the case of a CSPAP, many programs may focus on easier components first, or as alluded to previously, only

adopting those simpler components. The current body of work related to CSPAP adoption is lacking research connecting the integration of expanded PA in K-12 settings with the inclusion of these topics in a teacher's previous PETE studies.

Expansion of PETE Programs to Include CSPAP

Seven university PETE programs were featured in 2017 in a special issue of the *Journal of Physical Education, Recreation and Dance (JOPERD)*, which highlighted what editors called *pioneers* in the PETE field. At Arizona State University (ASU), one of those programs, the decision to revise the PETE program and purposefully integrate CSPAP content occurred in 2007 (please see Appendix A for a brief overview of the integration timeline). This change, described as an “added value program” (van der Mars, Lorenz, & Kwon, 2017) involved taking CSPAP concepts, specifically before- and after-school programming and supporting classroom PA, and intentionally weaving them throughout coursework during students' final two years in the degree program. These programmatic decisions were made in order to address teacher socialization aspects such as the strong influence of acculturation and the fact that the modern expectations of Physical Educators likely differ from those of preservice teachers' role models in the field from their own prior experiences. Experiencing intertwining physical activity promotion across the school day in various settings was meant to provide students time to understand the worth of this “added value” physical activity programming.

Strategies for promoting school-wide PA opportunities are modeled by faculty in various PETE program courses, including primary and secondary methods courses. When possible, students observe and participate in CSPAP by being placed with purposefully selected cooperative teachers who apply CSPAP practices during their internships and

student teaching; as the PETE program has grown, however, this task becomes more difficult. The ASU PETE program is therefore the focus of this study. Specifically, PETE program graduates' use and sustainability of CSPAP programming once employed as Physical Educators. There is a paucity of research on PETE program outcomes and even less information published on integrating CSPAP in PETE programs.

PETE Program Evaluation

Ward (2013) initiated a discussion of content knowledge with a poignant yet simple statement that “teacher effectiveness is defined in terms of student learning” (p.431). In the area of PETE program effectiveness, preservice teachers' successful acquisition of needed skills becomes the outcome of interest. The evaluation of the lasting effectiveness of teacher preparation is an area in need of further research.

Once a PETE program has adopted and implemented CSPAP integration, it is necessary to determine its impact. That is, does the engagement in (partial) CSPAP design, and implementation during a PETE program transfer to the K-12 programs led by these graduates? For the present study, this is the focus of evaluation, that is, current CSPAP implementation by program graduates of the Arizona State University PETE program.

Purpose and Research Questions

The purpose of this study was to assess the impact of an intentional curricular change within a PETE program. More directly, it is to learn about the actions of PETE program graduates related to implementing an expanded PA program or a CSPAP in their own K-12 program as taught and encouraged by the PETE faculty. This outcome measure is complex in that the influence of the PETE program prior to the integration of PA

components may spill over through earlier graduates' participation in professional development opportunities related to expanded PA models. In other words, it cannot be assumed that more recent graduates are more likely to currently be actively engaged in promoting a CSPAP at their school. The results of this study provide an interesting glimpse into trends in graduates' practices following the PETE's integration of PA in its programming. The findings provide feedback related to previous decisions and can be used to inform future PETE programming such as justifying the use of time, resources, and assignments related to CSPAP. Research questions are available in Table 1.

Methods

This study utilized a two-phase, mixed-methods approach, which initially involved the collection of data using an electronic questionnaire followed by a half-day campus visit and interview with a sub-sample. Prior to conducting any data collection, approval from the University's Internal Research Board was obtained (see Appendix C). Participant informed consent was obtained through the electronic questionnaire prior to them gaining access to any questions.

Setting

The PETE program in this study, like most university programs, is bound by credit limitations and university-level requirements. The first two years of the program are devoted to general academic courses which leaves students with only four semesters of coursework to complete their formal training to become a quality Physical Education teacher. Within those semesters, concepts related to expanded PA programming have been integrated into elementary and secondary methods courses, as well as in the Internship Experience and Student Teaching courses. Program majors are asked to build a

formal portfolio to demonstrate evidence of understanding and successful implementation of various elements (based on the six standards for beginning teachers; SHAPE, 2017) included in these courses. One of the specific portfolio prompts requests evidence of school-wide physical activity promotion, which falls under standard six and aligns with the goals of a CSPAP.

During the Elementary and Secondary Methods courses, students are provided with strategies for communicating with family and community members through outlets such as newsletters, school communication boards, and social media in order to promote physical activities, field days, wellness events or other CSPAP-appropriate activities. As a part of their Internship Experience, students are expected to create, market, and monitor a physical activity program for students offered before or after school or during lunch time. With limited time available to major courses, the focus is primarily on the three CSPAP components that deal with offering expanded PA opportunities for K-12 students.

Recruitment

Participants were intentionally recruited based on their status as a graduate of Arizona State University's PETE program from 2000-present. ASU's program has been purposefully selected as an early adopter of integrating strategies and suggestions for students to learn about expanded PA programming in the PETE program curricula and clinical experiences. A list of 520 ASU PETE program graduates was obtained through the Mary Lou Fulton Teachers College. The university email address was provided for 440 persons on this list and was used for the first round of recruitment emails (graduates are encouraged to have their university email forwarded to a personal address after graduation). Two weeks later, a more-updated list of email contacts with 426 names and

emails was obtained through the ASU alumni association. This list was more limited as it was subject to privacy requests made by graduates related to allowing contact after graduating. Emails of those who had completed the questionnaire from the first round ($n=51$) were removed and a second recruitment email was sent to the new, updated list. From this round of emails, 105 bounced back indicating the email address was no longer active. Therefore, the potential sample population was 335.

Within the electronic questionnaire, participants were asked if they were willing to allow a school observation to conduct a fidelity check. If they were willing to be included in the observation phase of the study, there was space for them to provide their phone number and email address. Participants for this phase were purposefully selected based on the principle of maximum variation among participants by year of graduation, grade level currently teaching, and the existence of an expanded physical activity program.

Participants

Electronic questionnaires had a 30% return rate ($N=101$). Actual completion percentage was examined both visually and statistically to determine response retention. Completed questionnaires were considered as outliers if they fell below one standard deviation (38 percent, or less than 62% of the questionnaire completed). Accordingly, 37 responses were eliminated, resulting in a sample of 64 completed questionnaires. Participants' gender was evenly split between female and male (51 and 49%, respectively); non-binary was offered as an answer option, but no participants selected this choice.

Ethnicity was reported as Caucasian (71.9%), Hispanic (17.2%), American Indian/Alaskan Native (4.7%), Asian/Pacific Islander (3.1%), and multi-racial (1.6%). Teaching experience ranged from less than a year (graduated in 2019) to 19 years of teaching experience (graduated in 2000). Years of teaching was reported by grade level with resulting mean years of teaching at Elementary $M=5.01$ (SD 4.81); Middle $M=3.66$ (SD 2.96); Jr.High $M=3.60$ (SD 2.47); and High School $M=3.56$ (SD 3.54). Current grade levels taught included Elementary (29.7%), Middle or Junior High (15.6%), High School (17.2%), K-12 (12.5%), and Higher Education (4.7%). Additionally, some respondents were currently employed in administrative positions (4.7%) or not currently teaching (14.1%). Ages ranged from 23 to 52 years of age.

Data Collection/Procedures

We developed and validated a questionnaire to collect data regarding PETE graduates' experiences with, and perceptions of expanded PA programming (please see Appendix D for development and validation summary). A link to an electronic questionnaire (created on Qualtrics) was sent out to graduates from the ASU PETE program since May 2000 ($n=335$). On the questionnaire, participants were asked if they were willing to have a school site visit to observe expanded PA implementation; 48 participants indicated willingness to participate in the school visit. Applying the theory of maximum variation, a purposeful sample of 30 teachers were invited for participation in the on-site portion of the study, with 13 accepting this invitation. All who accepted the invitation and subsequently scheduled a campus visit were included in the fidelity check aspect of the study.

The campus visit was scheduled according to each teacher’s availability with the minimum goal of spending at least a half day on the school campus. During this time, a tour of the campus was conducted, an academic classroom was visited (to observe classroom space and integration of physical activity, if possible), and the Physical Education class was observed. During these events, a fidelity checklist was utilized to document aspects of a CSPAP that were present on the campus. A teacher interview also took place and is reported elsewhere; the interview allowed for specific follow-up questions about elements observed (or lacking) from the fidelity checklist.

Table 1.
Chapter 3 Data Overview

Research Question	Data Source	Analysis
RQ1: What is the self-reported level of implementation of expanded PA programming by graduates from Arizona State University’s PETE program?	Electronic Questionnaire	Descriptive Statistics
RQ2: Does the level of implementation (based on fidelity checklist report completed by researcher) match that of self-reported implementation?	Fidelity Checklist	Fidelity Index Score – compare CSPAP checklist at observation w/ questionnaire responses
RQ3: How do graduates of ASU’s PETE program perceive expanded PA programming as an innovation as measures by the Perceptions of Innovations Scale?	Electronic Questionnaire	Descriptive Statistics
RQ4: Do year of graduation, grade level taught, attendance at PA-related professional development, memory of CSPAP in PETE, and/or perceptions of innovations predict the level of expanded PA integration by graduates?	Questionnaire – predictive variables compared to PA programming outcome variables	Descriptive Statistics T-test Regression ANOVA

Instruments

Phase I data were collected through the online questionnaire (please see Appendix E) while Phase II data were collected through campus visits during which a fidelity checklist (Appendix F) instrument was completed by the first author.

Electronic Questionnaire. The first page of the questionnaire included the informed consent which participants had to agree to in order to begin the questionnaire. The questionnaire was created from two previously validated instruments; the Perceptions of Innovation Scale (Pankratz, Hallfors, & Cho, 2002), and the CSPAP Policies and Practices Questionnaire (CSPAP-Q; Stoepker, Dauenhaur, Carson, & Moore, 2020)).

Perceptions of Innovations Scale. The Perceptions of Innovations scale (Appendix G) includes 17 Likert-like questions regarding innovation with four constructs of compatibility, complexity, observability, and triability. The questionnaire was initially used for monitoring educational adherence to a new policy on drug prevention programming (Pankratz, Hallfors, & Cho, 2002). Through a rigorous process including a literature review, expert analysis of questions, and a pilot study, this instrument was found to produce reliable and valid data in a sample of educators. The instrument could be used to predict the teachers' adoption of the substance abuse program in their district. Internal consistency reliability was assessed by construct and for the overall instrument. Individual factors' internal consistency reliability was strong for a three-factor model, including compatibility ($\alpha=.89$), complexity ($\alpha=.81$), and observability ($\alpha=.71$) as well as for the overall instrument ($\alpha=.85$) measuring teachers' perceptions of innovation. The

Perceptions of Innovations Scale contains five items that are reverse coded during data entry.

For the current study, question wording was adapted to represent vocabulary appropriate to this project by replacing ‘*drug prevention program*’ with ‘*CSPAP*’ and ‘*substance use*’ with ‘*physical activity*’. The response scale was also changed from a 5-point to a 6-point scale to remove the *Neutral* response option, opting instead for 1-6 reflecting: Strongly Disagree, Disagree, Slightly Disagree, Slightly Agree, Agree, and Strongly Agree (Kalton, Roberts, & Holt, 1980). Responses from these questions result in a score indicating the level of perception (higher score indicating a more positive perception of the integration of expanded physical activity programming).

The CSPAP Policies and Practices Questionnaire. The CSPAP-Q produces reliable and valid data in similar populations of K-12 Physical Education teachers (Stoepker, Dauenhaur, Carson, & Moore, 2020). The CSPAP-Q instrument contains 92 items of which 54 were used in the current study (some of the policy items were not applicable for this study). The questions utilized in the current study were related to the presence of opportunities as well as contextual factors under the control of the school and/or district personnel. These questions were chosen to learn about the integration of PA opportunities outside of Physical Education (please see Appendix H for the original document). This questionnaire was designed to elicit responses from school stakeholders regarding the presence of policies, facilities, opportunities, training, and funding to support additional PA at a school. The Practices’ portion of the CSPAP-Q includes 22 items related to the five components identified in the CSPAP model. For the present

study, it is these questions that make up the *PA Practices and Promotion* portion of the questionnaire.

Former PETE Program and Demographics Items. Graduates' memories of PA programming and promotion integration within their PETE program were gleaned through three items, which were also scored on a 6-point scale. Items asked respondents if they remembered any focus on PA integration in their coursework at ASU, if they recalled completing assignments related to whole-school PA promotion, and if they recalled being encouraged to participate in such promotion during their student teaching or internship experiences.

Final Expanded PA Programming Questionnaire. The final questionnaire (please see Appendix E) included 45 questions with the following breakdown: Memory of PETE CSPAP integration (3 questions), Personal CSPAP integration (19 questions), Perceptions of Innovations (14 questions), and demographics including gender, age, ethnicity, year of graduation, and degree completed, and years teaching (7 questions).

Fidelity Checklist. The campus visit was used to provide a first-hand look at the PA practices and promotion at the school. The Fidelity Checklist (Appendix F) relates to those questions from the CSPAP-Q and lists 22 characteristics that can be demonstrated live to indicate implementation. The researcher indicated on the form if the attribute was present at the school one of three ways: (a) observed, (b) described by a Physical Education teacher in the interview, or (c) seen on a photograph provided by the interviewee or another document. If the item was present through any of the three avenues, that item received a single point. A composite score was created by totaling the

number of items confirmed at the school with a score of 22 indicating all items were present.

Data Analysis

Descriptive statistics were calculated for all sections within the instruments, for the overall questionnaire, and for the Fidelity Checklist. Internal consistency reliabilities were conducted for all subcategories in the instrument. The three sections of the questionnaire (PETE PA memory, PA Practices and Implementation, and Perceptions of Innovations) were analyzed independently since they are unique instruments measuring different constructs. Data were investigated to determine if assumptions were met for the statistical analyses used. Regression analysis was used to predict level of implementation using the following prediction variables (PA Practices and Implementation score, PETE PA memory) in addition to their predictive relationships with demographic variables.

Data Treatment

Raw data were downloaded directly into SPSS. The following composite variables were calculated in order to analyze the separate elements within the Expanded PA Programming Questionnaire.

Levels of Expanded Physical Activity Programming

After working with the data in the initial analysis process, it became evident two sets of questions within the Expanded PA Programming Questionnaire needed to be separated out for a better understanding of the responses. The first set of questions focused on a general level of expanded PA throughout the school day, hereafter referred to as ExPA, and was generated as a composite score of six questions which asked how often their school offered: (a) before or after school programs, (b) activity breaks in the

classroom, (c) lunch recess, (d) additional recess outside of lunch, (e) opportunities for staff to get involved in PA, and (f) events where family and community members might engage in PA. Response options included seven frequencies ranging from “never” to “every day”. The resulting ExPA score ranged from 7 (indicating none of the six options were offered) to 42 (meaning all six options were offered every day).

A second set of answers was summed to generate a comparison score from the Expanded PA Programming Questionnaire that could be compared to the fidelity checklist; these questions aligned with the documents prepared by the CDC related to the implementation of expanded PA. This calculated score, hereafter referred to as Integrated or IntPA, is a sum of 11 variables with binary responses and three variables scaled 0-4. The new scale of IntPA, with a possible range from 0-34 was then comparable to the Fidelity score, with higher scores indicating a greater level of implementation of expanded PA programming. These questions included policies in place at the district for minutes of PE, minutes of recess, encouragement of classroom PA, the existence of before/after school sports clubs, staff receiving additional pay for leading physical activity clubs, the school surveying students and/or parents on programming they would like to see, the school having a wellness committee in place, having goals related to wellness and PA, and both creating events for family and community members as well as using active marketing strategies to communicate these events and opportunities to the community.

ASU Expanded PA Programming Memory Score

Graduates' experiences while at ASU were quantified by summing scores on three relevant questions. A higher composite score indicates a greater level of remembering expanded PA content having been taught in the PETE program.

Perceptions of Innovations

To investigate the relationship between perceptions of innovations and degree of implementation of expanded PA, correlations were run between the Perceptions of Innovations score and the composite expanded PA scores (both the ExPA and the IntPA).

Expanded Physical Activity Implementation

Correlations were run between year of graduation, grade level taught, attendance at PA-related professional development, memory of expanded PA in PETE, and/or perceptions of innovations. A linear regression was used to determine if these variables predicted teachers' ExPA score.

Results

Descriptive Findings

Participant demographics are presented in Table 2. Within the *Personal CSPAP Integration* section of the questionnaire, 26.6% of graduates indicated the use of community enrichment programs such as YMCA's or Girls & Boys Clubs to provide before or after school PA programming. Other sources of before or after school PA included clubs or intramural sports (40.2%) and competitive or interscholastic sports (53.1%). Just over half of participants (57.6%) indicated that staff were paid to supervise, lead or coach these clubs or sports. In the same section of the questionnaire, graduates provided information about contextual aspect of their expanded PA programs. One

specific area dealt with the status of their program having been initiated by the graduate from scratch or maintained by the graduate with a predecessor having created it (please see *Figure 3*). The majority (54.7%) indicated they were currently maintaining (solid gray line) an expanded PA program that was in place when they began teaching at their school. Five of the seven graduates who reported starting their program from scratch (solid black line) graduated from the PETE program in the years following the inclusion of expanded PA content included in the curriculum, while two graduated from years prior to this change.

Table 2.
Participant Demographics

	Survey	Fidelity Sample
<i>n</i>	101	13
Female	50.0	53.8
Average Age	35.3	34.8
American Indian	4.7	0.0
Asian/ Pacific Islander	3.1	0.0
White	71.9	77.0
Hispanic	17.2	23.0
Multi-race	1.6	0.0
Degree		
BA	46.9	69.9
MPE	51.6	30.1
Additional Degree	59.4	46.2
PAPD	40.6	46.2

Notes: Not all participants provided responses on all questions. BA=Bachelors, MA=Masters, PAPD=Physical Activity programming Professional Development

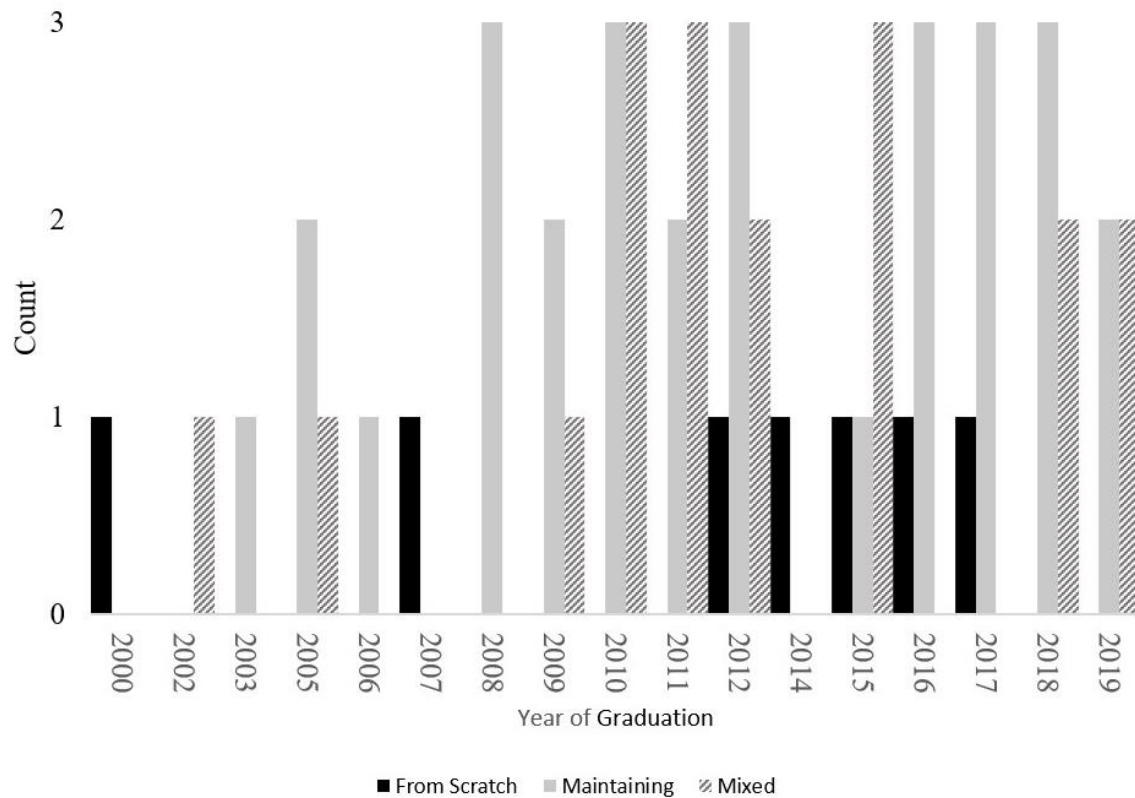


Figure 3. Graduates' Status Beginning or Maintaining Their Expanded Physical Activity Program.

