

ASSESSMENT IN PHYSICAL EDUCATION

by

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ABSTRACT

The utilization and practice of assessment in physical education has recently been targeted as the missing ingredient in the teaching-learning process. Although some progress has been made towards the use of alternative assessment, preservice and inservice teachers' assessment practices are far from being educationally productive. Therefore, guided by occupational socialization theory and the assessment literacy framework, this dissertation explored how preservice and inservice teachers understand and enact beliefs of assessment.

In study 1, a research-based conceptual framework is presented for helping preservice teachers develop assessment literacy. Arguments for developing assessment literacy are couched in occupational socialization theory to help overcome barriers to the adoption and use of assessment practices. Further, a four phase model is provided for physical education teacher education programs to integrate assessment progressively across a program toward the goal of promoting assessment literacy.

Study 2 investigated the influence of workplace factors and teachers' conceptions of assessment on the extent to which they report integrating quality assessment into their practice. Survey data from 90 inservice physical education teachers from Alabama were analyzed through Ordinary Least Squares regression. Specifically, teachers' perceived quality of assessment was regressed on workplace factors (perceived organizational support, marginalization, and class size) and conceptions of assessment. The first regression model (adjusted $R^2 = .08$) did not include any significant predictors, therefore a second was run to examine if workplace factors and conceptions of assessment could be used to predict the belief that assessment improves

education. In the second model (adjusted $R^2 = .66$) the following variables were significant: assessment makes schools accountable, assessment makes students accountable, assessment is irrelevant, marginalization, and perceived organizational support.

Study 3 investigated how six preservice physical education teachers understood and enacted the message system (assessment, pedagogy, and curriculum) while employing the Sport Education model. The model was taught to elementary students during a seven week early field experience, totaling 540 instructional minutes. Data collection methods comprised of interviews (formal, focus group, and informal), passive participation observation, weekly journals, critical incidents, document collection, and video recordings of Sport Education lessons. Results of the study included three themes: (a) the structure and features of the Sport Education model and informal assessment were driving forces of instructional decisions, (b) the Sport Education model was a driving force of formal assessment, and (c) although valuing assessment, the preservice teachers demonstrated low literacy upon implementation of assessment.

DEDICATION

This dissertation is dedicated to my family and friends who have provided me with unwavering love and support throughout my academic career. Thank you all for all you have done for me. I am grateful for your words of wisdom and positivity; I cannot express how appreciative I am to have such amazing people in my life. A special thank you to Ward for his ability to listen and support me each day. I also dedicate this dissertation to my brother Shaun and my grandfather Neal for always believing in me and holding me to the highest standard.

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CONTENTS

ABSTRACT.....	ii
DEDICATION	iv
ACKNOWLEDGMENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTER 1 A CONCEPTUAL FRAMEWORK FOR ASSESSMENT LITERACY: OPPORTUNITIES FOR PHYSICAL EDUCATION TEACHER EDUCATION	1
Abstract.....	1
Introduction.....	2
Occupational Socialization Theory.....	3
Preservice Teachers’ Assessment Literacy.....	6
Prioritizing Assessment Literacy during Physical Education Teacher Education.....	9
Conclusions and Final Thoughts.....	17
References.....	21
CHAPTER 2 PHYSICAL EDUCATION TEACHERS’ WORKPLACE FACTORS AND ASSESSMENT CONCEPTIONS ON PERCEIVED UTILIZATION OF ASSESSMENT	28
Abstract.....	28
Introduction.....	30
Methods.....	38
Results.....	42
Discussion.....	43

References.....	51
CHAPTER 3 PRESERVICE TEACHERS’ ASSESSMENT LITERACY WITHIN MODELS BASED PRACTICE.....	60
Abstract.....	60
Introduction.....	61
Methods.....	70
Results.....	76
Discussion.....	90
Implications.....	96
References.....	99
APPENDIX A.....	106
APPENDIX B.....	107

LIST OF TABLES

Table 1.1 Four-phase conceptual framework for helping preservice teachers develop assessment literacy during teacher education	26
Table 2.1 Descriptive statistics and bivariate correlations for assessment variables	57
Table 2.2 Regression table of conceptions of assessment influencing perceived quality of assessment.....	58
Table 2.3 Regression table of variables influencing assessment improves education.....	58
Table 3.1 Sport Education season outline.....	104
Table 3.2 Sport Education fidelity check.....	105