Self-Reported Level of Expanded PA Programming

The six questions that summed together led to the ExPA score had 7 response options from 1 (Never) to 7 (Everyday) where graduates indicated how often their school offered aspects of expanded PA beyond Physical Education. With a possible score of 35 (reported by 3.1% of the sample) this composite variable averaged 22.68 (SD 7.55). A total score of 6 would indicate zero expanded PA opportunities at a school; the lowest score reported, however, was 8 (4.7% of responses), suggesting all participants had some

additional PA opportunities at their school beyond Physical Education. Individually, these six questions also provide a summary of the CSPAP components the graduates were implementing (please see Figure 4 for modes of these six variables). For clarification purposes, the CSPAP category of *During School* was divided up into *Classroom Physical Activity*, *Lunch Recess*, and *Other Recess*.

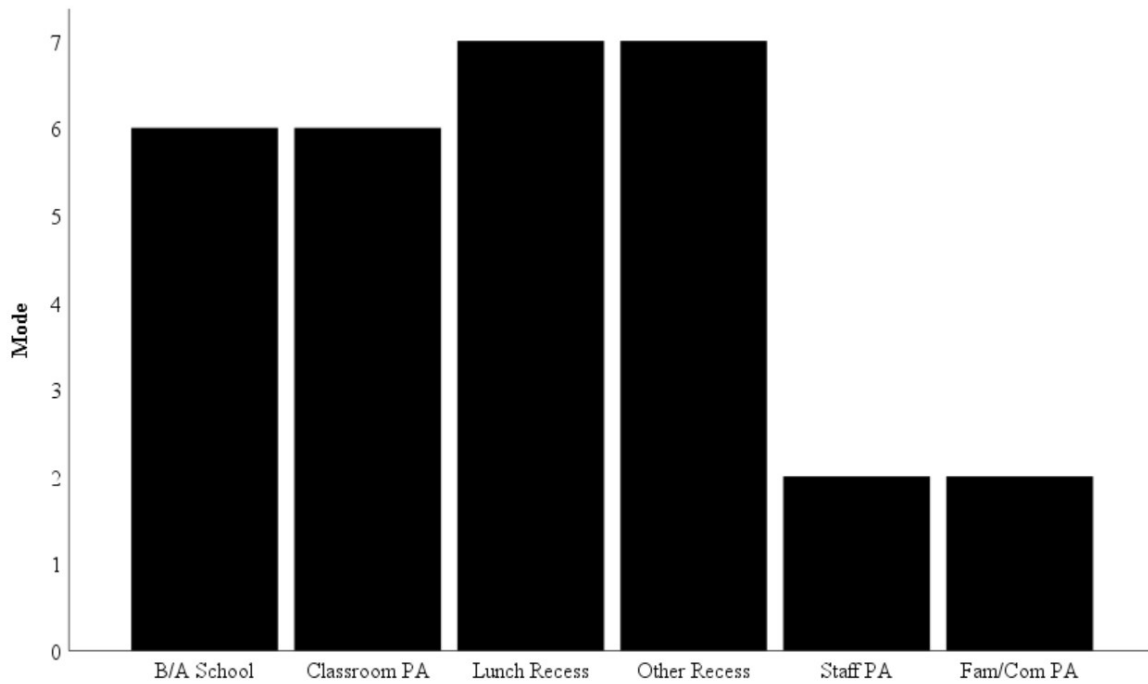


Figure 4. Modes of CSPAP Component Integration Beyond Physical Education. Scale ranged from 1=Never to 7=Every day. Note: B/A=before and after school; Fam/Com=family and community.

To further understand graduates’ self-reported expanded PA programming (again using the composite score), the data was displayed visually. Although the relationship did not reach statistical significance, visual examination of the scatter plot displaying ExPA

by graduation year (Figure 5) shows a slight downward trend as the year of graduation becomes more recent.

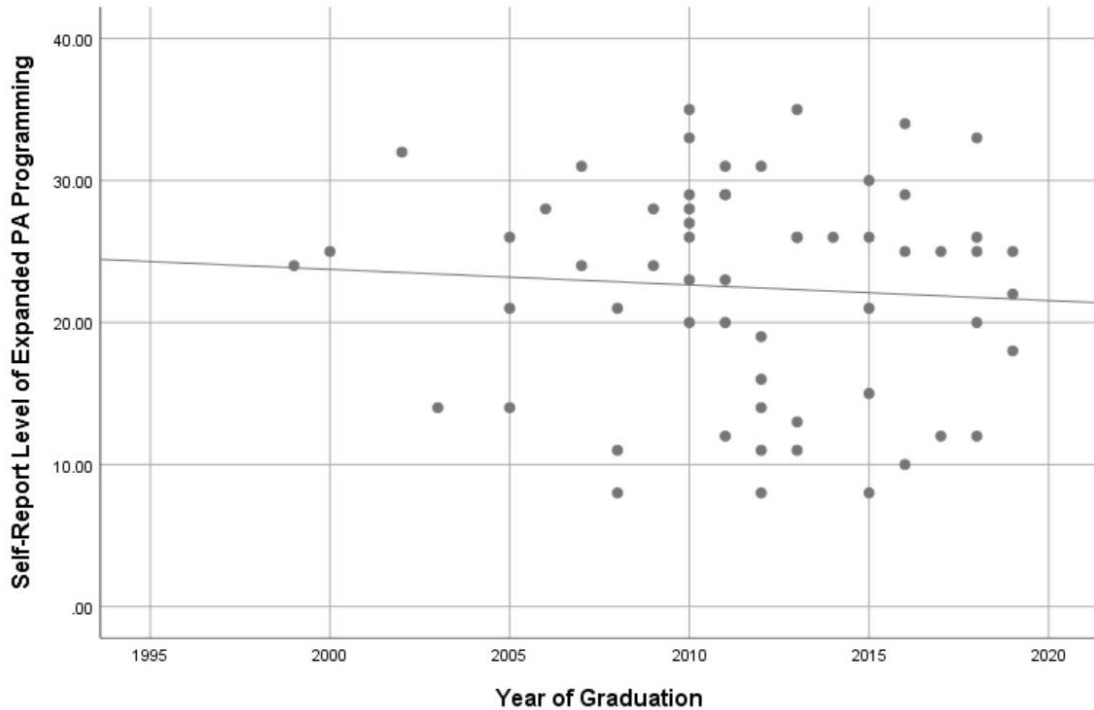


Figure 5. Scatter plot of Expanded PA Programming by Year of Graduation

Fidelity Checklist

To examine consistency between self-reported items and observed actions, fidelity checks were performed at the schools of 13 graduates. Fidelity Scores ranged from 2-15 with $M = 10.38$ ($SD = 3.71$). The summed implementation score from the *Personal CSPAP Integration* section of the questionnaire, IntPA, ranged from 5-21 with $M = 11$ ($SD = 4.60$). Fidelity score and these self-reported IntPA scores were found to be moderately positively correlated $r = .43$, $p = .185$, $n = 13$. A weaker positive correlation was observed between Fidelity and the earlier 6-question summed ExPA score with $r = .14$,

$p=.661$, $n=13$. The two CSPAP implementation scores themselves (ExPA and IntPA) had a slightly stronger positive correlation ($r =.63$, $p<.000$), $n=54$.

Perceptions of Innovations Scale

Fifty-three participants completed this portion of the questionnaire. The mean score was 54.47 (SD=7.46) out of a possible 84 points. Internal consistency reliability was acceptable ($\alpha=.73$). Participants' scores were graphed by a scatter plot (Figure 6) to visually look at scores across years of graduation. An upward trend of these scores is evident in the scatter plot. Perceptions of Innovations scores were examined across teaching level/role (Table 3). Participants across all levels/roles indicated positive perceptions with scores above 50 for all groups (out of 84). The highest scores reported were by those in administrative and higher education, followed by graduates who were no longer teaching, and then by those teaching all K-12, elementary and secondary.

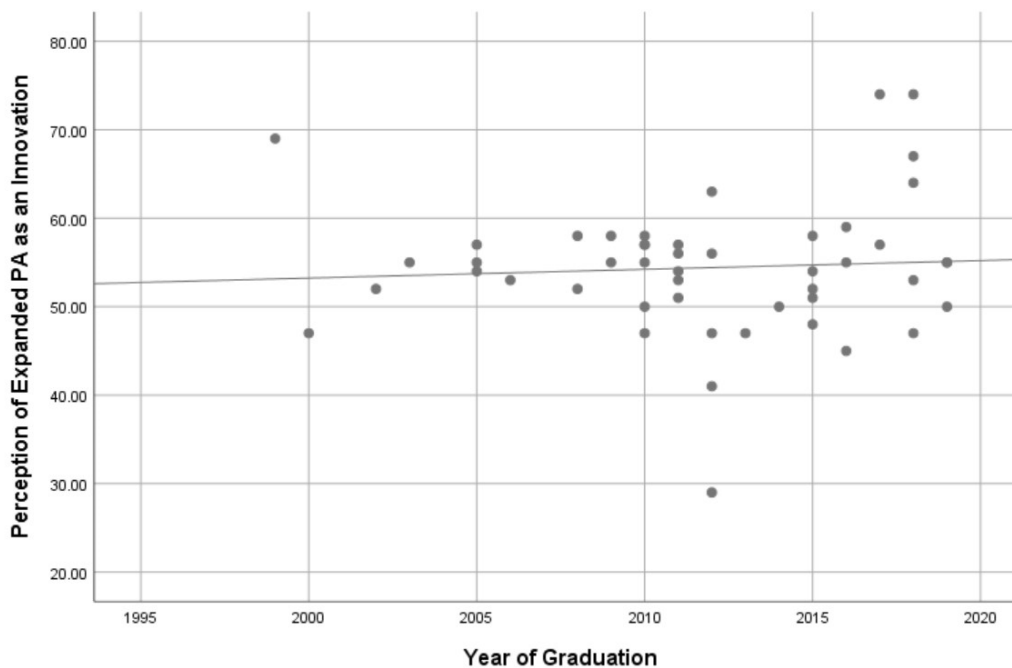


Figure 6. Scatter plot of Perceptions of Innovations Scores by Year of Graduation

Table 3

Mean Perceptions of Expanded PA as an Innovation

Role	<i>n</i>	Percep(SD)
Higher/Admin	5	57.8 (2.9)
Not Teaching	6	56.2 (4.3)
K-12	7	55.3 (5.4)
Elementary	18	54.6 (6.9)
Secondary	17	52.4 (9.7)

Further Analyses of Variables

Common Ground

According to correlation results, perceptions of expanded PA as an innovation and self-reported integration of PA programming shared a positive relationship ($r = .26$, $p = .087$, $n = 46$). Year of graduation and memory of ASU PETE program including lessons related to expanded PA programming were found to be weakly positively correlated $r = .259$, $p < .05$, $n = 65$. Additionally, a similarly weak but positive correlation existed between positive perceptions of expanded PA programming as an innovation and memories of ASU PETE’s including lessons and resources related to this topic $r = .284$, $p < .05$, $n = 50$.

Table 4

Correlations

	Int PA	Graduation Year	Perception	ASU Memory
IntPA	1.000	-0.107	0.255	0.041
Graduation Year	-0.107	1.000	0.066	0.259
Perception	0.255	0.066	1.000	0.284
ASU Memory	0.041	0.259	0.284	1.000

Group Differences

T-tests were conducted to examine potential differences in ASU memory, Perceptions of PA programming as an Innovation, and Self-reported integration of PA programming between various groups within the sample. The 21 graduates who did attend professional development sessions focused on PA programming scored significantly higher on Perceptions of Expanded PA Programming ($M=57.90$, $SD=7.64$) as compared to the 31 graduates who did not attend such professional development sessions ($M=52.19$, $SD=6.62$), $t(50) = 2.87$, $p<.05$.

Neither of the other outcome variables was significantly different between groups based on attendance at professional development, however, mean scores were higher for both outcome measures in the group having attended professional development. Similarly, those who started their expanded PA program from scratch reported higher PA integration than those who were maintaining expanded PA programs started by others before them, however, neither difference in outcome variable (ExPA or IntPA) was statistically significant between these groups based on their initiation or maintenance of programming.

Similarly, no significant differences were identified in ASU memory, Perceptions of PA programming as an Innovation, or Self-reported integration of PA programming as a function on the degree received from ASU (bachelors or masters). The means were very similar for each of the previously noted outcome variables with masters graduates degrees demonstrating higher means than bachelors graduates for all but CSPAP integration scores. Graduates with master's degrees had lower ExPA scores ($M =21.42$) than graduates with a bachelor's degree ($M =23.97$).

Predicting Level of CSPAP Integration

A standard linear regression was performed to investigate the predictive potential of graduates' memories of their ASU PETE experience related to expanded PA programming, their year of graduation, and their current teaching setting (elementary, secondary, administration/higher education, and not teaching) on their reported level of expanded PA programming at their school. Although approaching significance ($p=.064$), these predictors only accounted for .12 of the variability of the reported expanded PA programming.

An additional linear regression was performed to test if graduation year might be predicted by the variables related to memories of the PETE program's integration of expanded PA and the level of PA programming at their school. This model also was approaching significance ($p=.060$) and accounted for .11 of the variability in observed graduation year. Slight negative influences were observed in the predictive nature of all but one of these variables; each increase in graduation year was associated with a 2.2 point increase in graduates' positive responses to the PETE faculty encouraging implementation of expanded PA. Graduation year = $2016 + 2.2(\text{Pete Faculty}) - .053(\text{Programming}) - 1.99(\text{Memory of assignments}) - 1.35(\text{CSPAP Knowledge})$. This supports the anticipated outcome that students who entered the ASU PETE program following the 2009 integration of CSPAP themes would have better recognition of such terminology.

Discussion

The purpose of this study was to look at the degree to which graduates of a single PETE program reflected a specific curricular theme into their post-graduate professional

practices. The participants in this study displayed a wide range of integration of expanded PA.

The PETE faculty represent agents of change who have the potential to affect Physical Education teachers during their professional socialization phase of becoming a teacher. Rogers' (2005) description of *change agents* and *opinion leaders* helps in understanding the dynamic contextual undertones that may be missed if questionnaire-type inquiries do not ask about PETE experiences. A strength of this study was the inclusion of the questions related to PETE faculty and graduates' memories of their PETE experiences. An important aspect of these individuals is their homophily or heterophily with potential adopters of an innovation. Rogers pointed out that in the case of professors or trainers, often their commonalities with PETE students are few and make their influence minimal. In this study, however, similar to findings from Rovegno (1992, 1993) and Lee, Hagood, Kingsley, and Hare (2014) were observed, evidenced by the positive (albeit insignificant) correlations between ASU Memories and PA programming. In this sample, attitudes of graduates did appear to relate to the themes taught by the faculty in the PETE program.

The statistically insignificant correlational data still provides a promising glimpse into spaces where the influence of a PETE program was positively observed. The positive correlation between ASU Memories and Graduation Year indicate the graduates from more recent years provided higher scores related to the faculty preparing them for roles related to expanded PA. This may be due to more recent graduates having a more clear memory of experiences they encountered while attending the university, or they may

actually indicate that in years following the programmatic decision to include themes of expanded PA, the faculty truly has spoken about this concept more positively.

Previous authors have shared evidence suggesting positive outcomes from professional development such as increased positive perceptions and PA integration following such sessions (Carson, et al., 2014; McMullen, Kulinna, & Cothran, 2014). Providing further evidence of this, the graduates in this study who indicated they had participated in some type of professional development specifically about creating expanded PA programs also scored higher on their perceptions of expanded PA as an innovation. In this study, the inclusion of the Perceptions of Innovations scale provides a quantifiable variation of these previous findings. Potentially, those graduates who completed the program prior to this inclusion lack the tools or resources for implementing such a program and, therefore, see more obstacles than possibilities when considering whether or not it is a useful innovation for their profession.

Although the observed downward trend in ExPA programming was unexpected, it may reveal that more recent graduates are not yet implementing changes in their school's PA programming. As about a quarter of the graduates reported utilizing community partners for before and/or after school programming, perhaps graduates are used to being able to rely on these outside resources to provide ExPA opportunities as opposed to initiating and maintaining their own additional programming. Of the 53 graduates who indicated having an expanded PA program, seven reported they started the program from scratch; five of those seven graduated since 2012. Although there is not a clear reasoning for this, it may indicate that more recent graduates are more comfortable trying to include new PA opportunities at their schools if they arrived and none already existed.

Additionally, only a little over half (59%) indicated that staff at the school gets paid to facilitate ExPA before or after school.

Regarding questionnaire responses within perceptions of expanded physical activity programming as an innovation, one outlier was observed, providing a low score (29 out of 84). This graduate completed the program in 2012 and so began the program around 2008/2009 which lines up with the time the ASU PETE program began integrating these types of themes into their courses. With most changes, the first group through has to deal with the trial and error of the faculty learning how to best implement these changes.

Interestingly, although the average scores are relatively close, those graduates who were currently in administrative roles or teaching higher education along with those who were not currently teaching were the ones who reported the highest perceptions of expanded PA as an innovation. This may be explained by the ability of individuals in roles currently outside of teaching to focus on the potential benefits of such whole-of-school PA programming as opposed to those who are daily faced with the challenges associated with actually implementing such programs. On the other hand, LeFevre (2014) discussed changes related to pedagogy and how teachers weigh the risk associated as they decide if they will implement the changes. LeFevre included themes of fearing public failure and, perhaps this is evidenced by those in teaching roles perceiving greater risk in implementing changes such as whole-of-school PA.

Although measures were taken (such as selecting only pertinent questions and limiting question overlap) to keep the questionnaire concise and decrease response burden, a limitation of this study was the low response rate and the issue of many

participants failing to complete all questions. The present study looked at graduates' behaviors to evaluate downstream effects of the PETE program faculty decisions. A natural extension of this study would be to next conduct an evaluation aimed at collecting evidence of expanded PA programming strategies being taught in the PETE courses. This step would tie in recommendations from previous program evaluation research (e.g., Metzler & Tjeerdsma, 2000b) which suggests ongoing and systematic collection of such evidence.

In conclusion, the findings demonstrate that more graduates from after the inclusion of CSPAP themes into the curriculum have started expanded PA programs from scratch as compared to those who graduated before the inclusion of CSPAP as a focus in the PETE program. Second, perceptions of expanded PA as an innovation were mostly positive across all respondents but were higher in those who graduated after 2008. Although the findings show a slight downward trend in the implementation of expanded PA as graduation year is more recent, there are many contextual circumstances that need to be further investigated prior to using such findings as evidence of failure to transfer. This topic is further developed in the next chapter.

CHAPTER 3 REFERENCES

- American Alliance for Health, Physical Education, Recreation, and Dance. (2011). *2011 comprehensive school physical activity program (CSPAP) survey report*. Reston, VA: Author.
- Bulger, S. M., Housner, L. D., & Lee, A. M. (2008). Curriculum alignment: A view from physical education teacher education. *Journal of Physical Education, Recreation & Dance, 79*(7), 44-49.
- Carson, R. L., Castelli, D. M., Beighle, A., & Erwin, H. (2014). School-based physical activity promotion: A conceptual framework for research and practice. *Childhood Obesity, 10*, 100-106.
- Carson, R. L., Castelli, D. M., Kuhn, A. C. P., Moore, J. B., Beets, M. W., Beighle, A., ... & Glowacki, E. M. (2014). Impact of trained champions of comprehensive school physical activity programs on school physical activity offerings, youth physical activity and sedentary behaviors. *Preventive Medicine, 69*, S12-19.
- Centers for Disease Control and Prevention. (2013). *Comprehensive school physical activity programs: A guide for schools*. Atlanta, GA: US Department of Health and Human Services.
- Cothran, D. J., Kulinna, P. H., & Garn, A. C. (2010). Classroom teachers and physical activity integration. *Teaching and Teacher Education, 26*, 1381-1388.
- Deslatte, K., & Carson, R. L. (2014). Identifying the common characteristics of comprehensive school physical activity programs in Louisiana. *The Physical Educator, 71*, 610-634.
- Graber, K. C. (1995). The influence of teacher education programs on the beliefs of student teachers: General pedagogical knowledge, pedagogical content knowledge, and teacher education course work. *Journal of Teaching in Physical Education, 14*, 157-178.
- Hunt, K., & Metzler, M. (2017). Adoption of comprehensive school physical activity programs: A literature review. *The Physical Educator, 74*, 315-375.
- Jones, E. M., Taliaferro, A. R., Elliott, E. M., Bulger, S. M., Kristjansson, A. L., Neal, W., & Allar, I. (2014). Feasibility study of comprehensive school physical activity programs in Appalachian communities: The McCowell CHOICES project. *Journal of Teaching in Physical Education, 33*, 467-491.
- Kalton, G., Roberts, J., & Holt, D. (1980). The Effects of Offering a Middle Response Option with Opinion Questions. *The Statistician, 29*(1), 65.

- Lawson, H. A. (1983). Toward a model of teacher socialization in physical education: The subjective warrant, recruitment, and teacher education. *Journal of Teaching in Physical Education*, 3-16.
- Lee, M., Hagood, S., Kingsley, D., & Hare, M. (2014). A physical education teacher education program's impact on teacher candidates' disposition development. *Research Quarterly for Exercise and Sport, suppl.*, 85(1), A144-145.
- LeFevre, D. M. (2014). Barriers to implementing pedagogical change: The role of teachers' perceptions of risk. *Teaching and Teacher Education*, 38, 56-64.
- McMullen, J., Kulinna, P. H., & Cothran, D. (2014). Physical activity opportunities during the school day: Classroom teachers' perceptions of using activity breaks in the classroom. *Journal of Teaching in Physical Education*, 33, 511-527.
- Metzler, M. W., & Tjeerdsma, B. L. (2000b). Ending back at the beginning: Some reflections on PETE assessment. *Journal of Teaching in Physical Education*, 19, 543-547.
- Pankratz, M., Hallfors, D., & Cho, H. (2002). Measuring perceptions of innovation adoption: The diffusion of a federal drug prevention policy. *Health Education Research*, 17, 315-326.
- Rogers, E. M. (1995). *Diffusion of innovations*. New York, NY: Everett M. Rogers.
- Rovegno, I. (1992). Learning a new curricular approach: Mechanisms of knowledge acquisition in preservice teachers. *Teaching and Teacher Education*, 8, 253-264.
- Sallis, J. F., Owen, N., & Fisher, E. B. (2015). Ecological models of health behavior. In Glanz, K., Rimer, B. K., & Viswanath, K. (Eds.) *Health Behavior: Theory, Research, and Practice* (pp.43-64). San Francisco, CA: Jossey-Bass.
- Society of Health and Physical Educators (SHAPE America, 2017). *National standards for initial physical education teacher education*. Reston, VA.
- Stoepker, P., Dauenhauer, B., Carson, R. L., & Moore, J. B. (2020). Comprehensive school physical activity program policies and practices questionnaire (CSPAP-Q). *Research Quarterly for Exercise and Sport*, 1-11.
- van der Mars, H., Lorenz, K. A., & Kwon, J. (2017) Building CSPAP development into Arizona State University's PETE program: A work in progress. *Journal of Physical Education, Recreation & Dance*, 88, 11-19.
- Ward, P. (2013). The role of content knowledge in conceptions of teaching effectiveness in physical education. *Research Quarterly for Exercise and Sport*, 84, 431-440.

CHAPTER 4

PRACTICAL REFLECTIONS OF PHYSICAL ACTIVITY INTEGRATION

Introduction

“Listening, not imitation, may be the sincerest form of flattery.” Joyce Brothers

Physical Education in the United States has experienced a dynamic history of changes reflecting the values and needs of society (McKenzie & Lounsbery, 2014). Kirk (1997) noted the paradox of modern focus on bodily health represented in the multi-million-dollar weight loss and nutritional industry with the simultaneous decline in Physical Education programming in public schools. From early gymnasiums that focused on preparing future military members to protect the country, to the aesthetic movement of the mid 1900's, there has been no lacking for a desire for Physical Education to prepare adolescent bodies for physical success as adults.

More recently, school initiatives such as No Child Left Behind (BCLB, US Department of Education, 2002) made an intentional point of getting schools to create school-wide improvement plans with a focus on improving academic achievement. Similarly, the Centers for Disease Control and Prevention (CDC) and the Society of Health and Physical Educators (SHAPE America) have joined forces to generate solutions to public health concerns surrounding child sedentary behaviors. This school improvement solution looks at schools, which provide access to the majority of children, to collaborate and generate awareness and school-wide solutions to achievements in health and wellness. The Comprehensive School Physical Activity Program model (CDC, 2013) provides a framework to both showcase quality physical education while also

identifying additional opportunities within the school day for children and youth and other stakeholders to participate in physical activity.

Comprehensive School Physical Activity Program

The Comprehensive School Physical Activity Program (CSPAP) consists of five targeted opportunities within a school's culture where additional access can be created for the integration of physical activity (PA). The keystone of the model is a quality Physical Education program. This is the formal education time where students learn to be physically literate individuals (SHAPE America, 2017). The other four components are meant to be supportive of PA through both organized and recreational outlets for all persons associated with the school. Student PA is the target for two of the components (before and after school, and during school) while a third aims to increase staff involvement and a final component looks beyond the school walls and focuses on physical activity that engages family and community members. The CSPAP model is one way to help address the public health concern of children's lack of daily physical activity.

This paper visits the topics of understanding innovations and innovative solutions to global issues (such as decreased time children spend active) and investigates Physical Education teachers' perceptions of their abilities and desire to adopt innovative practices. In the spirit of the words of Joyce Brothers that appear at the opening of this chapter, the present study is poised to listen to teachers to better understand their views. This is important to Physical Education Teacher Education (PETE) program design in order to ensure graduates are being properly prepared for the positions for which they are being trained.

Teachers' Perceptions of CSPAP

There is promising evidence that when Physical Education teachers receive proper training, they feel positively about providing additional PA opportunities during school. For instance, Centeio, Erwin, and Castelli (2014) studied 10 Physical Educators who reported positive perceptions regarding promoting PA outside of Physical Education after they attended professional development about it. In a study of 292 middle school teachers in the Southeast, Physical Education teachers' personal beliefs surrounding physical activity in the school correlated with students' access to extracurricular PA opportunities (Xu, Chepyator-Thomson, Liu, & Schmidlein, 2010).

Concerns related to burnout (Carson, Baumgartner, Matthews, & Tsouloupas, 2010) and professional dissatisfaction (Johnson & Turner, 2016) become important when recognizing the responsibilities associated with filling an expanded role as a PAL (Centeio et al., 2014). Ultimately, the concept of whole-of-school PA integration is relatively newer in comparison to traditional approaches to Physical Education, meaning these types of discussions of thoughts about and barriers or facilitators to programming are still developing.

Diffusion of Innovations

Rogers (2003) initially observed what he entitled the Diffusion of Innovations through the imitation of practices in rural sociology. His collection of work demonstrated how the adoption of new behaviors is very much a socially-based phenomenon. Social status, access to resources, and concern about how others perceive us all effect our willingness to pick up a new behavior. He discussed change as a process that happens over time. In his use of the term *diffusion*, Rogers noted this is "...the process in which

an innovation is communicated through certain channels over time among the members of a social system” (p.5). Diffusions, in this manner, is a type of communication through which processes or practices are spread through a social system. The diffusion of innovations in social sciences is an active communication of an innovation’s usefulness, difficulty, and benefits leading to its adoption or disappearance across a social system.

Within Physical Education and CSPAP, the innovative behavior that was the catalyst for the present study is the integration of CSPAP into PETE programs. Hunt and Metzler (2017) pointed to the inclusion of CSPAP components into PETE experiences as one successful strategy that decreased teachers’ perceived barriers to CSPAP integration. In short, when preservice teachers are exposed to these expectations of the expanded role of today’s Physical Education teacher, they are better prepared to successfully serve in these roles.

Perceptions of Innovations

Rogers (2003) described that the adoption of an innovation happens in a complex interaction of social contexts. Potential adopters must personally reflect on the (a) relative advantage, (b) compatibility, (c) complexity, (d) triability, and (e) observability of an innovation. These aspects, as perceived by the potential adopter, determine the viability of the change; for instance, if a teacher believes a CSPAP is helpful to their role as a Physical Educator, is compatible with their values of physical activity, if they believe it is not too complex to deal with and that they are invited to try small parts at a time rather than being required to adopt all five components at once, and if they feel others in the school will be able to see a difference in the students and the school culture, then all of these positively perceived attributes would lead to the teacher adopting CSPAP

programming into their school. Since the diffusion of innovations occurs within a social system, we next look at the professional socialization of teachers, or the period of time when a future teacher is being socially influenced through their PETE program.

Teacher Socialization Theory

This study is grounded in the Teacher Socialization Theory, a subset of Occupational Socialization Theory (Lawson, 1983). Teacher Socialization Theory recognizes that a teacher's generation of their identity as a teacher and their understanding of the roles they have within that identity happen in a series of stages (please see *Figure 7*). These stages are all very social in nature as discussions with peers and observations of others are critical in the perceptions internalized during these times in a teacher's career.

Acculturation is the phase during which a person observes teachers first-hand as a K-12 student. Schempp and Graber (1992) discussed subjective theories the future teacher develops during acculturation that can cause challenges if they turn out to be different than the role as described once they attend professional training. During professional socialization, preservice teachers are introduced to the expectations of the field through formal education, generally in a PETE program. Here, future teachers are exposed to the practices and skills needed to successfully prepare and instruct their own classes in Physical Education. In this phase, PETE faculty attempt to share with teacher candidates strategies for pedagogy, movement development, and for meeting the demands of their future roles as Physical Educators. Also, during this stage, the PETE student is addressing those previously held beliefs developed in acculturation which may or may not align with what they are being taught in their teacher education program.

Finally, the third stage is organizational socialization. This happens once the individual moves into a formal teaching role. This stage involves becoming a part of a unique school's culture and navigating their role as a Physical Education teacher, which includes figuring out what they will carry with them in regards to practices and procedures taught during their professional preparation.

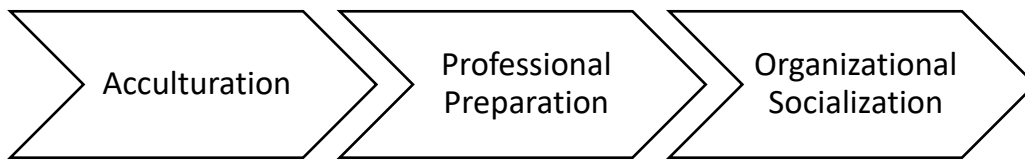


Figure 7. Stages in Teacher Socialization Theory

Professional Preparation and Expanded Physical Activity

In line with both the diffusion of innovations theory and teacher socialization, Castelli, Carson, and Kulinna (2017) pointed out that faculty are, in fact, change agents who can influence preservice teachers. The authors emphasized, however, the need to prepare future Physical Educators to be leaders and agents of change at their own schools in order to create sustainable CSPAPs that provide positive experiences for all involved. Although there is a push in this direction of preparing future Physical Educators for these expanded roles as physical activity leaders (i.e. Castelli, Carson, & Kulinna, 2017; Zhang, Gu, Zhang, Keller & Chen, 2018), not all PETE faculty have embraced this paradigm (Webster et al, 2016). There is evidence preservice teachers feel more prepared

to meet expectations of expanded roles of Physical Educators when their PETE program has included some exposure to strategies for PA integration (Kwon et al., 2018).

Purpose

The purpose of this study was to understand the perceptions of expanded PA programming from current Physical Education teachers who graduated from a particular PETE program that has integrated such programming into their curriculum. The study involves perceptions from graduates both before and after the curricular integration. The following research questions guided the investigation.

RQ1: What is the perception of expanded PA programming by Physical Education teachers who graduated from Arizona State University's PETE program between 2000-2019?

RQ2: What does expanded PA programming look like in the K-12 schools of teachers who graduated from the same university?

Methods

All aspects of the study design received approval from the University's review board for research with human participants (see Appendix C). In accordance with pragmatic approaches to understanding phenomena (James, 1907, as described in Giacobbi, Poczwardowski, & Hager, 2005), this data represents the qualitative portion of a larger, mixed-methods investigation looking at expanded PA implementation in K-12 schools by PETE graduates from Arizona State University (survey data are presented elsewhere). A variety of data were collected and compared to identify patterns of interrelatedness (Saldana & Omasta, 2016). In the previous study, a 45-question

electronic questionnaire acted as the initial point-of-contact with participants. The first page of the questionnaire included the informed consent. Within this larger study, participants were offered the opportunity to allow the research team to follow up with them through an on-campus visit which represents the current study. The half-day on-site visit provided an opportunity for the researcher to experience the unique context of each school (Jurasaitė-Harbison & Rex, 2010) and to discuss with Physical Educators how each school was navigating the concept of an expanded PA program.

Recruitment

Participants were recruited intentionally from graduates from Arizona State University's Physical Education Teacher Education program from 2000-2019; with the change in PETE programming occurring around 2009, this range of years was selected to see graduates from before, during, and after the curricular integration. Graduate information and email addresses were obtained from College records and the Alumni Association and the link to the electronic Expanded Physical Activity Programming and Implementation Questionnaire (Appendix E) was sent out in the Fall Semester, 2019. Surveys were returned by 101 graduates with 61 fully completed. From the sample of survey respondents who indicate they were willing to participate in the follow-up interview and observation ($n=48$), interview participants were purposefully selected for maximum variety of participant diversity across school level currently teaching, year of graduation, and gender. For participants teaching within 100 miles of the research institution, individual interviews and observations were conducted in person at respondents' schools during Fall Semester, 2019. Some of the purposefully selected participants had moved and were teaching out of state by the time of the study, if they

were still willing to participate in the interview, they were conducted through video chat programming such as Zoom or Skype.

Participants

From the 48 interested teachers who provided contact information, applying the theory of maximum variation, thirty teachers were purposefully selected and contacted first by email, then by phone to set up observations/interviews. If the participant responded but indicated they were no longer in the state of Arizona or no longer teaching, they were still invited to participate in the interview only. All graduates who were willing to schedule a campus visit and interview were included in this study which resulted in a final sample of thirteen Physical Educators (six male and seven female). Participants were Caucasian ($n=10$) and Hispanic ($n=3$). Teachers were from elementary ($n=8$), junior high ($n=3$), and high ($n=2$) school levels.

Procedures and Data Collection

Participants were contacted by email to schedule the campus visit, which included an observation of PA promotion, marketing, and programming, as well as a 30-45 minute interview. Site visits were scheduled to allow for direct observation of expanded PA opportunities with the researcher spending at least a half day on the campus to collect data. For instance, if the participant indicated PA opportunities occurred before school, the visit began 15-minutes prior to any scheduled programming in order to observe the full session and continued through the lunch break and subsequent recess (if applicable). Conversely, if the PA programming was after school, the observation began 15-minutes prior to lunch and continued until the end of the PA session.

Following the on-site observations, a 30-45 minute semi-structured interview with the participant was conducted and, with permission, audio recorded. This interview included discussion about PA programming and practices at their school.

Instruments

Interviews. The interview guide (Appendix I) for the Physical Education teacher interview was built around the items in a previously collected electronic survey (see chapter 3) that focused on the implementation of PA programming and perceptions of innovations. Questions were intended to draw out comments about how graduates felt about expanded PA in schools. Participants were asked if they knew about the Comprehensive School Physical Activity Program model and about each of the model's five components.

The interview was used as an opportunity to ask follow-up questions and to learn about how each participant viewed and implemented expanded PA programming. A sample question asked teachers "What are your feelings about Physical Education teachers promoting PA to students outside of class time?" Another sample question asked, "How are/are not other school personnel supportive of your expanded PA programming?" The interviews were scheduled to occur after the observations to allow for questions related to observed PA programming or questions that arose during the on-campus observation. Interviews were transcribed, verbatim, by a third-party service provider.

Observations with Field Notes. During the half-day campus visits, the researcher used field notes to record contextual observations about each school setting and to document all observed cases of PA programming as well as related thoughts pertinent to

the research project (Huberman & Miles, 1994). The researcher noted signage (if any) around campus promoting physical activity and/or participation in PA related events. Types of facilities available for PA were noted as well as observed activities happening at the time of the visit. Photographs were taken of signage at each facility related to PA such as postings that space was or was not open for student PA or fliers posted sharing PA programming information for before or after school or during lunch. Additionally, when allowed by the school's policy (and as appropriate for the intended outcome), the Physical Education teacher brought the researcher into an academic classroom to observe procedures and practices there; this type of classroom observations took place during five of the school site visits, which allowed for deeper understanding of spatial constraints or supports to classroom PA.

Document Analysis. In addition to pictures taken during the on-site visit, interview participants were asked about how they market their PA activities and Physical Education program in general. Examples included fliers Physical Educators had prepared for students to sign up for upcoming PA opportunities and newsletter excerpts for communication with parents. These items stood as evidence of CSPAP program implementation to confirm literature, promotional, and interview data as well as to identify evidence that may be missed upon the campus visit due to seasonality of the events or timing of marketing such as during morning or afternoon announcements.

Data Analysis

Data included 13 sets (60 pages) of hand-written field notes, 171 pages of single-spaced typed interview transcripts, 27 photos, and five fliers. Inductive analytic techniques were utilized to look for commonalities across data types employing grounded

theory (Strauss & Corbin, 1994). Techniques outlined in the Listening Guide (Gilligan, Spencer, Weinberg & Bertsch, 2003) were used in an attempt to adequately acknowledge the complexity of the participants' experiences. In this practice, multiple 'listenings' were used to analyze interview data, which involves a minimum of four in-depth 'listenings' to each individual interview, each with a specific point of attention (first for the story, second for the first-person voice, third and fourth for any underlying or additional points of view). The Listening Guide system allows time for the researcher to be embedded in interview data to increase chances for deeper involvement in participants' words. Following this process, constant comparison (LeCompte & Preissle, 1993) was used to identify common themes and subthemes which are presented in the results.

Trusworthiness

The various sources of data were considered together when looking for themes in an effort to cross-validate or triangulate analyses (Wiersma, 2000). In accordance with practices to ensure credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985), several measures were enacted throughout data collection and analysis. To ensure dependability of transcripts used for analysis, participants were invited to review their interview transcripts and suggest any changes needed to better represent their thoughts.

To establish credibility of thematic findings, a second researcher, not present at the interviews, was enlisted for the analysis of interview transcripts (171 pages). The second researcher was intentionally chosen for her experience with qualitative analysis and due to her educational focal area being outside of Physical Education. This introduced a naturally unbiased opinion to the thematic analysis. Although independently

derived themes were similar, the two researchers discussed thematic content to come to consensus on reported themes. A negative case search was also conducted across all data sources and negative cases are discussed in the results. Table 5. provides an overview of the data and methods of analysis as a visual support to demonstrate how the collected data contributes to answering the research questions.

Table 5.
Chapter 4 Data Overview

Research Question	Data Source	Analysis Used
RQ1: What is the perception of PA programming by Physical Education teachers who graduated from Arizona State University’s PETE program?	Semi Structured Interviews	Constant Comparison
RQ2: What does PA programming integration look like in the schools of graduates from the same university?	Observations Field Notes	Thematic analysis

Results

Nine campus observations were conducted in combination with a live interview along with four interviews with participants no longer teaching in the area. A general overview of participant characteristics are presented in Table 6. All but three participants identified as Caucasian (Mark, Cesar, and Kya indicated their ethnicity as Hispanic). In the following section the similarities and differences among these participants’ perceptions and programming related to campus-wide physical activity are discussed.

Table 6.
Interview Participant Characteristics

	Graduation Year	Degree	Grade Level	Interview Type	Aware of CSPAP
Cesar	2000	BA	K-5	Observation and Interview	No
Kendra	2002	BA	K-5	Observation and Interview	Yes
Bonnie	2005	BA	6-9	Live Interview Only	No
Art	2007	MPE	K-5	Observation and Interview	No
Richard	2011	BA	9-12	Observation and Interview	No
Greg	2013	BA	9-12	Live Interview Only	No
Barley	2013	BA	K-5	Observation and Interview	No
Nikki	2014	BA	K-5	Observation and Interview	Yes
Tatum	2015	MPE	6-9	Video	Yes
Mark	2017	MPE	K-5	Video	Yes
Anthony	2018	MPE	K-5	Observation and Interview	Yes
Elise	2018	BA	K-5	Observation and Interview	Yes
Kya	2019	BA	6-8	Observation and Interview	Yes

Overall Themes

Two main themes consistently arose in seeking to answer both research questions. The themes of (a) Connections and Strategies, and (b) Voices of Influence were evident in responses from graduates as they described their feeling about expanded PA as well as

what their expanded PA programming looked like at their school. The results are presented in the same order as the two research questions; first investigating graduates' perceptions of expanded PA and the sub-themes related to this question, then presenting findings of common sub-themes describing what expanded PA programming realistically includes at the schools represented.

Perceptions of Expanded Physical Activity

In addressing the first research question, graduates' personal perceptions of expanded physical activity programming were generally positive. Graduates spoke of wanting to create additional opportunities for students to build positive memories about exercise. Art commented, "...my goal was to help people...to exercise and to have fun and start to enjoy the concept of jogging or running." Their personal knowledge and the influences of others both contributed to their overall perceptions as described next.

Connections and Strategies

Graduates' first-hand experiences and opportunities for exposure to previous expanded PA played a large role in their feelings about this type of programming. There were two sub-themes related to personal knowledge of expanded PA programming: (a) CSPAP Knowledge, (b) Available Resources.