LIST OF FIGURES

Figure 1.1 A research-based conceptual framework for helping preservice teachers develop assessment literacy founded in occupational socialization theory.....	27
Figure 2.1 Visual representation of the impact of occupational socialization on teachers' perceived quality of assessment.....	59

CHAPTER 1

A CONCEPTUAL FRAMEWORK FOR ASSESSMENT LITERACY: OPPORTUNITIES FOR PHYSICAL EDUCATION TEACHER EDUCATION

Abstract

Although more nuanced understandings of assessment have been proposed in the physical education literature, assessment practices remain relatively underdeveloped, and when used, tend to focus on traditional, summative evaluations of learning. However, physical education teacher education programs can be used as an intervention to help preservice teachers develop assessment knowledge and skill. Toward this end, the purpose of this article is to propose an evidence-based framework for helping preservice teachers develop assessment literacy that is rooted in occupational socialization theory. The framework provides a four-phase approach to integrating assessment into teacher education, and includes suggestions for how physical education teacher educators can progressively help build preservice teachers' assessment knowledge in line with the focus given to instruction and planning. These suggestions acknowledge the technical and sociocultural aspects of learning to use assessment. Implications are discussed along with the need to help graduating preservice teachers transfer lessons learned into the workplace.

Keywords: teaching-learning process, physical education, pre-service training, occupational socialization theory, school sociopolitics

Introduction

The last several decades have brought numerous advancements to and diversification of our understanding of effective teaching and learning in physical education (Ennis, 2017; Kirk, Macdonald, & O'Sullivan, 2006). Included in this progress has been the development and refinement of pedagogical models (Sinelnikov & Hastie, 2017); the identification of teaching strategies that reliably facilitate student learning (Rink & Hall, 2008), improve fitness levels (McKenzie & Lounsbery, 2014), help youth develop personally and socially responsible behavior (Wright & Burton, 2008); and strategies for evaluating and promoting student learning (Lund & Kirk, 2010; Starck, 2017). Specifically related to student evaluation, assessment is now viewed as a collection of observable student behaviors, student perceptions, and evidence of student performance that requires evaluation or judgment (Hay, 2006) with the primary goal of enhancing student learning (DinanThompson & Penney, 2015). This expanded definition is inclusive of self- and peer-assessment, process and product assessment, and alternative and authentic assessment (DinanThompson, 2013).

Quality physical educators integrate assessment into the teaching-learning process so as to support and promote learning (Hay & Penney, 2009), rather than conceptualizing assessment as an isolated activity that is divorced from their regular teaching (Lund & Kirk, 2010). Given the critical role that assessment now plays in physical educators' practice, Hay and Penny (2013) advocated for the development of assessment literacy in physical education as "the development of knowledge and capacities to implement assessment and interpret the outcomes of assessment in a manner that is critically aware and that optimized the value of assessment for all students" (p. 74). Four related elements of assessment literacy include assessment comprehension, assessment application, assessment interpretation, and critical engagement with assessment. Despite numerous advancements, however, both inservice and preservice teachers continue to

struggle when implementing assessment regularly and in a way that promotes as well as evaluates student learning (Collier, 2011). Many physical education programs continue to rely heavily on traditional forms of assessment associated with dressing out, participation, passive teacher observation, and fitness testing (DinanThompson & Penney, 2015). The appropriate use of assessment practices has, therefore, been characterized as “the missing ingredient” in physical education practice due to the need for deeper pedagogic action in many physical education teacher education programs (DinanThompson, 2013, p. 138).

Developing assessment literacy is, however, challenged by the ways in which individuals are recruited and socialized into the physical education profession (Richards, Templin, & Graber, 2014). Many recruits experienced physical education programs that did not use assessment to enhance learning and may have a difficult time imagining and designing an effective assessment system that integrates with instruction (Lund & Kirk, 2010). Further, the culture of schools, which often marginalizes physical education and positions it as less important than other subjects (Richards, Templin, & Gaudreault, 2013), can make it difficult for physical educators to implement assessment practices effectively. A classic example of this is the teacher in O’Sullivan’s (1989) study who lamented being told by a parent that “failing gym is like failing lunch or recess” (p. 235). Administrators may also discourage assessment and grading in physical education because of the impact it has on students’ grade point averages (Graber, 1998), and some teachers have class sizes so large it makes effective assessment almost impossible (López-Pastor, Kirk, Lorente-Catalán, MacPhail, & Macdonald, 2013).