CSPAP Knowledge. Seven of the thirteen participants knew of the CSPAP model by name. Only one of those seven was a graduate earlier than 2014, Kendra, who graduated with her bachelor's degree in 2002. This particular graduate, however, returned later to complete her masters and her PhD in areas that continued her Physical Education focus. Although the earliest graduate of this group, Cesar, was forthcoming in his dislike of whole-of-school models, he included expanded PA in his programming. Cesar had

attended a training that was offered by an outside source that promoted organized recess. After seeing their system, he shared, “I was against it even though I took the training, and I’m like, no, because if this is what we’re going to do during recess, the district is going to see, like, ‘well, they don’t need PE during the day so we’re just going to get rid of that’.” This suggests that even though he was not aware of the specific CSPAP model, he was interested enough in providing students with additional PA opportunities that he attended a professional development session. Field notes further note the placement of fliers for students to sign up for the “Cougar Club” PA opportunity after school. However, the training he experienced involved a system that required funding for adequate recess aides to cover the organized activities. A lack of funding as well as a concern that this model would undermine the importance of and need for Physical Education led Cesar to turn away from the programming.

More recent graduates reported not only being aware of the CSPAP model but also having resources such as links of existing online sites they could share as well as documents they had created in their classes while attending ASU that they could share with others at their school. This aspect is a positive, however, it is paralleled with the hesitation to try something novel as a teacher that accompanies a new professional in most settings. For instance, Kya shared, “[teachers at ASU] had us create like a website for teachers, like ‘oh here’s how to incorporate moving into your classrooms.’ And I’ve already sent it out to like three teachers, so I intend to send it out to the whole staff” (Kya).

Those graduates who were not aware of CSPAP noted classroom management as their memory of what the program focus was while they were studying at ASU in the

PETE program, “His [earlier ASU PETE faculty] focus was on classroom management; if I mess up teaching, the kids don’t know” (Cisco); “...because if you don’t have that management, you can’t teach skills, right?” (Kendra). However, similar comments were made by more recent graduates as well even amongst their discussions of expanded PA programming, “I would say the biggest take-away was classroom management” (Barley); “I’ll definitely say I’m glad they spent so much time on management, it’s so important” (Elise). As these comments demonstrate, this theme continued across all years of graduation suggesting the focus on classroom management has not been lost while the curriculum was adjusted to also include themes of expanded PA programming.

Available Resources. Having resources readily available for programming was certainly a support for ease in programming. Those graduates with ample access to resources shared positive comments about making equipment and facilities available for expanded programming. For instance, Bonnie was not aware of the CSPAP model but discussed community access to the school’s athletic fields and having space for classroom teachers to use outdoors even while Physical Education classes are taking place.

This theme was expressed in a variety of ways. Available pre-packaged PA programs were identified as useful CSPAP resources including programs such as Fuel Up to Play 60 (Elise), the Boys and Girls club (Kendra), police district personnel (Tatum), and Discovery Kids (Art). These types of programs and community partnerships support the Physical Education teachers. This takes away from the teacher the added responsibility of providing before or after school PA opportunities. However, these arrangements also create resource challenges for some of the teachers. “I need the gym to

run certain things. So [scheduling with Discovery Kids] is a headache” (Art). Some of these pre-packaged programs do not actually come with the staff to run the program, rather they provide the infrastructure but rely on school staff (and in this case, the Physical Education teacher) to actually put it all together. “I can’t do it 100% myself” (Kendra). Similarly, Bonnie expressed a similar struggle that inhibits classroom teachers from using resources (fields or indoor PA facilities) saying, “...they don’t want to use our space too much because we’re [the Physical Education teachers] limited to what we have as well, right, and they all know that’s our teaching space.”

As documented in researcher field notes, many of the schools lacked gymnasiums and, instead, Physical Education was housed in a multipurpose room or other type of auxiliary space. For instance, while observing Cesar, the researcher noted that the set up of both gym spaces on Cesar’s campus were less than ideal; his elementary school employed two full-time Physical Education teachers and one used the cafeteria/multipurpose room while the other used a square space that may have been a wrestling room at one time in the school’s far past. None of the graduates focused on these types of arrangements other than to note the difficulty of scheduling, such as previously indicated by Art.

When it comes to PA programming, money as a resource plays a key role. Graduates discussed adequate funding as a facilitator but also the potential to make money through programming as an inhibitor. Several graduates (Art, Cesar, Tatum, Elise, and Bonnie) described that their school or district use expanded PA events such as teacher/student sports, field day, and dances as ways to make money. Although there were examples where Physical Education programs could receive some of the funds

raised, most graduates were not excited about asking students or families for money, “I try to stay away from fund raisers” (Cesar).

...I used to charge \$10 for six weeks [of an after school sport]...but now they’re wanting to charge \$25 and they’re trying to make me charge \$30 and I’m like, you guys don’t understand that my goal is not to charge...I’d rather have 50 or 60 kids at \$25 than 15 kids at \$60 or \$70 ‘cause I’m not servicing the most kids [if we charge too much]. (Art)

Voices of Influence

Graduates’ perceptions of expanded PA were comprised of stories of others who had influenced their thoughts and decisions related to such programming. The voices of their classroom teacher peers tended to push their words towards describing expanded PA as almost a burden. On the other hand, the influence of prior professors and current district personnel contributed to positive perceptions of expanded PA.

In some cases, these voices of influence were echoes of direct conversations such as Cesar who mentioned that his wife was a classroom teacher at the same school where he teaches Physical Education, “my wife works here. There’s times I’ll ask her if she did anything [physically active in the classroom] and she’s like, ‘we don’t have time’...I try to explain to her, like, this is a good time to do an activity...but I think it’s...they’re so stressed out about what else it is they’re doing...that it doesn’t come into their mind of what [PA] to do there.” In other cases, the influential voices were more like assumptions of other teachers’ stances such as, “this school is overloaded with events...I think there’d be some burnout trying to do [expanded PA].”

Most graduates (84%) indicated positive support from administrators at the schools as well as district personnel. In fact at some point in each campus visit, an

administrator made an appearance either in the gym or during a campus tour (field notes). When graduates shared stories about choices the district made, however, it was worded telling how forces outside the school were affecting teachers inside the school; these powers were outside of their control and when it was viewed in a less positive light, it contributed to negative perceptions about creating expanded PA opportunities. This was true for classroom PA as well as for after school PA: "...they've got so much jammed on their plates and that's the reason I don't see [classroom PA] happening, cause the district's thrown too much on them in the first place. And this would just be one more thing they were told they had to do it, that they'd immediately be like, great, here's one more thing" (Art); "they get a couple teachers but as they have so many things that our teachers are expected to do after school these days...most teachers don't do it anymore" (Bonnie).

Field note data included observing an administrator walking through the gym to say hi at the beginning of the day at Kendra's school. Similarly, Nikki noted that her principal expected her to integrate intramurals into lunch recess but also said he was very positive about helping her in any way. In fact, her office includes a four-foot poster of her principal's face, which she laughed about as she discussed how much he supports the teachers at the school. Mark shared about meeting his principal at a job fair and indicated the principal was very interested in integrating a CSPAP. In fact, Mark believed his own knowledge of CSPAP was critical in his getting the Physical Education teaching position at his school. He was excited to have the backing of his principal as he was creating his plans for expanded PA programming.

Having a strong advocate for Physical Education at the district level provided positive influences for graduates such as Elise, who's comment ties in the previously noted support of having adequate resources and a district representative, "if we really need stuff we'll get new stuff. Um, our department head person works really hard to make sure we have like nice things..." Graduates in this district discussed supports such as scaffolded professional development that is required monthly for new teachers and funding opportunities the specialist sends out with an expectation that teachers will apply for these grants. An example is a program sponsored by Blue Cross Blue Shield, Arizona, which includes lesson plans and strategies for teaching students about healthy eating and activity habits. "Yea, everyone in the district does it...the *Walk On Challenge* is something she kind of expects us all to do. It's so the whole school or the whole district wide does it the month of February...and I think it was two years ago or three...when I was one of the \$5,000 grant winners." (Bailey).

The graduates in this study demonstrated mostly positive perceptions of the concept of offering expanded PA programming. Having previous exposure to and knowledge of CSPAP and other strategies for programming, having access to resources such as fields, gyms, and PA equipment, and having positive support by influential peers in their professional settings all contributed to their overall perceptions. Next the actual programming these graduates offered at their schools is discussed.

Physical Activity Programming

The second research question for this study asked what expanded PA programming actually looks like in the K-12 schools of graduates from ASU's PETE program. Evidence for this came from events observed by the researcher, field notes, and

descriptions by the graduates. Again, Connections and Strategies and Voices of Influence played a role in the ways the graduates organized their expanded PA programming.

Personal Knowledge included sub-themes of (a) Enacting Strategies, (b) Future Plans, and (c) Mixed Messages.

Connections and Strategies

Enacting Strategies. Graduates with current expanded PA programs in motion demonstrated successful use of strategies for supporting their programs. Art, for example made use of signage around the school to promote his intramurals' program (please see *Figure 8* for an example). Another frequently utilized strategy for supporting expanded PA included providing access to sports and PA equipment during lunch recess at all three school levels (elementary, middle, and high school). "...for recess there's a blue bucket that they get. Sixth grade is the first one that goes out, so they'll take the whole bucket and it stays outside and then third grade's last; they bring it back in." (Nikki). Cesar had a similar setup at his school saying the Physical Education program provided equipment for recess and that they have it on a cart that aides oversee.



Figure 8. Using public spaces in the school to promote knowledge of and enthusiasm about the expanded physical activity programming at the school.

Future Plans. One 2017 graduate, Mark, had only been in his current position for two months at the time of his video interview. He spoke of plans to integrate all five of the CSPAP components at his school and, similar to Elise, had shared links to resources with teachers which he created as part of a class when studying PETE at ASU. As a first-year teacher at this school, he had only begun creating connections with fellow teachers to plan for future wellness events which included “...working with a group of teachers and a local chef to lead classes for parents to demonstrate making healthy snacks and provide personal training.” Another graduate shared ideas that he has thought about sharing with his administrator, but ended the discussion with, “I just started at [my school] last year” (Greg). Similarly, Kya spoke about future plans to start a volleyball club for students who “just want to play but not compete”. Her situation was similar to

Greg's in that this was her first year teaching at the middle school with three other Physical Education teachers who had all been there for more than ten years (field notes).

Mixed Messages. There were times graduates shared thoughts about their expanded PA program but their examples were actually not in line specifically with a CSPAP. One example includes a graduate using any whole-of-school planning as synonymous with whole-school PA programming. For instance, Kendra noted, "...I feel like we always have the approach of whole school...I walked around last quarter and gave [school rewards] for students eating vegetables..." Similarly, Richard demonstrated a juxtaposition of a wealth of knowledge paired with a lack of application. He recounted that faculty in the PETE program modeled integrating classroom PA breaks into their coursework when he was a major, however, when asked if he includes those types of breaks or academic integration of movement in his health classes, he said, "[faculty member] would have us during lectures doing physical activity breaks" ... "that was one of the things that I was taught back then that did not carry over."

Graduates suggested they had expanded PA programming that included participation by staff, community, and family members; however, often the case was that this engagement was limited to attendance at events as opposed to actual physical participation. Volunteering, supporting, participating in planning, design, and set up were often the ways participants described how these members of the school participated in campus PA events. For instance, when discussing parental involvement, Kendra indicated, "we have a lot that come for the Turkey Trot, Track and Field days...we have a ton of parents". Elise echoed, "we get parent volunteers". Bonnie expanded on the enthusiasm of parents at her school:

We live in the most expensive zip code of the United States. So the parents will do everything and anything for these kids. And it's amazing the things that they...the opportunities they're allowed to have. And I get to be a part of it...we do a turkey trot, this is where the parents get involved too...[it's] a mile off campus, so the community comes out to cheer the kids on, the police department and all the parents are out there and the kids are running around.

Regarding teachers' physical participation, graduates had similar descriptions. Nikki spoke of classroom teachers' participation in field day as, "I will be able to get them more involved in helping...they're amazing helping out". Art described attempts to get other teachers involved and shared, "...like when I do my PE night, [teachers] don't participate". One factor that was noted by several graduates was the ages of the classroom teachers. The message was generally that "younger" teachers were more likely to engage in PA on campus that in which they were invited. "We did March Madness last year where our high schoolers actually coordinated this whole thing, they played soccer, volleyball, and basketball, um, so it was staff versus students...we even created staff/student teams where, like, certain staff members would be on the student team. So it was a lot of fun last year...we have a relatively young staff at our school" (Tatum).

Powerful Voices

The expanded PA programming these graduates had put into practice also reflected the influence of those around them. An example that parallels graduates having developed hesitation in their perceptions, Greg shared about expectations of administrators that led to his and the other Physical Education teachers at his school not wanting to bring movement into classrooms. He indicated that due to low benchmark

scores on state testing, the Physical Education teachers were directed by the administration to come up with ways to integrate particular math concepts into their classes. This interaction left him with a less than positive feeling of being valued as a Physical Educator:

...and so we'd had to go sit in the meetings where I don't know what any of these numbers mean, I don't know what Galileo is, and we'd go look at these numbers and they'd say, 'oh, well we're struggling with this type of math problem' and I'm like, well I don't even know how to do that type of math problem but I'm supposed to work it into my class. (Greg)

He summarized this negative memory and described why it made him leery of imposing PA expectations onto his fellow classroom teachers, "We have quality teachers, they're good at teaching the subject matter...if we're asking them to do all these things, right, and we're putting more on their plate, um, that's kinda how I saw it".

Graduates talked about the powerful influence of a silent voice of their peers as they discussed the one-way sharing of information; from the Physical Education teacher to their peers. In other words, academic classroom teachers had not made a practice of requesting resources or strategies for integrating movement into their lessons. As was previously discussed with developing perceptions of expanded PA programming, and similar to Greg's story, this one-way flow of information led to graduates feeling limited in what programming they could offer.

Graduates described ideas for group or classroom activities that they could share with any number of groups (church youth groups, veteran support groups, classroom teachers), which demonstrated their breadth of knowledge and expertise pertinent to health, physical activity, and Physical Education. "I don't mind helping, sharing

activities” (Barley). “We would try to send out brain breaks” (Greg). “I’ve got tons of ideas” (Elise). This was commonly discussed in terms of other teachers not responding to their materials and also not requesting help. In this case, silence, itself, acted as a powerful voice of influence.

Having a district-level Physical Education specialist as a powerful voice also influenced after-school programming for sports like track and field, “usually, [the district specialist] promotes everybody do a track and field day” (Kendra). Having this expectation meant the Physical Education teachers taught track and field events during class, but also that they offered after-school sessions to allow those who would go on to compete, as well as those who were just interested, time to practice. “I’ve had so much help...our [district] department head works really hard” (Elise).

There were a few negative cases identified in the data analysis. When asked if he had any plans to include family members in on his ideas, Bryce replied, “Not at all, actually, I’ve never considered trying to disseminate any of this stuff to them.” As a *positive* negative case, Nikki, noted that teachers at her school did get involved in some of the Fun Runs throughout the year, “...some of the teachers run with the kids or walk, um, and then the others will be out stationed on the field for supervision.” Finally, although not a clear negative case, some graduates commented that although they had exposure to CSPAP in their PETE program, they had only been exposed to concepts related to maintaining these programs as opposed to starting them from scratch, “now that I’m in charge, it’s totally different” (Kya).

Discussion

The World Health Organization (Waxman, 2004) suggested a joint effort among experts in the fields of health, nutrition, and physical activity are needed to address the epidemiological concerns of non-communicable diseases. As movement includes both exercise and physical activity, Physical Educators are trained to be experts in physical activity. However, it would seem that many of them do not realize how their expertise applies beyond their specific subject matter.

Both theoretical frameworks utilized as supports in this study allow for a focus on formal teacher training as a source of influence for how this group of graduates approached their roles. In answering the two research questions, graduates' perceptions of expanded PA was reflective of PETE faculty goals which may be attributed to their interaction with concepts related to this expanded role during their professional socialization as in Teacher Socialization Theory (Lawson, 1983). In response to the second research question, the expanded PA programming also mirrored topics included in the PETE program such as programming focusing on providing additional opportunities for K-12 students to engage in PA; this may be explained by aspects of Diffusion of Innovations theory (Rogers, 2003) such as graduates' ability to observe success during their PETE experience and their ability to try out small changes or additions to their programming at a time.

The current study supports previous findings such as Centeio, Erwin, and Castelli (2014) who found that those with specific training related to expanded PA programming and leadership demonstrated positive perceptions of these things. More recent graduates demonstrated more knowledge not only of CSPAP but of strategies and resources for

implementing expanded PA opportunities. Although not all five areas of CSPAP were observed during campus visits or discussed in the programming by these graduates, it was promising to see that all of the graduates were interested in offering at least students additional access to physical activity beyond Physical Education classes. Another important aspect noted in the field notes at every school visit is that all of these schools were situated within close communities that allowed for the majority of students to walk to school. At the elementary schools included in this study, several parents were observed walking with their children to drop them off at school in the mornings indicating that physical activity is inherent in the cultures of these schools already.

For those more recent graduates who started their expanded PA program from scratch, their reflections indicated they would have benefitted from discussions about that process during their PETE programs. Although they interacted with expanded PA programs already in existence, they were not familiar with negotiating times for activities and thinking of the benefits or problems that may arise due to these decisions (such as parents not picking students up after school).

It should be noted, however, previous research on preservice teachers' attention to specific information covered during their PETE program has suggested preservice teachers may not always be mentally present when important items are discussed. For instance, Rovegno (1992) shared that there are times that content taught does not really hold meaning until the individual is in the field. It is certainly possible that the topic of starting a CSPAP from scratch was discussed by PETE professors in courses at ASU. However, since the high school programs that were specifically highlighted for their successful expanded PA programming already had these PA opportunities in place, PETE

students may have missed the importance of the topic of beginning a program from scratch when it was discussed.

Regardless, this is content area the current PETE program may benefit from including more intentionally to provide students the opportunity to think through challenges such as scheduling and creating fair teams for club sports comprised of students with mixed skill sets. Two participants suggested similar strategies they wanted to discuss with their administrators for getting teachers more involved in school-based PA. Both Greg and Cesar mentioned an idea of asking for a release from a meeting or similar required event during which teachers could participate in some type of PA on campus. These are the types of ideas current students might benefit from talking through with their classmates to think ahead to how they will entice classroom teachers to become involved in their PA events once they are working.

A limitation of this study was the low response rate (27%) by survey respondents who were invited to participate in the campus visit. The initial sampling strategy (maximum variation) was designed to find cases that were diverse in age, grade level, gender, and perceptions of CSPAP as an innovation, however, the lack of responses to phone and email invitations was such that only these thirteen graduates were able to be scheduled. The resulting sample still had a fair amount of diversity in the previously mentioned characteristics, however, additional interviews with a wider pool would be recommended in the future.

Finally, teacher education programs, in general would be wise to adopt more transdisciplinary modeling. Preservice teachers could benefit from exposure to the mixed expertise of their peers in other specialty areas of the teaching profession. Creating

opportunities for preservice teachers during their schooling may encourage them to cross traditional boundaries within school walls and reach out to other teachers for ideas that can benefit their own teaching. Educational programs for future administrators may also benefit from creating cultures of sharing of intellectual resources that can so easily be overlooked when the focus is on curriculum and high-stakes testing.

Conclusion

The purpose of this study was to learn about expanded PA integration practices of graduates from ASU's PETE program from the past nineteen years, and the data provided a useful snapshot of what these programs look like. More importantly, the findings also demonstrate that graduates from this PETE program generally have positive perceptions of and strategies for the integration of expanded PA programming into their professional planning as a Physical Educator. More recent graduates demonstrating having a higher knowledge of the CSPAP model. This supports the expectation by the PETE faculty that by integrating themes of CSPAP throughout the curriculum, graduates will gain exposure to, knowledge of, and skills for the idea of an expanded role of the Physical Educator.

Related to Teacher Socialization Theory, this study focused on the impact of the middle, or professional preparation, phase of professional development as a Physical Educator. None of the graduates noted previous exposure to expanded PA programming in their acculturation phase (their own K-12 Physical Education experiences). Therefore, the positive perceptions demonstrated by the majority of the graduates suggests the PETE faculty were successful in instilling within them an appreciation during their professional preparation phase for offering K-12 students opportunities for PA beyond solely Physical Education classes.

CHAPTER 4 REFERENCES

- Carson, R. L., Baumgartner, J. J., Matthews, R. A., & Tsouloupas, C. N. (2010). Emotional exhaustion, absenteeism, and turnover intentions in childcare teachers: Examining the impact of physical activity behaviors. *Journal of Health Psychology, 15*(6), 905-914.
- Castelli, D. M., Carson, R. L., & Kulinna, P. H. (2017). PETE programs creating teacher leaders to integrate comprehensive school physical activity programs. *Journal of Physical Education, Recreation & Dance, 88*, 8-10.
- Centeio, E. E., Erwin, H., & Castelli, D. M. (2014). Comprehensive school physical activity programs: Characteristics of trained teachers. *Journal of Teaching in Physical Education, 33*, 492-510.
- Centers for Disease Control and Prevention. (2013). *Comprehensive school physical activity programs: A guide for schools*. Atlanta, GA: US Department of Health and Human Services.
- Charmaz, K. C. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Los Angeles: Sage Publications.
- Giacobbi, P. R., Poczwadowski, A., & Hager, P. (2005). A pragmatic research philosophy for applied sport psychology. *The Sport Psychologist, 19*, 18-31.
- Gillian, C., Spencer, R., Weinberg, M. K., & Bertsch, T. (2003). On the listening guide: A voice-centered relational method. In P. M. Camic, J. E. Rhodes, & L. Yardley (Eds.), *Qualitative research in psychology: Expanding perspectives in methodology and design* (pp. 157-172). Washington, DC: American Psychological Association.
- Hunt, K., & Metzler, M. (2017). Adoption of comprehensive school physical activity programs: A literature review. *The Physical Educator, 74*, 315-375.
- James, W. (1907). *Pragmatism: A new name for some old ways of thinking*. New York: Longmans, Green, and Company.
- Johnson, T. G., & Turner, L. (2016). The physical activity movement and the definition of physical education. *Journal of Physical Education, Recreation and Dance, 87*(4), 8-10.
- Jurasaitė-Harbison, E., & Rex, L. A. (2010). School cultures as contexts for informal teacher learning. *Teaching and Teacher Education, 26*, 267-277.

- Kwon, J. Y., Kulinna, P. H., van der Mars, H., Koro-Ljungbert, M., Amrein-Beardsley, A., & Norris, J. (2018). Physical education preservice teachers' perceptions about preparation for comprehensive school physical activity programs. *Research Quarterly for Exercise and Sport*, 89, 221-234.
- Lawson, H. A. (1983). Toward a model of teacher socialization in physical education: The subjective warrant, recruitment, and teacher education. *Journal of Teaching in Physical Education*, 3-16.
- Lincoln, Y. S., & Guba, E. G. (1986). But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *New Directions for Program Evaluation*, 30, 73-84.
- McKenzie, T. L., & Lounsbery, M. A. F. (2014). The pill not taken: Revisiting physical education teacher effectiveness in a public health context. *Research Quarterly for Exercise and Sport*, 85, 287-292.
- Rogers, E. (2003). *Diffusion of innovations* (5th ed.). New York; London: Free Press.
- Rovegno, I. (1992). Learning a new curricular approach: Mechanisms of knowledge acquisition in preservice teachers. *Teaching and Teacher Education*, 8, 253-264.
- Saldana, J., & Omasta, M. (2016). *Qualitative research: Analyzing life*. Sage Publications.
- Schempp, P. G., & Graber, K. C. (1992). Teacher socialization from a dialectical perspective: Pretraining through induction. *Journal of Teaching in Physical Education*, 11, 329-348.
- Strauss, A., & Corbin, J. (1994). Grounded theory methodology: An overview. In Norman, K. D., & Vannaeds, S. L. Y, (Eds), *Handbook of Qualitative Research*, Sage Publication, Thousand Oaks, p.22-23.
- Waxman, A. (2004). WHO's global strategy on diet, physical activity and health. *Scandinavian Journal of Nutrition*, 48(2), 58-60.
- Webster, C. A., Russ, L., Webster, L., Molina, S., Lee, H., & Cribbs, J. (2016). The nature and incorporation of CSPAP leaning experiences in physical education teacher education: Accounts of faculty from "highly effective" programs. *The Physical Educator*, 73(3), 547-567.
- Wiersma, W., & Jurs, S. G. (2005). *Research methods in education: An introduction*. 8th ed. Boston: Pearson.

- Xu, F., Chepyator-Thmson, J., Liu, W., & Schidlein, R. (2010). Association between social and environmental factors and physical activity opportunities in middle schools. *European Physical Education Review*, 16(2), 183-194.
- Zhang, X., Gu, X., Zhang, T., Keller, J., & Chen, S. (2018). Comprehensive school physical activity programs: Recommendations for physical education teacher education. *Journal of Physical Education, Recreation & Dance*, 89(5), 11-18.

CHAPTER 5

GLOBAL CONCLUSIONS

“A rising tide lifts all boats” -John F. Kennedy

It is well accepted that educators shape the future. But those who shape the educators is the key point of interest for those who discuss teacher socialization processes. The present study came into existence through many levels of influence. Politically, the increased awareness of the vast amounts of time children and youth spend sedentary during the school day inspired previous scholars to consider new approaches to addressing this dilemma. Historically, various organizations and stakeholders associated with K-12 education (e.g., ASCD, SHAPE America) have worked together to find thoughtful solutions to these types of systematic challenges. In the case of physical activity (PA), a joint concern for the health and wellbeing of the community inspired a personal interest in understanding how professional educators in higher education might ignite similar fires within future teachers so this drive towards positive outcomes will continue. The opening quote from JFK is a reminder that by working together and finding innovative approaches that cross traditional boundaries, the benefits can grow exponentially.

This study was undertaken within a pragmatic philosophy (James, 1907) which encourages an open mind within research. The mixed-methods design respected this philosophy by acknowledging the complexity of the matter of PETE program evaluation through graduates' present actions. Conducting research with this philosophy in mind brings with it the burden of looking for practical utility and social value (Giacobbi, 2005).

The purpose of this study was to begin collecting data to assess the degree of transfer of concepts related to expanded PA programming from the PETE program at ASU to its graduates. The purpose here is described as *beginning to collect data* as the hope is this practice will continue now that there is access to graduates' contact information and the standard has been set, that the program will check back with them to find out about their professional practices (showing *practical utility*). This study focused on only one aspect of the PETE program, the transfer of expanded PA programming. The unique detail of the curricular integration at ASU is that rather than expanded PA being a singular course or project requirement, topics within the theme of creating and maintaining expanded PA programming are peppered throughout the PETE courses and field experiences. Although efforts were made to establish buy-in and commonalities among faculty to include these aspects in all courses, students are not bombarded with strict requirements or research tasks on the topic. They are introduced to ideas, encouraged to explore their feelings about it, and prompted to create opportunities for K-12 students to experience such programming during their field experiences.

The Development, Research, Improvement (DRI) model of program assessment as described by Metzler and Tjeerdsma (1998) provided an overview for systematically and continually collecting data on students' acquisition of knowledge during their schooling. Their method did not, however, include a process for collecting evidence of programmatic reach beyond graduation. Individual research teams have reconnected with past graduates to learn about practices after graduation (e.g., Woods & Lynn, 2001). The methods of the present study demonstrate a successful initial step to establishing a practice of ongoing assessment of the downstream effects of PETE practices; this practice

could easily be replicated in future years to monitor progress as the program continues to adapt to the future needs of Physical Educators and schools.

The CSPAP Policies and Practices Questionnaire (CSPAP-Q, Steopker, Dauenhauer, & Carson, 2020) provided a useful platform for surveying graduates about their personal practices related to expanded PA. The matrix-style questions were easily adapted to an online format for ease in response by the participants. This benefit of including this instrument in the present study was that the questions were already aligned with the CSPAP model and translated easily to observable practices for the sake of a fidelity check. In the current study, 14 items were used from this instrument; many of these were matrix-type question with multiple components within one question.

Therefore, expanding out each item results in that small group of questions actually representing 54 individual questions. The full questionnaire asks extensive questions related to a teacher's knowledge of their school's and their district's policies on various aspects related to supporting expanded PA programming and asks for a detailed audit of types of PA facilities available on the campus. Although this is useful information, the 18-page, 53-question document is likely to be met with resistance or burnout if used more than once with the same audience. Additionally, had this study been limited to questionnaire responses, the fine details of the contextual data would have been missed.

One such detail relates to staying in contact with graduates well after they have left a PETE program. Discussions with graduates in Phase II of this study provide support for an idea suggested by Woods, Richards, and Ayers (2013) that PETE programs come up with ways to provide continued educational opportunities for graduates far beyond graduation. Woods and colleagues found a consistent theme of graduates noting that their

knowledge continued to grow after school and that they saw themselves as life-long learners. Similarly, interview data from the current study found graduates commenting about recognizing strengths and weaknesses in their teaching and programming abilities after being in their initial job placements. It is at this point that they would be open to and even search out opportunities to learn more from their alma mater. Providing a system for ongoing contact and support may help reduce issues such as slippage or washout as described by Gurvitch & Blankenship (2008) where graduates initially apply exciting practices learned in school but eventually revert back to a more simple or traditional model.

Although the focus was not on pedagogical practices, the expanded PA practices of these graduates did reflect the program from which they graduated. This is in line with Lortie's (1975) observation that teachers tend to teach like they were taught. Using Teacher Socialization Theory, the PETE faculty members provided exposure to and strategies for the integration of expanded PA programming which had a strong influence on the graduates. As noted in Chapter 4, the graduates interviewed in this study never mentioned having any memory of expanded PA in their K-12 experiences, supporting the conclusion that it was during their professional preparation when they picked up these ideas.

There are contextual aspects that may contribute to the current study's outcome of trends as opposed to statistically significant differences among graduates from 2000-2019. The first is the fact that even in the early 2000's, health organizations were bringing attention to the obesity crisis and the contribution of sedentary behaviors at all ages to the situation (e.g. Waxman, 2004). Sallis and McKenzie (1991) were writing in

support of Physical Education programs taking on more of a public health focus as opposed to a more traditional approach focusing on athletic and fitness skills. The concept of serving students health more holistically is not limited to models such as CSPAP. With this in mind, PETE faculty most likely were already talking about this situation prior to the focus being placed on specific models such as CSPAP. For instance, one participant in this study who graduated prior to the CSPAP focus shared a memory of a faculty member modeling PA breaks during lecture classes. These types of experiences may have been enough to create interest for previous PETE graduates to develop their own PA integration in their schools.

A second important contextual aspect that cannot be captured from a questionnaire is that perhaps a natural extension of being passionate about providing students with quality experiences within Physical Education is a desire to create more opportunities for those students to have additional access to physical activity. Siedentop and Locke (1997) included suggestions for future PETE programs that included teaching Physical Education teachers to develop new ways to provide their students with positive experiences related to PA. Evidence suggests the role of the Physical Educator is changing (Dyson, 2014; Melville, 2009; Richardson, 2011). PETE programs like ASU have taken steps initiated by previous research that called for PETE programs to prepare future Physical Educators for this more expanded role. Although the data lacked statistical significance in most of the aspects investigated, the findings of this study are evidence that the PETE program at ASU has established a tradition of instilling values of whole-school PA and of innovative approaches to meeting the demands of a changing profession in their students at least dating back to those who graduated in 2000.

REFERENCES

- Allan, J.L., McMinn, D., & Daly, M. (2016). A bidirectional relationship between executive function and health behavior: Evidence, implications, and future directions. *Frontiers in Neuroscience*, online. Retrieved from: <http://dx.doi.org/10.3389/fnins.2016.00386>.
- Allar, I., Elliot, E., Jones, E., Kristjansson, A. L., Taliaferro, A., & Bulger, S. M. (2017). Involving families and communities in CSPAP development using asset mapping. *Journal of Physical Education, Recreation & Dance*, 88(5), 7-14.
- American Alliance for Health, Physical Education, Recreation, and Dance. (2011). *2011 comprehensive school physical activity program (CSPAP) survey report*. Reston, VA: Author.
- Ayers, S. F. (2002). Assessing subdisciplinary concept knowledge of preservice Physical Education teachers. Paper presented at the China-US Physical Education Conference. 1st, Beijing, China, July 16-19, 2002.
- Bandura A. M., & McClelland, D. C. (1977) *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Baghurst, T., Richard, K., Mwavita, M., & Ramos, N. (2015). Procedures and reasoning for skill proficiency testing in physical education teacher education programs. *Cogent Education*, 2(1), 12.
- Beets, M. W., Beighle, A., Erwin, H. E., & Huberty, J. L. (2009). After-school program impact on physical activity and fitness: A meta-analysis. *American Journal of Preventive Medicine*, 36, 527-537.
- Beighle, A., Erwin, H., Castelli, D., & Ernst, M. (2009). Preparing physical educators for the role of the physical activity director. *Journal of Physical Education, Recreation & Dance*, 80(4), 24-29.
- Beighle, A., & Moore, M. (2012). Physical activity before and after school. *Journal of Physical Education, Recreation & Dance*, 83(6), 23-28.
- Beighle, A., Erwin, E., Webster, C. A., & Webster, M. A. (2020). Physical activity during school. In Carson, R. L., & Webster, C. A. (Eds). *Comprehensive school physical activity programs: Putting research into evidence-based practice*. Champaign: Human Kinetics.
- Blankenship, B. T., & Templin, T. J. (2016). The decline and elimination of PETE: Implications for doctoral education. *Quest*, 68(4), 383-393.

- Bott, T. S., & Mitchell, M. (2015). Battling obesity with quality elementary physical education: From exposure to competence. *Journal of Physical Education, Recreation & Dance*, 86(6), 24-28.
- Braga, L.C., & Liversedge, P.J. (2016). Implementing a sports education season: The voices of teacher candidates. *Research Quarterly for Exercise and Sport, suppl*, 87(2).
- Bulger, S. M. & Housner L. D. (2009). Relocating from easy street: Strategies for moving physical education forward. *Quest*, 61, 442-469.
- Bulger, S. M., Housner, L. D., & Lee, A. M. (2008). Curriculum alignment: A view from physical education teacher education. *Journal of Physical Education, Recreation & Dance*, 79(7), 44-49.
- Carson, R. L., Baumgartner, J. J., Matthews, R. A., & Tsouloupas, C. N. (2010). Emotional exhaustion, absenteeism, and turnover intentions in childcare teachers: Examining the impact of physical activity behaviors. *Journal of Health Psychology*, 15(6), 905-914.
- Carson, R. L. (2013). Calling all practitioners: Encourage and support the creation of active schools and school physical activity champions. *American Journal of Lifestyle Management*, 17, 342-344.
- Carson, R. L., Castelli, D. M., Beighle, A., & Erwin, H. (2014). School-based physical activity promotion: A conceptual framework for research and practice. *Childhood Obesity*, 10, 100-106.
- Carson, R. L., Castelli, D. M., Kuhn, A. C. P., Moore, J. B., Beets, M. W., Beighle, A., ... & Glowacki, E. M. (2014). Impact of trained champions of comprehensive school physical activity programs on school physical activity offerings, youth physical activity and sedentary behaviors. *Preventive Medicine*, 69, S12-19.
- Castelli, D. M., & Beighle, A. (2007). The physical education teacher as a school activity director. *Journal of Physical Education, Recreation & Dance*, 78(5), 25-28.
- Castelli, D. M., & Ward, K. (2012). Physical activity during the school day. *Journal of Physical Education, Recreation & Dance*, 83(6), 20-29.
- Castelli, D. M., Carson, R. L., & Kulinna, P. H. (2017). PETE programs creating teacher leaders to integrate comprehensive school physical activity programs. *Journal of Physical Education, Recreation & Dance*, 88, 8-10.
- Centeio, E. E., Erwin, H., & Castelli, D. M. (2014). Comprehensive school physical activity programs: Characteristics of trained teachers. *Journal of Teaching in Physical Education*, 33, 492-510.

- Centers for Disease Control and Prevention. (2013). *Comprehensive school physical activity programs: A guide for schools*. Atlanta, GA: US Department of Health and Human Services.
- Charmaz, K. C. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Los Angeles: Sage Publications
- Chen, W., Mason, S., Staniszewski, C., Upton, A., & Valley, M. (2012). Assessing the quality of teachers' teaching practices. *Educational Assessment, Evaluation and Accountability, 24*, 25-41.
- Chen, W., Mason, S. A., Hypnar, A. J., Zalmout, S., & Hammond-Benett, A. (2014). Students' daily physical activity behaviors: The role of quality physical education in a comprehensive school physical activity program. *Journal of Teaching in Physical Education, 33*, 592-610.
- Chen, W., Zhu, W., Mason, S., Hammond-Bennett, A., and Colombo-Dougovito, A. (2016). Effectiveness of quality physical education in improving students' manipulative skill competency. *Journal of Sport and Health Science, 5*, 231-238.
- Corbin, C. B., LeMasurier, G. C., Brusseau, T. A., Mitchell, T. D., & Lambdin, D. D. (2018). Infusing CSPAP and fitness education in the HPETE curriculum. Presentation at the Physical Education Teacher Education & Health Education Teacher Education Conference, Salt Lake City, UT.
- Cothran, D. J., Kulinna, P. H., & Garn, A. C. (2010). Classroom teachers and physical activity integration. *Teaching and Teacher Education, 26*, 1381-1388.
- Crawford, S., O'Reilly, R., & Luttrell, S. (2012). Assessing the effects of integrating the reflective framework for teaching in physical education (RFTPE) on the teaching and learning of undergraduate sport studies and physical education. *Reflective Practices, 13*, 115-129
- Curtner-Smith, M. D. (1999). The more things change the more they stay the same: Factors influencing teachers' interpretations and delivery of National Curriculum of Physical Education, *Sport, Education and Society, 4*, 75-97.
- Curtner-Smith, M., Hastie, P., & Kinchin, G. D. (2008). Influence of occupational socialization on beginning teachers' interpretation and delivery of sport education. *Sport, Education and Society, 13*, 97-117
- Davis, C. L., Tomporowski, P. D., McDowell, J. E., Austin, B. P., Miller, P. H. ... & Naglieri, J. A. (2011). Exercise improves executive function and achievement and alters brain activation in overweight children: A randomized, controlled trial. *Health Psychology, 30*(1), 91-98.

- Deslatte, K., & Carson, R. L. (2014). Identifying the common characteristics of comprehensive school physical activity programs in Louisiana. *The Physical Educator, 71*, 610-634.
- Dyson, B. P., & Williams, L. H. (2013). The role of PE metrics in physical education teacher education. *Journal of Physical Education, Recreation & Dance, 85*(5), 29-32.
- Dyson, B. (2014). Quality Physical Education: A commentary on effective Physical Education teaching. *Research Quarterly for Exercise and Sport, 85*, 144-152.
- Egan, C. A., & Webster, C. A. (2018) Using theory to support classroom teachers as physical activity promoters. *Journal of Physical Education, Recreation & Dance, 89*, 23-29.
- Ennis, C. D. (2011). Physical education and curriculum priorities: Evidence for education and skillfulness. *Quest, 63*, 5-18.
- Epstein, J. L. (2008). Improving family and community involvement in secondary schools. *Education Digest, 73*(6), 9-12.
- Erwin, H. E., Beighle, A., Morgan, C. F., & Noland, M. (2011). Effect of a low-cost, teacher-directed intervention on elementary students' physical activity. *Journal of School Health, 81*, 455-461.
- Erwin, H., Abel, M., Beighle, A., Noland, M. P., Worley, B., & Riggs, R. (2012). The contribution of recess to children's school-day physical activity. *Journal of Physical Activity and Health, 9*, 442-448.
- Evans, S. C., Amaro, C. M., Herbert, R., Blossom, J. B., & Roberts, M. C. (2018). "Are you gonna publish that?" Peer-reviewed publication outcomes of doctoral dissertations in psychology. *PLoS ONE, 13*(2), e0192219
- Freedson P. S., & Evenson, S. (1991). Familial aggregation in physical activity. *Research Quarterly for Exercise and Sport, 62*, 384-389.
- Galluzzo, G. R., & Craig, J. R. (1990). Evaluation of preservice teacher education programs. In Houston, W. R., Haberman, M., & Sikula, J. P. (Eds) *Handbook of Research on Teacher Education* (pp. 599-616). New York: Macmillan.
- Gentry, C.R., Ensign, J.M., Trendowski, T.N., Hackman, E.R., & Graber, K.C. (2014). Perception differences in curriculum between physical education teacher education students and induction teachers. *Research Quarterly for Exercise and Sport, Suppl, 85*(S1), A135.
- Giacobbi, P. R., Poczwardowski, A., & Hager, P. (2005). A pragmatic research philosophy for applied sport psychology. *The Sport Psychologist, 19*, 18-31.

- Gillian, C., Spencer, R., Weinberg, M. K., & Bertsch, T. (2003). On the listening guide: A voice-centered relational method. In P. M. Camic, J. E. Rhodes, & L. Yardley (Eds.), *Qualitative research in psychology: Expanding perspectives in methodology and design* (pp. 157-172). Washington, DC: American Psychological Association.
- Glowacki, E. M., Centeio, E. E., Van Dongen, D. J., Carson, R. L., Castelli, D. M. (2016). Health promotion efforts as predictors of physical activity in schools: An application of the diffusion of innovations model. *Journal of School Health, 86*, 399-405.
- Graber, K.C. (1988, April). *Making the grade: A qualitative study of teacher preparation classes in physical education*. Paper presented at the Annual meeting of the American Educational Research Association, New Orleans, LA.
- Graber, K. C. (1993). The emergence of faculty consensus concerning teacher education: The socialization process of creating and sustaining faculty agreement. *Journal of Teaching in Physical Education, 12*, 424-436.
- Graber, K. C. (1995). The influence of teacher education programs on the beliefs of student teachers: General pedagogical knowledge, pedagogical content knowledge, and teacher education course work. *Journal of Teaching in Physical Education, 14*, 157-178
- Graber, K. C. (1996). Influencing student beliefs: The design of a “high impact” teacher education program. *Teacher and Teacher Education, 12*, 451-466.
- Graber, K. C., Locke, L. F., Lambdin, D., & Solmon, M. A. (2008). The landscape of elementary school physical education. *The Elementary School Journal, 108*, 151-159.
- Gubacs-Collins, K. (2007). Implementing a tactical approach through action research. *Physical Education and Sport Pedagogy, 12*, 105-126.
- Gurvitch, R., Blankenship, B. T. (2008). Implementation of model-based instruction – The induction years. *Journal of Teaching in Physical Education, 27*, 529.
- Harvey, S., Curtner-Smith, M., & Kuklick, C. (2018). Influence of a models-based physical education teacher education program on the perspectives and practices of preservice teachers. *Curriculum Studies in Health and Physical Education, 9*, 220-236.
- Heidorn, B., & Centeio, E. (2012). The director of physical activity and staff involvement. *Journal of Physical Education, Recreation & Dance, 83*(7), 13-26.

- Hill, G., & Brodin, K. L. (2004). Physical education teachers' perceptions of the adequacy of university coursework in preparation for teaching. *Physical Educator*, 61(2), 75-87.
- Huberman, A. M., & Miles, M. B. (1994). Data management and analysis methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (p. 428-444). Sage Publications, Inc.
- Hunt, K., & Metzler, M. (2017). Adoption of comprehensive school physical activity programs: A literature review. *The Physical Educator*, 74, 315-375.
- Institute of Medicine. (2013). *Educating the student body: Taking physical activity and physical education to school*. Retrieved from: <http://www.nationalacademies.org/hmd/Reports/2013/Educating-the-Student-Body-Taking-Physical-Activity-and-Physical-Education-to-School.aspx>
- James, W. (1907). *Pragmatism: A new name for some old ways of thinking*. New York: Longmans, Green, and Company.
- Johnson, T. G., & Turner, L. (2016). The physical activity movement and the definition of physical education. *Journal of Physical Education, Recreation and Dance*, 87(4), 8-10.
- Jones, E. M., Taliaferro, A. R., Elliott, E. M., Bulger, S. M., Kristjansson, A. L., Neal, W., & Allar, I. (2014). Feasibility study of comprehensive school physical activity programs in Appalachian communities: The McCowell CHOICES project. *Journal of Teaching in Physical Education*, 33, 467-491.
- Jurasaitė-Harbison, E., & Rex, L. A. (2010). School cultures as contexts for informal teacher learning. *Teaching and Teacher Education*, 26, 267-277.
- Kalton, G., Roberts, J., & Holt, D. (1980). The Effects of Offering a Middle Response Option with Opinion Questions. *The Statistician*, 29(1), 65.
- Karp, G. G., Scruggs, P. W., Brown, H., & Kelder, S. H. (2014). Implications for comprehensive school physical activity program implementation. *Journal of Teaching in Physical Education*, 33, 611-623.
- Kirk, D. (1997). Schooling bodies in new times: The reform of school physical education in high modernity. In Fernandez-Balboa, J. (Eds.), *Critical Postmodernism in Human Movement, Physical Education, and Sport*, (p. 39-64). State University of New York Press, Albany.
- Kulinna, P. H., Stylianou, M., Lorenz, K. A., Conrad, C., Moss, R., Yu, H. ... & Mohan, A. (2016). Physical activity leaders' perception of comprehensive school physical activity programs. *Research Quarterly for Exercise and Sport*, suppl., A-84 – A-85.

- Kwon, J. Y. (2016). How current physical education teacher education programs prepare pre-service teachers for comprehensive school physical activity programs (CSPAP). (Unpublished doctoral dissertation). Arizona State University. Tempe, AZ.
- Kwon, J. Y., Kulinna, P. H., van der Mars, H., Koro-Ljungbert, M., Amrein-Beardsley, A., & Norris, J. (2018). Physical education preservice teachers' perceptions about preparation for comprehensive school physical activity programs. *Research Quarterly for Exercise and Sport*, 89, 221-234.
- Langdon, J. L., Walker, A., Coquitt, F., & Pritchard, T. (2014). Using photovoice to determine preservice teachers' preparedness to teach. *Journal of Physical Education, Recreation & Dance*, 85(1), 22-27.
- Langley, K., & Kulinna, P. H. (2018). Developing a staff physical activity program at your school: Implementing the lesser-used component of the CSPAP model. *Journal of Physical Education, Recreation & Dance*, 89(2), 49-55.
- Larsson, L., Skinner, S., & Schenker, K. (2018). The doxa of physical education teacher education - set in stone? *European Physical Education Review*, 24(1), 114-130.
- Lawson, H. A. (1983). Toward a model of teacher socialization in physical education: The subjective warrant, recruitment, and teacher education. *Journal of Teaching in Physical Education*, 3-16
- Lawson, H. A. (1986). Occupational socialization and the design of teacher education programs, *Journal of Teaching in Physical Education*, 5, 107-116.
- LeCompte, M. D., & Preissle, J. (1993). *Ethnography and qualitative design in educational research* (2nd ed.), San Diego, CA: Academic Press.
- Lee, M., Hagood, S., Kingsley, D., & Hare, M. (2014). A physical education teacher education program's impact on teacher candidates' disposition development. *Research Quarterly for Exercise and Sport, suppl.*, 85(1), A144-145.
- Lee, Y. S., Jang, Y. & Kang, M. (2015). Validity and responsiveness of concept map assessment scores in physical education. *The Physical Educator*, 72, 206-223.
- LeFevre, D. M. (2014). Barriers to implementing pedagogical change: The role of teachers' perceptions of risk. *Teaching and Teacher Education*, 38, 56-64.
- LeMasurier, G., & Corbin, C. B. (2006) Top 10 reasons for quality physical education. *Journal of Physical Education, Recreation & Dance*, 77(6), 44-53.
- Lincoln, Y. S., & Guba, E. G. (1986). But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *New Directions for Program Evaluation*, 30, 73-84

- Loprinzi, P. D., & Trost, S. G. (2010). Parental influences on physical activity behavior in preschool children. *Preventive Medicine, 50*, 129-133.
- Lortie, D. C. (1975). *School teacher: A sociological study*. Chicago, IL: University of Chicago Press.
- Lund, J. L., & Kirk, M. F. (2002). Performance-based assessments for middle and high school physical education. Champaign, IL: Human Kinetics.
- MacDonald, L.C., Uhrich, T., Chepko, S. (2016). Common pitfalls in specialized professional association reports. *Journal of Physical Education, Recreation & Dance, 87*(4), 30.
- MacPhail, A., & Hartley, T. (2016). Linking teacher socialization research with a PETE program: Insights from beginning and experienced teachers. *Journal of Teaching in Physical Education, 35*, 169-180.
- Marti, I.F. (2014). Working “Solo” on the NCAPTE accreditation report. *Chronicle of Kinesiology & Physical Education in Higher Education, 25*(2), 26-29.
- McCullick, B. A. (2001). Practitioners’ perspectives on values, knowledge, and skills needed by PETE participants. *Journal of Teaching in Physical Education, 21*(1), 35-56.
- McCullick, B., Metzler, M., Cicek, S., Jackson, J., & Vickers, B. (2008). Kids say the darndest things: PETE program assessment through the eyes of students. *Journal of Teaching in Physical Education, 27*(1), 4-20.
- McKenzie, T. L. (2002). System for Observing Play and Leisure Activity in Youth (SOPLAY). San Diego State University, San Diego, CA.
- McKenzie, T. L., & Lounsbery, M. A. F. (2014). The pill not taken: Revisiting physical education teacher effectiveness in a public health context. *Research Quarterly for Exercise and Sport, 85*, 287-292.
- McMullen, J., Kulinna, P. H., & Cothran, D. (2014). Physical activity opportunities during the school day: Classroom teachers’ perceptions of using activity breaks in the classroom. *Journal of Teaching in Physical Education, 33*, 511-527.
- McMullen, J., van der Mars, H., & Jahn, J. A. (2014). Creating a before school physical activity program: Pre-service physical educators’ experiences and implications for PETE. *Journal of Teaching in Physical Education, 33*, 449-466.
- Melville, S. (2009). Implications of the physical educator’s broadened wellness role. *Journal of Physical Education, Recreation & Dance, 80*(2), 48-55.

- Merriam-Webster (2018). *Innovation*. Retrieved from <https://www.merriam-webster.com/dictionary/innovation>
- Metzler, M. W., & Tjeerdsma, B. L. (1998). PETE program assessment within a development, research, and improvement framework. *Journal of Teaching in Physical Education, 17*, 468-492.
- Metzler, M.W., & Tjeerdsma, B. L. (2000a). Using the development, research, and improvement model for PETE program assessment. *Journal of Teaching in Physical Education, 19*, 402-410.
- Metzler, M. W., & Tjeerdsma, B. L. (2000b). Ending back at the beginning: Some reflections on PETE assessment. *Journal of Teaching in Physical Education, 19*, 543-547.
- Metzler, M. W., & Blankenship, B. T. (2008). Taking the next step: Connecting teacher education, research on teaching, and program assessment. *Teaching and Teacher Education, 24*, 1098-1111.
- Morine-Dershimer, G., & Corrigan, S. (1997) Teacher beliefs. *Psychology and Educational Practice, 297-319*.
- Mulhearn, S. C., Kulinna, P. H. Yu, H., & Griffo, J. (2019, April). Funders and Gatekeepers views of CSPAP. Paper presented at the *Society for Health and Physical Education convention*, Tampa, FL.
- Mulhearn, S. C., Kulinna, P.H., Lorenz, K.A., & Styliannou, M. (2018, April). Teachers' perceived barriers of CSPAP implementation: Instrument development. Paper presented at *American Educational Research Association annual meeting*, New York, NY.
- National Association for Sport and Physical Education (NASPE). (1995). *Moving into the future National physical education standards. A guide to content and assessment*. McGraw-Hill Humanities Social.
- National Association for Sport and Physical Education (NASPE). (2004). *Moving into the future: National standards for physical education* (2nd ed.). Reston, VA: Author.
- National Association for Sport and Physical Education (NASPE). (2010). *PE metrics: Assessing national standards 1-6 in elementary school* (2nd ed.). Reston, VA: Author.
- O'Neil, K. & Boyce, B. A. (2018). Improving teacher effectiveness in physical education teacher education through field-based supervision. *The Physical Educator, 75*, 835-849.

- Pankratz, M., Hallfors, D., & Cho, H. (2002). Measuring perceptions of innovation adoption: The diffusion of a federal drug prevention policy. *Health Education Research, 17*, 315-326.
- Parks, M., Solmon, M., & Lee, A. (2007). Understanding classroom teachers' perceptions of integrating physical activity: A collective efficacy perspective. *Journal of Research in Childhood Education, 21*, 316-328.
- Renhaw, I., Davids, K., & Brymer, E. (2016). Overcoming acculturation: Physical education recruits' experiences of an alternative pedagogical approach to games teaching. *Physical Education and Sport Pedagogy, 21*(4), 386-406.
- Richardson, K. P. (2011). Physical education teacher education, *Journal of Physical Education, Recreation & Dance, 82*(7), 45-56.
- Richards, K. A. R., Templin, T. J., & Graber, K. C. (2014). The socialization of teachers in physical education: Review and recommendations for future works. *Kinesiology Review, 3*, 113-134.
- Richards, K. A. R., Killian, C. M, Graber, K., C., & Kern, B. (2019). Studying recruitment and retention in PETE: Qualitative and quantitative research methods, *Journal of Teaching in Physical Education, 38*, 22-36.
- Richards, K. A. R., & Graber, K. C. (2019). Retention in PETE: Survey results and discussion. *Journal of Teaching in Physical Education, 38*, 53-60.
- Rink, J. E. (1998). Teaching physical education for learning. Boston: McGraw-Hill.
- Rink, J. E. (2013). Measuring teacher effectiveness in physical education. *Research Quarterly for Exercise and Sport, 84*, 407-418.
- Rink, J. E. (2014). Teacher effectiveness in physical education—Consensus? *Research Quarterly for Exercise and Sport, 85*, 282-286.
- Rogers, E. M., & Shoemaker, F. F. (1971). *Communication of innovations: A cross-cultural approach*. New York: Free Press.
- Rogers, E. M. (1995). *Diffusion of innovations*. New York, NY: Everett M. Rogers
- Rogers, E. (2003). *Diffusion of innovations* (5th ed.). New York; London: Free Press.
- Rovegno, I. (1992). Learning a new curricular approach: Mechanisms of knowledge acquisition in preservice teachers. *Teaching and Teacher Education, 8*, 253-264.
- Rovegno, I. (1993). Content knowledge acquisition during undergraduate teacher education: Overcoming cultural templates and learning through practice. *American Educational Research Journal, 30*, 611-642.

- Saldana, J., & Omasta, M. (2016). *Qualitative research: Analyzing life*. Sage Publications.
- Sallis, J. F., & McKenzie, R. L. (1991). Physical education's role in public health. *Research Quarterly for Exercise and Sport*, 62, 124-137.
- Sallis, J. F., Alcaraz, J. E., McKenzie, T. L., Hovell, M. F., Kolody, B., & Nader, P. R. (1992). Parental behavior in relation to physical activity and fitness in 9-year old children. *American Journal of Diseases of Children*, 146, 1383-1388.
- Sallis, J. F., McKenzie, T. L., Beets, M. W., Beighle, A., Erwin, H., & Lee, S. (2012). Physical education's role in public health. *Research Quarterly for Exercise and Sport*, 83(2), 125-135.
- Sallis, J. F., Owen, N., & Fisher, E. B. (2015). Ecological models of health behavior. In Glanz, K., Rimer, B. K., & Viswanath, K. (Eds.) *Health Behavior: Theory, Research, and Practice* (pp.43-64). San Francisco, CA: Jossey-Bass
- Schempp, P. G., & Graber, K. C. (1992). Teacher socialization from a dialectical perspective: Pretraining through induction. *Journal of Teaching in Physical Education*, 11, 329-348.
- Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 15, 4-22.
- Siedentop, D., & Locke, L. (1997). Making a difference for Physical Education: What professors and practitioners must build together. *Journal of Physical Education, Recreation and Dance*, 68(4), 25-33.
- Silverman, S., & Mercier, K. (2015). Teaching for physical literacy: Implications to instructional design and PETE. *Journal of Sport and Health Science*, 4, 150-155.
- Society of Health and Physical Educators (SHAPE America, 2016). *Shape of the nation: Status of Physical Education in the USA*. Reston, VA: Author
- Society of Health and Physical Educators (SHAPE America, 2017). *National standards for initial physical education teacher education*. Reston, VA.
- Stoepker, P., Dauenhauer, B., Carson, R. L., & Moore, J. B. (2020). Comprehensive school physical activity program policies and practices questionnaire (CSPAP-Q). *Research Quarterly for Exercise and Sport*, 1-11.
- Strauss, A., & Corbin, J. (1994). Grounded theory methodology: An overview. In Norman, K. D., & Vannaeds, S. L. Y, (Eds), *Handbook of Qualitative Research*, Sage Publication, Thousand Oaks, p.22-23.

- Stylianou, M., Kulinna, P. H., & Naiman, T. (2016). '...because there's nobody who can just sit that long' Teacher perceptions of classroom-based physical activity and related management issues. *European Physical Education Review*, 22, 390-408.
- Stylianou, M., van der Mars, H., Kulinna, P. H., Adams, M. A., Mahar, M., & Amazeen, E. (2016). Before-school running/walking club and student physical activity levels: An efficacy study. *Research Quarterly for Exercise and Sport*, 87(4), 342-353.
- Stylianou, M., Kulinna, P. H., van der Mars, H., Mahar, M. T., Adams, M. A., & Amazeen, E. (2016). Before-school running/walking club: Effects on student on-task behavior. *Preventive Medicine Reports*, 3, 196-202.
- Tjeerdsma, B. L., Metzler, M. W., Walker, M. W., & Mozen, D. (2000). Assessing dispositions. *Journal of Teaching in Physical Education*, 19, 451-475.
- Turner, L., Chriqui, J. F., & Chaloupka, F. J. (2013). Withholding recess from elementary students: Policies matter. *Journal of School Health*, 83, 533-541.
- van der Mars, H., Lorenz, K. A., & Kwon, J. (2017) Building CSPAP development into Arizona State University's PETE program: A work in progress. *Journal of Physical Education, Recreation & Dance*, 88, 11-19.
- van der Mars, H., & Lorenz, K. A. (2020). CSPAPs: History, foundations, possibilities, and barriers. In Carson, R. L., & Webster, C. A. (Eds). *Comprehensive school physical activity programs: Putting research into evidence-based practice*. Champaign: Human Kinetics.
- Ward, P. (2009). Content matters: Knowledge that alters teaching. In Housner, L., Metzler, M., Schempp, P., & Templin, T. (Eds), *Historic traditions and future directions of research on teaching and teacher education in physical education* (pp. 345-356). Morgantown, WV: Fitness Information Technology.
- Ward, P. (2013). The role of content knowledge in conceptions of teaching effectiveness in physical education. *Research Quarterly for Exercise and Sport*, 84, 431-440.
- Ward, P., Dervent, F., Lee, Y. S., Ko, B., Kim, I., & Tao, W. (2017). Using content maps to measure content development in physical education: Validation and application. *Journal of Teaching in Physical Education*, 36, 20-31.
- Ward, P. (2019). The teacher pipeline for PETE: Context, pressure points, and responses. *Journal of Teaching in Physical Education*, 38, 4-14.
- Waxman, A. (2004). WHO's global strategy on diet, physical activity and health. *Scandinavian Journal of Nutrition*, 48(2), 58-60.

- Webster, C. A., Schaefer, J., Morgan, P., Lubans, D., Penney, D., Okely, A., & Parrish, A. (2014). Defining quality physical education: An analysis of international documents. *Research Quarterly for Exercise Science, suppl.*, A-161-A-162.
- Webster, C. A., Russ, L., Vazou, S., Goh, T. L., & Erwin, H. (2015). Integrating movement in academic classrooms: Understanding, applying and advancing the knowledge base. *Obesity Reviews, 16*, 691-701.
- Webster, C. A., Russ, L., Webster, L., Molina, S., Lee, H., & Cribbs, J. (2016). The nature and incorporation of CSPAP leaning experiences in physical education teacher education: Accounts of faculty from “highly effective” programs. *The Physical Educator, 73*(3), 547-567.
- Webster, L. (2017). Effects of an educational gymnastics course on the motor skills and health-related fitness component of PETE students. *The Physical Educator, 74*, 198-219.
- Webster, C. A., Zarrett, N., Cook, B. S., Egan, C., Nesbitt, D., & Weaver, R. G. (2017). Movement integration in elementary classrooms: Teacher perceptions and implications for program planning. *Evaluation and Program Planning, 61*, 134-143.
- Welk, G. J., Wood, K., & Morss, G. (2003). Parental influences on physical activity in children: An exploration of potential mechanisms. *Pediatric Exercise Science, 15*, 19-33.
- Wiegand, R. L., Bulger, S. M., & Mohr, D. J. (2004). Curricular issues in physical education teacher education. *Journal of Physical Education, Recreation & Dance, 75*(8), 47-55.
- Wiersma, W., & Jurs, S. G. (2005). *Research methods in education: An introduction*. 8th ed. Boston: Pearson.
- Woods, A. M., & Lynn, S. K. (2001). Through the years: A longitudinal study of physical education teachers from a research-based preparation program. *Research Quarterly for Exercise and Sport, 72*, 219-231.
- Woods, A. M., Richards, K.A.R. & Ayers, S. F. (2013). All in: Teachers' and college faculty's role in recruiting future physical educators. *Journal of Physical Education, Recreation & Dance, 87*(4), 18-23.
- Worrell, F., Brabeck, M., Dwyer, C., Geisinger, K., Marx, R., Noell, G...Pianta R. (2014). *Assessing and evaluating teacher preparation programs*. Washington, DC: American Psychological Association.

- Xu, F., Chepyator-Thmson, J., Liu, W., & Schidlein, R. (2010). Association between social and environmental factors and physical activity opportunities in middle schools. *European Physical Education Review*, 16(2), 183-194.
- Zhang, X., Gu, X., Zhang, T., Keller, J., & Chen, S. (2018). Comprehensive school physical activity programs: Recommendations for physical education teacher education. *Journal of Physical Education, Recreation & Dance*, 89(5), 11-18.

APPENDIX A

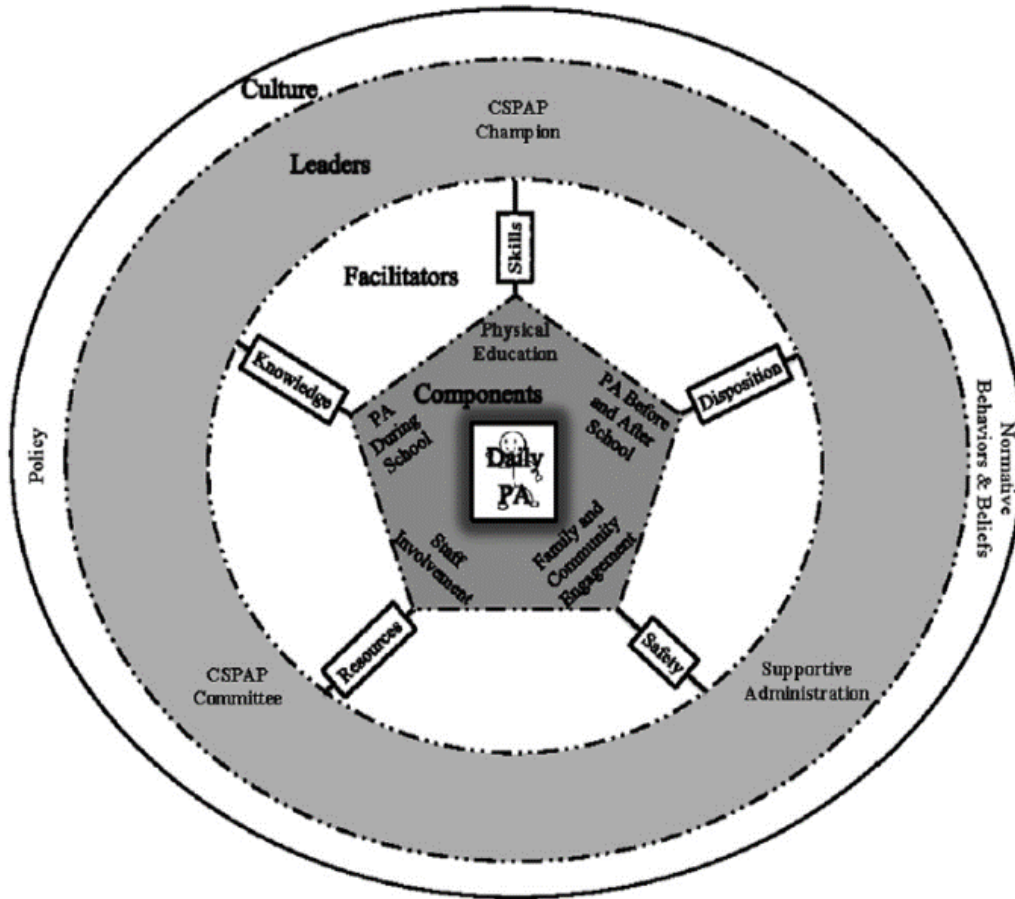
TIMELINE OF PA PROGRAMMING INTEGRATION AT ASU

Date	Faculty	Curriculum	Assignments
Prior to 2006		*Curricular Models in Physical Education. *1-credit course for preparing for student teaching	Promoted professional development
2007	Initial decision to try limited PA integration	Single course with after-school PA focus	
2008	Faculty buy-in	Two 2-credit courses for pre-student teaching	Integration across courses rather than single-course PA focus
	Specific objectives for Internship Supervisors related to PA promotion		
Spring 2016		PPE 397 added (classroom-based PA)	
Fall 2016		Physical Activity Leadership in Schools course	
2017			Student teachers required to work with Secondary classroom teachers on PA integration

APPENDIX B

ECOLOGICAL INFLUENCES AND THE CSPAP MODEL

This image helps demonstrate the multiple layers of influence needed to be taken into consideration when developing a CSPAP. Carson and colleagues explained that when looking to change the physical activity behavior of a student, there is an interplay between the student and their environment and the levels of influence frequently overlap (represented by the dotted rather than solid lines).



Conceptual framework for CSPAP research and practice based on a social ecological perspective. (Carson et al., 2014).

APPENDIX C
IRB APPROVAL



APPROVAL: EXPEDITED REVIEW

[Pamela Kulinna](#)
[Division of Educational Leadership and Innovation - Polytechnic Campus](#)
 480/727-1767
Pamela.Kulinna@asu.edu

Dear [Pamela Kulinna](#):

On 8/20/2019 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Looking Inward: Does Physical Activity Promotion Training Transfer Beyond PETE?
Investigator:	Pamela Kulinna
IRB ID:	STUDY00010319
Category of review:	(7)(a) Behavioral research
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none"> • Phase II: Interview Verbal Consent, Category: Consent Form; • Phase III: Child Assent Ages 15-17 CLEAN, Category: Consent Form; • Phase III: Child Assent Age 6-10 CLEAN, Category: Consent Form; • Phase III: Child Assent Ages 11-14 CLEAN, Category: Consent Form; • Phase III Student Recruitment, Category: Recruitment Materials; • Phase I: Informed Consent for Survey, Category: Consent Form; • Phase III: Student Interview Guide, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Phase I & II Survey Email Recruitment, Category: Recruitment Materials;

	<ul style="list-style-type: none"> • Phase III: Parent Informed Consent, Category: Consent Form; • Phase I: Electronic Questionnaire, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • ASU Image Waiver, Category: Other (to reflect anything not captured above); • PETE Study IRB Protocol, Category: IRB Protocol; • Review Response Letter, Category: Other (to reflect anything not captured above); • Phase II: Graduate Interview Guide, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Phase II: Informed Consent, Category: Consent Form;
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The IRB approved the protocol from 8/20/2019 to 8/19/2022 inclusive. Three weeks before 8/19/2022 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 8/19/2022 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the “Documents” tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Shannon Mulhearn
Pamela Kulinna
Shannon Mulhearn
Hans Van Der Mars

APPENDIX D
PILOT STUDY SUMMARY

A small validation study was conducted for the questionnaire instruments since minor changes were made to them. First, a group of experts evaluated the content validity followed by a small pilot study with Physical Education teachers.

Content-Related Evidence

The 45-question Expanded PA Programming Questionnaire was sent to a sample of experts in Physical Education pedagogy who were asked to provide feedback. Experts were defined as PETE faculty who had published in the areas of CSPAP in top tier journals in the last year. The experts were asked to review the questionnaire and the scale for content appropriateness and relevancy for measuring CSPAP use in schools. Experts included two Caucasian female faculty members and three Caucasian male faculty members; two of the experts were from countries outside of the US. The Physical Education Pedagogy faculty experts provided minor suggestions including altering the response options from a five-point to a six-point scale to remove the 'neutral' option. Additionally, wording in the Perception of Innovations items was changed if the item included the word 'activity' which can be representative of many things outside of physical activity but could potentially be confused with physical activity in this context. They all supported the appropriateness of the instrument to assess CSPAP implementation and innovation in K-12 schools.

Pilot Study

The final Expanded PA Programming Questionnaire was sent out to a convenience sample of Physical Education teachers ($N=6$). They were asked to complete the instrument and also provide feedback on the wording, appropriateness of the items, and if they had any suggestions for items to add as well as the feasibility of its use by

Physical Education teachers in schools using CSPAP. The pilot study for the questionnaire was conducted using hard copies of it with space was provided for respondents to provide any additional thoughts regarding wording, questions, etc. The Physical Educators did not suggest any changes to the items or the format in any of the sections of the questionnaire. It was clear all teachers carefully read and understood the questions. Those questions that are reverse scored were appropriately marked; there was no evidence of simply choosing a common answer across any of the sections. Internal consistency reliability was adequate for the Perceptions of Innovations Questionnaire ($\alpha=.94$). Within the pilot test of the sub-factors in this questionnaire, two questions were dropped due to their poor testing (items #3 and #17). With those two items removed, the Expanded PA Programming Questionnaire demonstrated Cronbach Alpha value of .98.

APPENDIX E

EXPANDED PHYSICAL ACTIVITY PROGRAMMING QUESTIONNAIRE

Expanded Physical Activity Programming Questionnaire

I am a PhD student in Arizona State University's (ASU) Mary Lou Fulton Teachers College. I am conducting a research study investigating the opinions of graduates from the Physical Education Teacher Education program at Arizona State University. As an adult (18+ years of age) who received your degree from this program, your thoughts are invaluable to this study.

Your participation in this study is voluntary. There are no foreseeable risks to participants.

The survey includes questions about your experiences in the teacher preparation program at ASU, use of programming, and use of innovations and should take about 15 minutes to complete. If you choose not to participate or to withdraw from the study at any time, simply close the survey window and do not click on "submit"; there will be no penalty. Benefits include learning more about how our teacher education program prepared you to teach and in particular how well prepared you were to administer components of a Comprehensive School Physical Education Program. This will help inform the body of literature in this area and also help to inform changes needed in our teacher education program.

Participants who complete the survey will be asked if they are willing to also participate in part two of the study including observations and interviews at their school as well as potential pictures to be taken of programming at her/his school.

All information obtained in this study is strictly confidential. The results of this research study may be used in reports, presentations, and publications, but the researchers will not identify you. In order to maintain confidentiality of your answers, all information will be coded and kept in a secure location where no one else will have access to it. If you provide your email address at the end of the questionnaire, your answers may be accessed in order to discuss them with you in an interview. Any contact information provided will be stored separate from the questionnaire responses and only retained in order to contact participants to schedule an interview.

If you have questions concerning the research study, please contact the research team at: pkulinna@asu.edu ,call 480-727-1767, or send a note to Dr. Pamela Kulinna 7271 E. Sonoran Arroyo Mall, Mesa, AZ, 85212.

If you have any questions about your rights as a participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board through the ASU Office of Research Integrity and Assurance at 480-965-6788.

Submission of this questionnaire will be considered your consent to participate in the survey. We are also seeking participants for a follow-up campus visit and interview, if interested, please provide your email address at the end of this questionnaire.

Thank you very much – Go Devils!

Q2. What is your full name?

Q3. What year did you graduate from ASU's Physical Education program?

Q4. What degree did you complete at ASU in the Physical Education program?

- BA
- MPE

Q5. Have you received any other degrees?

- Yes, please specify
- No

Q7.

What school level(s) do you currently teach?

Please check all that apply.

- I am NOT currently teaching
- Elementary School
- Middle School
- Junior High School
- High School
- Other, please explain

Q8. Please indicate the number of years you have taught at each level:

Elementary School	<input type="text"/>
Middle School	<input type="text"/>
Junior High School	<input type="text"/>
High School	<input type="text"/>
Other	<input type="text"/>

Q9. Please indicate your gender.

- Male
- Female
- Non-binary
- Prefer not to answer

Q10. What is your ethnicity?

- African American

- American Indian
- Asian/Pacific Islander
- Caucasian
- Hispanic
- Other, please specify
- Prefer not to answer

Q11. Please enter your age (e.g., 35):

Q12. We would like to conduct follow-up interviews lasting 20-30 minutes with a random sample of our participants. If you are willing to be interviewed to provide additional information about your thoughts and feelings about physical activity at schools, please include your contact information below:

Email Address

Phone Number

Q13. For the following questions, please indicate your opinion by marking the box to indicate the level to which you agree or disagree with each statement.

	Strongly Agree	Agree	Somewhat agree	Somewhat disagree	Disagree	Strongly disagree
The Physical Education faculty at ASU encouraged me to implement school-wide physical activity promoting events.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During my Physical Education Teacher Education program, I completed assignments that involved marketing whole-school physical activity outside of physical education classes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Comprehensive School Physical Activity Program (CSPAP) includes components targeting the engagement of physical activity by family members of students as well	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

as members of the community surrounding the school.

I felt properly prepared for teaching Physical Education after graduating from ASU.

I feel confident creating additional physical activity opportunities beyond Physical Education from what I learned at ASU.

Q14. Please respond to the following questions with Yes, No, or Don't Know

	Yes	No	Don't Know
Does your SCHOOL have a written policy that requires Physical Education to be taught a specific number of minutes per week or a specific number of days per week?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Does your DISTRICT have a written policy that requires Physical Education to be taught a specific number of minutes per week or a specific number of days per week?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are students in your school required to take Physical Education for graduation or promotion to the next grade or school level?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Does your DISTRICT have a written policy or guideline that prohibits classroom teachers from withholding Physical Education class as a punishment?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q15. Are there physical activity opportunities for students at your school beyond Physical Education?

- Yes
- No

Q16. Did YOU initiate the additional physical activity opportunities beyond Physical Education at your school?

- Yes, I built the expanded physical activity program myself
- No, the additional physical activity opportunities were already in place when I started teaching at the school
- Mixed – there were some additional opportunities but I have added more

Q17.

For the following 5 situations, please indicate how often your school typically offers physical activity opportunities.

	Never	Some days in a Year	Once a Month	Once a Week	Twice a Week	Most Days a Week	Every Day
Before or after school programming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Activity breaks in the classroom, as a break or as part of academic work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lunch Recess	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional recess not connected to lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical activity opportunities that include staff involvement in the activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical activities or events where family members and community members are invited to participate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q18.

On average, how many total minutes per day do students receive recess time? (Do not include time for lunch when students are eating and are not physically active)

- 0 minutes
- 1-15 minutes of recess per day
- 16-30 minutes of recess per day
- 31-45 minutes of recess per day
- 46 minutes or higher minutes of recess per day

Q19. Is a variety of loose equipment (e.g., balls, jump ropes) available for children to play with during recess?

- Yes
- No
- Don't know
- Not Applicable

Q20. Does your school and/or district provide classroom teachers with the following types of support for integrating physical activity into the classroom?

	School Yes	School No	District Yes	District No	Don't Know
Professional development/training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Printed resources (e.g., lesson plans, activity booklets)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet resources (e.g., Go Noodle)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical activity equipment (e.g., bean bags, stretch bands)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical activity promotion environment (e.g., stand up desks, cycle desks)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify) <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q21. How many classroom teachers at your school are integrating some type of physical activity in their classrooms?

- Most (75-100%)
- Majority (50-74%)
- Some (25-49%)
- Few (1-24%)
- None
- Don't Know

Q22.

PHYSICAL ACTIVITY BEFORE & AFTER SCHOOL

Please respond to the following questions with Yes, No, or Don't Know

	Yes	No	Don't Know
Are any school sponsored physical activity clubs and/or intramural sports offered to students in your school before or after the school day?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do those who supervise, lead, or coach physical activity clubs or intramural sports programs receive any training from your school or district?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Does your school have an interscholastic sports program (e.g., varsity sports)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q23. Does your school promote or support active transport (e.g. walking, cycling, etc.) to school in the following ways?

	Yes	No	Don't Know
Designation of safe or preferred routes to school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promotional activities such as participation in International Walk to School Week, National Walk and Bike to School Week?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instruction on walking/bicycling safety provided to students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promotion of safe routes program to students, staff and parents via newsletters, websites, local newspaper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crossing guards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crosswalks on streets leading to schools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walking school buses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creation and distribution of maps of school environment (sidewalks, crosswalks, roads, pathways, bike racks, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q24. Please respond to the following questions with either Yes, No, or Don't Know.

	Yes	No	Don't Know
Are there community organized enrichment (e.g., YMCA/YWCA) programs available on school grounds outside of the normal school day?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do these programs designate time in each session for physical activity?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do the individuals employed by these programs receive professional development/training on facilitating physical activity?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q25.

STAFF INVOLVEMENT

Please respond to the following questions with Yes, No, or Don't Know

	Yes	No	Don't Know
Does your SCHOOL have a written policy that requires all school personnel to receive professional development on the promotion of physical activity?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Yes	No	Don't Know
Does your DISTRICT have a written policy that requires all school personnel to receive professional development on the promotion of physical activity?			
Does your SCHOOL provide any employee physical activity classes/programs (e.g., walking/jogging, aerobics, yoga, basketball)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Does your DISTRICT provide any employee physical activity classes/programs (e.g., walking/jogging, aerobics, yoga, basketball)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Does your SCHOOL provide employees with any subsidies or discounts for off-site physical activity programs (e.g., community recreation class, health club membership)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Does your DISTRICT provide employees with any subsidies or discounts for off-site physical activity programs (e.g., community recreation class, health club membership)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q26. Please respond to the following questions with either Yes, No, or Don't Know.

	Yes	No	Don't Know
Are staff paid to supervise, lead, or coach physical activity clubs or intramural sports programs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has your school conducted any special events in which staff engage in physical activity with students (e.g., student/staff basketball game, student/staff fun walk/run) during this and last school year?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Does your school or district provide incentives to employees to be physically active on school grounds (e.g., awards, dress down day)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q27. What approximate percentage of your school's staff participate in the staff physical activity classes/programs (e.g., walking/jogging, group exercise classes, basketball) offered by your district and/or school?

- 75-100%
- 50-74%
- 25-49%
- 1-24%
- None
- Don't Know
- Not applicable

Q28.

FAMILY AND COMMUNITY ENGAGEMENT

Please respond to the following questions with either Yes, No, or Don't Know.

	Yes	No	Don't Know
Have parents/guardians been surveyed about their thoughts on the school physical education and physical activity program during this school year?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have students been surveyed about their thoughts on the school physical education and physical activity program during this school year?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Does your school recruit volunteers to help in physical education, recess, or before and after-school physical activity programs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q29. In which of the following ways does your school provide a culture and environment that encourages and reinforces physical activity participation?

	Yes	No	Don't Know
Has a school wellness committee/team that addresses physical education and physical activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Yes	No	Don't Know
Has goals related to physical education and physical activity in the School Improvement Plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Includes information about physical education and physical activity in the school's communications (e.g., website, newsletter, announcements)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Includes physical education and physical activity in school-based community events (e.g., health fair, family nights)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other, please specify <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q30. Are indoor and outdoor physical activity facilities open to students, their families, and the community outside of school hours?

	Yes	No	Don't Know	N/A
Indoor Facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outdoor Facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q31. With which of the following organizations does your school communicate and collaborate to enhance school and/or community physical activity opportunities?

	Yes	No	Don't Know
Parks and Recreation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local Health Department	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Private Businesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local Hospitals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Youth Sports Leagues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
YMCA/YWCA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Boys/Girls Club	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Police/Firefighters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Yes	No	Don't Know
Volunteer Associations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Private Health/Fitness Clubs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Universities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other, please specify <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q32.

PERCEPTIONS OF EXPANDED PHYSICAL ACTIVITY PROGRAMMING

Please indicate your level of agreement with each statement about Expanded Physical Activity programming beyond Physical Education. Expanded physical activity programming involves offering students, staff, family members, and even community members opportunities to be more physically active at school. The additional physical activity may look like classroom teachers integrating movement into their academic time, it could be organized games before or after school or during lunch breaks, and it could even include fitness nights where family members and community members come to the school to participate in exercises or games.

	Strongly Agree	Agree	Somewhat agree	Somewhat disagree	Disagree	Strongly disagree
Using Expanded Physical Activity is compatible with the goals in my school district	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think Expanded Physical Activity fits well with the way I like to work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It will be difficult to train teachers and staff at my school to implement Expanded Physical Activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I believe that it will be complicated to implement Expanded Physical Activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that each component described in this survey (Before & After school, Classroom Physical Activity, Recess, Staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Agree	Agree	Somewhat agree	Somewhat disagree	Disagree	Strongly disagree
Involvement, Family & Community Involvement) need to be implemented in THIS school year						
I believe it is okay for me to try out one or two components on a limited basis before fully implementing all five areas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parents will not be able to see any changes to student behavior if Expanded Physical Activity programming is implemented	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using Expanded Physical Activity will enhance my effectiveness on the job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using Expanded Physical Activity will increase my ability to get national funds for my school district	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My school district will lose state funding if we do not implement an Expanded Physical Activity program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using an Expanded Physical Activity program will increase the quality of Physical Education programs in my district	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using an Expanded Physical Activity program will have no effect on student physical activity rates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expanded Physical Activity requires more work than can be done with current state funding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even if our state did not encourage Expanded Physical Activity programming, I would like to implement it in my school district	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

APPENDIX F
FIDELITY CHECKLIST

Item	Observed	Described	Photo Provided
Wellness Committee			
Physical Activity Leader			
School -level program outcomes			
Student -level program outcomes			
PA resources at school			
Solicit Student feedback on PA			
Specific times for PA			
Specific locations for PA			
PA budget			
Sustainability			
Evaluation needs			
Communication and Marketing			
Completed Implementation plan from CDC or similar			
Identified Evaluations to use			
Data collection			
Plan for evaluation			
Attended a seminar or training on PAL			
Quality PE			
Before/After School			
During School			
Staff Involvement			
Family/Community			

APPENDIX G

ORIGINAL PERCEPTIONS OF INNOVATIONS SCALE QUESTIONS

Using the Principles of Effectiveness is compatible with the substance use coordination activities in my school district

I think that using the Principles of Effectiveness fits well with the way I like to work

I believe that using the Principles of Effectiveness would require my school district to make substantial changes to our present substance use prevention program *

It will be difficult to train teachers and staff to implement the Principles of Effectiveness *

Overall, I believe that it will be complicated to implement the Principles of Effectiveness *

I believe that each of the activities described in the Principles of Effectiveness needs to be implemented this school year *

I believe it is okay for me to try out a new substance use prevention program on a limited basis before fully implementing

Parents will not be able to see any changes in student behavior if the Principles of Effectiveness are implemented *

Teachers will like the changes if the Principles of Effectiveness are implemented

Using the Principles of Effectiveness will enhance my effectiveness on the job

My school district will lose SDFS funding if we do not use the Principles of Effectiveness

Using the Principles of Effectiveness will increase my ability to get non-SDFS substance use prevention funds for my school district

Using the Principles of Effectiveness will increase the quality of substance use prevention programs in my district

Using the Principles of Effectiveness will have no effect on student substance use rates *

The Principles of Effectiveness require more work than can be done with current SDFS funding *

Even if SDFS did not encourage the use of the Principles, I would like to implement them in my school district

Overall, I find using the Principles of Effectiveness to be advantageous for my school district

*Item was reverse coded in the analysis

Original answer range: 1-5 (5 is most favorable for adoption)

APPENDIX H
ORIGINAL CSPAP POLICIES AND PRACTICES QUESTIONNAIRE
(CSPAP-Q)

CSPAP Policies and Practices Questionnaire (CSPAP-Q)



UNIVERSITY OF
NORTHERN COLORADO

Active Schools Institute

Developed by:

Peter T. Stoepker
Brian D. Dauenhauer
Russell L. Carson

Introduction:

Thank you for taking the time to complete the Comprehensive School Physical Activity Program (CSPAP) Questionnaire. The purpose of this questionnaire is to gain insights into policies and practices surrounding the five components of CSPAP.

The survey questions are presented in the following areas:

- 1) Respondent demographics
- 2) School & district characteristics
- 3) Each component of a CSPAP



*Note: If you are unable to answer some of the questions, please make sure that you reach out to personnel within your school and/or district for support.

If you have any questions about this survey, please contact to Peter Stoepker (Peter.Stoepker@unco.edu)

Respondent Demographics

1. What is your:
Full Name:
Name of School:
District:
Zip Code:
E-mail:
2. What is your gender?
 Male
 Female
 Prefer not to specify
3. What is your current position?
 Administrator (Please specify)
 Physical Education Teacher
 Classroom Teacher (Please specify)
 Staff (Please specify)
 Other (Please specify)
4. Counting this year, how long have you worked in in your current position? ____ years.
5. Counting this year, how many years of teaching experience do you have over your entire career? ____ years.
6. Are you a certified/licensed PE teacher?
 Yes
 No
7. What is the highest degree you have earned? If applicable, please specify major and minor.
 Bachelor's Degree
 Master's Degree
 Doctoral Degree
 Other

Wellness Policy Status

8. Please respond to the following questions with either Yes, No or Don't Know

Does your school have a wellness policy that addresses physical activity?	▼ Yes (1) ... Don't Know (3)
Does your school have a committee that oversees school health policies and programs?	▼ Yes (1) ... Don't Know (3)
Does your district have a committee that oversees school health policies and programs?	▼ Yes (1) ... Don't Know (3)
Does your school have a wellness coordinator/leader?	▼ Yes (1) ... Don't Know (3)
Does your district have a wellness coordinator/leader?	▼ Yes (1) ... Don't Know (3)

9. Does your school wellness committee/team have a leader with physical activity expertise?

- Yes
- No
- Don't Know
- N/A

10. What is the level of your school?

- Elementary School
- Combination Elementary and Middle (or Junior High) School
- Middle School or Junior High School
- High School
- Combination Middle (or Junior High) and High School
- Kindergarten or Pre-Kindergarten through Grade 12
- Other (please specify)

Physical Education

11. In which grade level(s) in your school is physical education provided? (Note to middle and high schools: If the ONLY physical education offered at a particular grade level is elective physical education, please answer "No" for that grade level.)

	Yes	No
Pre-Kindergarten	<input type="checkbox"/>	<input type="checkbox"/>
Kindergarten	<input type="checkbox"/>	<input type="checkbox"/>
1st grade	<input type="checkbox"/>	<input type="checkbox"/>
2nd grade	<input type="checkbox"/>	<input type="checkbox"/>
3rd grade	<input type="checkbox"/>	<input type="checkbox"/>
4th grade	<input type="checkbox"/>	<input type="checkbox"/>
5th grade	<input type="checkbox"/>	<input type="checkbox"/>
6th grade	<input type="checkbox"/>	<input type="checkbox"/>
7th grade	<input type="checkbox"/>	<input type="checkbox"/>
8th grade	<input type="checkbox"/>	<input type="checkbox"/>
9th grade	<input type="checkbox"/>	<input type="checkbox"/>
10th grade	<input type="checkbox"/>	<input type="checkbox"/>
11th grade	<input type="checkbox"/>	<input type="checkbox"/>
12th grade	<input type="checkbox"/>	<input type="checkbox"/>

12. How often is physical education offered per week?

- Physical education is not offered
- 1-2 days
- 3-4 days
- Every day
- Other (Please specify)

13. Rate your school's facilities for physical education and other physical activities on the extent to which they are: a) available when needed, b) large enough to avoid overcrowding, c) well-maintained or d) not available

	Available	Sufficient Space	Well-Maintained	N/A
Basketball Court	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Blacktop Area	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Classroom Space	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Dance Studio	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Field	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Fitness Stations	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Gymnasium	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Mobile Building	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Multi-Purpose Room	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Weight Room	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Playground	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Pool	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Racquetball or Squash Court	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Tennis Court	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))
Track/Trail	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))	▼ Rarely (1 ... Often (3))

14. Please respond to the following questions with Yes, No, or Don't Know

Does your school have a written policy that requires a specific number of minutes per week or a specific number of days per week that students will have physical education?	▼ Yes (1) ... Don't Know (3)
Does your district have a written policy that requires a specific number of minutes per week or a specific number of days per week that students will have physical education?	▼ Yes (1) ... Don't Know (3)
Must students attending your school take any physical education as a requirement for graduation or promotion to the next grade level or school level?	▼ Yes (1) ... Don't Know (3)

15. What is the scheduled length of a typical physical education class period? ____ minutes

16. What standards are taken into consideration when determining physical education grades?

Motor skills and movement patterns	▼ Yes (1) ... Don't Know (3)
Knowledge of concepts, principles, strategies and tactics related to movement and performance	▼ Yes (1) ... Don't Know (3)
Knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness	▼ Yes (1) ... Don't Know (3)
Responsible personal and social behavior that respects self and others	▼ Yes (1) ... Don't Know (3)
Value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction	▼ Yes (1) ... Don't Know (3)
Physical education grades are not based off of standards	▼ Yes (1) ... Don't Know (3)

17. Please respond to the following question with either Yes, No or Don't Know

Excluding teacher evaluations, does your school have a written policy that requires the physical education program to be evaluated annually?	▼ Yes (1) ... Don't Know (3)
--	------------------------------

18. Are all physical education classes taught by a certified physical education specialist?

- Yes
- No
- Don't Know

19. Are teachers of physical education required to participate at least once a year in professional development in physical education?

- Yes
- No
- Don't Know

20. Does your school or district provide financial support for physical education related professional development

School	▼ Yes (1) ... Don't Know (3)
District	▼ Yes (1) ... Don't Know (3)

21. Does your school follow physical education standards at any of the following levels?

National	▼ Yes (1) ... Don't Know (3)
State	▼ Yes (1) ... Don't Know (3)
District	▼ Yes (1) ... Don't Know (3)

22. Does your school have a budget allocation for physical education equipment and supplies?

- Yes (If Yes, on average how much does the school spend on physical education equipment per year? \$____)
- No
- Don't Know

23. Does your school have a written policy that specifies the maximum student-to-teacher ratio for physical education?

- Yes (If Yes, what is the ratio?) ____ Students : 1 Teacher
- No
- Don't Know

24. Does your district have a written policy that specifies the maximum student-to-teacher ratio for physical education?

- Yes (If Yes, what is the ratio?) ____ Students : 1 Teacher
- No
- Don't Know

25. Does your school permit students to be exempt from physical education for one grading period or longer?

- Yes
- No
- Don't Know

26. Please respond to the following questions with either Yes, No or Don't Know

Does your district have a written policy or guideline that prohibits classroom teachers from withholding physical education class as a punishment?	▼ Yes (1) ... Don't Know (3)
--	------------------------------

27. Please respond to the following questions with either Never, Rarely, Sometimes, Often Don't Know, or N/A

	Never	Rarely	Sometimes	Often	Don't Know	N/A
How often do classroom teachers withhold individual students from physical education for disciplinary reasons?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During physical education, how often are students required to do extra physical activity for disciplinary reasons (e.g., run laps for being late; do push-ups for off task or bad behavior)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. Does the physical education program consistently use all or most of the following practices as appropriate to include students with special health care needs?

Full inclusion of all students in PE	▼ Yes (1) ... Don't Know (3)
Use modified equipment and facilities	▼ Yes (1) ... Don't Know (3)
Use a second teacher, aide, physical therapist, or occupational therapist to assist students, as needed	▼ Yes (1) ... Don't Know (3)

Physical Activity During School

For the following questions, recess is defined as free-play time occurring during the school day. Recess is not limited to elementary schools. Recess can include activity time like open gym time that occurs between first and last bell. Answer the following questions with these definitions in mind.

29. Does your school have a written policy that specifies the number of recess minutes per day students should receive?

- Yes (if so how many minutes)
- No
- Don't Know

30. Does your district have a written policy that specifies the number of recess minutes per day students should receive?

- Yes (if so how many minutes)
- No
- Don't Know

31. On average, how many **total minutes per day** do students receive recess time? (Do not include time for lunch when students are eating and are not physically active)

- 0 Minutes
- 1 to 15 minutes of recess per day
- 16 to 30 minutes of recess per day
- 31 to 45 minutes of recess per day
- 46 minutes or higher minutes of recess per day

32. Who supervises recess at your school? (Check all that apply.)

- Classroom Teachers
- Physical Education Teacher
- Administrators
- Paraprofessionals
- Hourly Wage Employees
- Volunteers
- Recess Is Not Supervised
- Other (please specify)

33. Please respond to the following questions with either Yes, No, Don't Know or N/A

Do recess supervisors regularly provide organized activities during recess? (e.g., walking or running programs)	▼ Yes (1) ... N/A (4)
Does your school sponsor training (formal or informal) for recess monitors at least once a year?	▼ Yes (1) ... N/A (4)
Are recess supervisors asked to encourage students to be physically active during recess?	▼ Yes (1) ... N/A (4)

34. Does your school have a written policy that specifies a maximum student-to-supervisor ratio during recess?

- Yes (If Yes, what is the ratio?) 1 Supervisor : ____ Students
- No
- Don't Know
- N/A

35. Does your district have a written policy that specifies a maximum student-to-supervisor ratio during recess?

- Yes (If Yes, what is the ratio?) 1 Supervisor : ____ Students
- No
- Don't Know
- N/A

36. Please respond to the following questions with either Yes, No, Don't Know or N/A

Are rules for how to behave at recess posted for students and adults to see?	▼ Yes (1) ... N/A (4)
During inclement weather, can students be physically active during recess?	▼ Yes (1) ... N/A (4)
Are teachers permitted to withhold scheduled recess from students for academic or disciplinary reasons?	▼ Yes (1) ... N/A (4)

37. How often do classroom teachers/counselors keep individual students from recess to fulfill academic requirements or disciplinary reasons?

▼ Never (4) ... N/A (5)

38. Is a variety of loose equipment (e.g., balls, jump ropes) available for children to play with during recess?

- Yes
- No
- Don't Know
- N/A

39. Is there a separate annual equipment budget for recess equipment and supplies?

- Yes (If Yes, how much? \$___ per year)
- No
- Don't Know
- N/A

40. Does your school and/or district provide classroom teachers with the following types of support for integrating physical activity into the classroom?

	School Yes	School No	District Yes	District No	Don't Know
Professional development/training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Printed resources (e.g., lesson plans, activity booklets)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet resources (e.g., Go Noodle)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Physical activity equipment (e.g., bean bags, stretch bands)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Physical activity promoting environment (e.g., stand up desks, cycle desks)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)					

41. How many classroom teachers at your school are integrating physical activity in their classrooms?

- Most (75-100%)
- Majority (50-74%)
- Some (25-49%)
- Few (1-24%)
- None
- Don't Know

Physical Activity Before & After School

42. Please respond to the following questions with either Yes, No or Don't Know.

Are any school sponsored physical activity clubs and/or intramural sports offered to students in your school before or after the school day?	▼ Yes (1) ... N/A (4)
--	-----------------------

Do those who supervise, lead, or coach physical activity clubs or intramural sports programs receive any training from your school or district?	▼ Yes (1) ... N/A (4)
---	-----------------------

Does your school have an interscholastic sports program (e.g. varsity sports)?	▼ Yes (1) ... N/A (4)
--	-----------------------

43. Please respond to the following questions

What approximate percentage of your school's FEMALE student population participates in at least one physical activity club or intramural sport during the school year?	▼ 75-100% (5) ... N/A (7)
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What approximate percentage of your school's MALE student population participates in at least one physical activity club or intramural sport during the school year?	▼ 75-100% (5) ... N/A (7)
--	---------------------------

44. Please answer the following questions

Is there a fee for students to participate in your school's physical activity clubs and/or intramural sports program?	▼ Yes for all activities (1) ... N/A (5)
---	---

Is there a fee for students to participate in your interscholastic sports program?	▼ Yes for all activities (1) ... N/A (5)
--	---

45. Does your school promote or support walking and bicycling to school in the following ways?

Designation of safe or preferred routes to school	▼ Yes (1) ... Don't Know (3)
Promotional activities such as participation in International Walk to School Week, National Walk and Bike to School Week	▼ Yes (1) ... Don't Know (3)
Instruction on walking/bicycling safety provided to students	▼ Yes (1) ... Don't Know (3)
Promotion of safe routes program to students, staff and parents via newsletters, websites, local newspaper	▼ Yes (1) ... Don't Know (3)
Crossing guards	▼ Yes (1) ... Don't Know (3)
Crosswalks on streets leading to schools	▼ Yes (1) ... Don't Know (3)
Walking school buses	▼ Yes (1) ... Don't Know (3)
Creation and distribution of maps of school environment (sidewalks, crosswalks, roads, pathways, bike racks, etc.)	▼ Yes (1) ... Don't Know (3)

46. Please respond to the following questions with either Yes, No or Don't Know.

Are there community organized enrichment (e.g., YMCA/YWCA) programs available on schools grounds outside of the normal school day?	▼ Yes (1) ... Don't Know (3)
Do these programs designate time in each session for physical activity?	▼ Yes (1) ... Don't Know (3)
Do the individuals employed by these programs receive professional development/training on facilitating physical activity?	▼ Yes (1) ... Don't Know (3)

Staff Involvement

47. Please respond to the following questions with either Yes, No or Don't Know

Does your school have a written policy that requires all school personnel to receive professional development on the promotion of physical activity?	▼ Yes (1) ... Don't Know (3)
Does your district have a written policy that requires all school personnel to receive professional development on the promotion of physical activity?	▼ Yes (1) ... Don't Know (3)
Does your school provide any employee physical activity classes/programs (e.g., walking/jogging, aerobics, yoga, basketball)?	▼ Yes (1) ... Don't Know (3)
Does your district provide any employee physical activity classes/programs (e.g., walking/jogging, aerobics, yoga, basketball)?	▼ Yes (1) ... Don't Know (3)
Does your school provide employees with any subsidies or discounts for off-site physical activity programs (e.g., community recreation class, health club membership)?	▼ Yes (1) ... Don't Know (3)
Does your district provide employees with any subsidies or discounts for off-site physical activity programs (e.g., community recreation class, health club membership)?	▼ Yes (1) ... Don't Know (3)

48. Please respond to the following questions with either Yes, No or Don't Know

Are staff paid to supervise, lead, or coach physical activity clubs or intramural sports programs?	▼ Yes (1) ... Don't Know (3)
Has your school conducted any special events in which staff engage in physical activity with students (e.g., student/staff basketball game, student/staff fun walk/run) during this and last school year?	▼ Yes (1) ... Don't Know (3)
Does your school or district provide incentives to employees to be physically active on school grounds (e.g., awards, dress down day)?	▼ Yes (1) ... Don't Know (3)

49. What approximate percentage of your school's staff participate in the staff physical activity classes/programs (e.g., walking/jogging, group exercise classes, basketball) offered by your district and/or school?

- 75-100%
- 50-74%
- 24-49%
- 1-24%
- None
- Don't Know
- N/A

Family & Community Engagement

50. Please respond to the following questions with either Yes, No or Don't Know

Have parents/guardians been surveyed about their thoughts on the school physical education and physical activity program during this school year?	▼ Yes (1) ... Don't Know (3)
Have students been surveyed about their thoughts on the school physical education and physical activity program during this school year?	▼ Yes (1) ... Don't Know (3)
Does your school recruit volunteers to help in physical education, recess, or before and after-school physical activity programs?	▼ Yes (1) ... Don't Know (3)

51. In which of the following ways does your school provide a culture and environment that encourages and reinforces physical activity participation?

Has a school wellness committee/team that addresses physical education and physical activity	▼ Yes (1) ... Don't Know (3)
Has goals related to physical education and physical activity in the School Improvement Plan	▼ Yes (1) ... Don't Know (3)
Includes information about physical education and physical activity in the school's communications (e.g., website, newsletter, announcements)	▼ Yes (1) ... Don't Know (3)
Includes physical education and physical activity in school-based community events (e.g., health fair, family nights)	▼ Yes (1) ... Don't Know (3)
Other (please specify)	

52. Are indoor and outdoor physical activity facilities open to students, their families, and the community outside school hours?

	Yes (1)	No (2)	Don't Know (3)	N/A (4)
Indoor Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outdoor Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

53. With which of the following organizations does your school communicate and collaborate to enhance school and/or community physical activity opportunities?

Parks and Recreation	▼ Yes (1) ... Don't Know (3)
Local Health Department	▼ Yes (1) ... Don't Know (3)
Private Businesses	▼ Yes (1) ... Don't Know (3)
Local Hospitals	▼ Yes (1) ... Don't Know (3)
Youth Sports Leagues	▼ Yes (1) ... Don't Know (3)
YMCA/YWCA	▼ Yes (1) ... Don't Know (3)
Boys/Girls Club	▼ Yes (1) ... Don't Know (3)
Police/Firefighters	▼ Yes (1) ... Don't Know (3)
Volunteer Associations	▼ Yes (1) ... Don't Know (3)
Private Health/Fitness Clubs	▼ Yes (1) ... Don't Know (3)
Universities	▼ Yes (1) ... Don't Know (3)
Other (please specify)	

THANK YOU FOR COMPLETING THE CSPAP-Q

Please identify number of personnel that contributed to completing the survey. Check all that apply and state how many.

- School Administrator
- District Administrator
- Classroom Teacher
- Physical Education Teacher
- Other

APPENDIX I
INTERVIEW GUIDE

When did you graduate from ASU?

Did you study anywhere prior to or after attending ASU?

Why did you choose to major in Physical Education?

What are some memories you have of Physical Education when you were in K-12?

What are some memories you have of the Physical Education Teacher Education program at ASU?

How would you define the term innovative?

When you hear of innovative solutions to educational or community challenges, how do you decide if you want to adopt the new initiative?

What are your feelings about Physical Education teachers promoting physical activity to students outside of class time? Before school and after school? During School? With Staff? With Communities?

What do you know about the CSPAP model?

Where did you learn about it?

What components (if any) of the CSPAP model are in place at your school?

What resources do you use to help sustain your CSPAP?

What things does your school do to promote physical activity?

How are/are not administrators supportive of your CSPAP programming?

How are/are not other school personnel supportive of your CSPAP programming?

How are/are not students supportive of your CSPAP programming?

How are/are not students' families/guardians supportive of your CSPAP programming?

APPENDIX J

EXAMPLE CSPAP MARKETING

Cougar Sports Club

Who: 4th, 5th, 6th Grade Students

When: Wednesdays
October 23rd, 30th
November 13th, 20th
December 4th, 11th, 18th
January 8th, 22nd, 29th
February 5th, 19th, 26th

Time: 2:15pm - 3:15pm

Where: Playground

What: Participate In Various Sport Activities

Why: To Maintain An Active Lifestyle

Faculty Sponsor: Mr. [REDACTED] & Mr. [REDACTED] [REDACTED] Elementary Physical Education