Given barriers to the implementation of quality assessment practices, physical education teacher education (PETE) programs have a difficult challenge: they must help recruits overcome initial impressions of assessment developed through pretraining socialization and help prepare

them to use assessment in environments that may present challenges (Richards et al., 2013). The purpose of this paper, therefore, is to propose a conceptual framework for helping preservice teachers develop assessment literacy, and to overview educational activities that can be integrated into PETE programs toward the goal of promoting assessment literacy. Recognizing that socialization experiences construct barriers to the adoption and use of assessment practices, we couch our arguments within occupational socialization theory (Richards & Gaudreault, 2017; Templin & Schempp, 1989) as a conceptual framework for understanding the recruitment, education, and career-long socialization of physical education teachers.

Occupational Socialization Theory

Occupational socialization theory “includes all the kinds of socialization that initially influence persons to enter the field of physical education and that later are responsible for their perceptions and actions as teacher educators and teachers” (Lawson, 1986, p. 107). The theory is dialectical, as it recognizes that physical education teachers have a sense of agency, which they can use to resist the influence of individuals and institutions that seek to socialize them (Schempp & Graber, 1992). As a result, it cannot be assumed that individuals will adopt the beliefs and values of the physical education profession when going through PETE or joining a school as a new teacher. Having emerged as both a theory for conducting research and a framework for structuring teacher education and professional development (Richards & Gaudreault, 2017), occupational socialization theory examines socialization along the three phases of acculturation, professional socialization, and organizational socialization (Richards et al., 2014). Organizational socialization, which focuses on career-long socialization experienced by inservice physical education teachers, is less relevant to the current paper.

Acculturation, also referred to as anticipatory socialization, occurs prior to individuals' formal decision to enter the physical education profession (Lawson, 1983). During their formative education, potential recruits engage in an apprenticeship of observation (Lortie, 1975) during which they begin to form initial impressions of what it means to be a physical education teacher by interacting with their own teachers, coaches, counselors, and parents (Betourne & Richards, 2015). These initial experiences lead to the development of subjective theories (Grotjahn, 1991), which represent personal understandings of what it means to teach physical education in a school environment. Subjective theories are developed prior to formal entrance into PETE (Richards et al., 2013) and often emphasize the practices recruits experienced during their own physical education. For many recruits, this includes a curriculum dominated by team sport activities delivered primarily through direct instruction and the practice style of teaching (Flory, 2016). Further, given that many recruits do not experience assessment that is closely aligned with and integrated into instruction (Lund & Veal, 2008), regular assessment often does not become integrated into their subjective theories.

Recruits who decide to pursue a career teaching physical education formalize their commitment and enter *professional socialization* when they enroll in a PETE program (Lawson, 1983). Given that acculturation leads some recruits to develop subjective theories of physical education that are in conflict with PETE programming, Richards and colleagues (2013) noted that PETE has two primary missions. First, these programs should help preservice teachers question and challenge their initial impressions of what it means to be a physical education teacher developed through acculturation. Related specifically to the purpose of this paper, this includes questioning assumptions about the role of assessment in promoting and evaluating student learning (DinanThompson & Penney, 2015). The second mission of PETE is to prepare

preservice teachers to make the transition into school environments. This preparation includes both technical skills related to planning, delivering instruction, and conducting assessment, as well as preparation for the realities associated with teaching physical education in contexts that sometimes marginalize its contributions to the overall mission of schooling (Lux & McCullick, 2011). This preparation includes navigating relationships with students, colleagues, administrators, and parents who may not value assessment in physical education, while also working through challenges related to teaching in suboptimal working environments (e.g., large classes, insufficient facilities and equipment; Richards, Housner, & Templin, in press).

Evidence indicates that PETE programs are more effective at accomplishing the aforementioned missions when they are field-based (Richards et al., 2013). Such programs provide preservice teachers ample time working in authentic teaching situations during early field experiences and student teaching (Curtner-Smith, Hastie, & Kinchin, 2008) where they are mentored by both cooperating teachers and university faculty members (Young & MacPhail, 2015). While field experiences present some challenges in terms of managing competing expectations and philosophies of PETE program faculty members and cooperating teachers (Christensen & Barney, 2011), they provide preservice teachers with opportunities to practice skills learned through on-campus methods courses in an authentic environment. This is particularly important when it comes to implementing assessments that involve collecting student data, analyzing the data, and reflecting on the results of assessment to understand both student learning and teacher effectiveness (DinanThompson & Penney, 2015). Reflecting on data collected also helps preservice teachers practice making instructional decisions in light of assessment evidence, and to further integrate assessment into the teaching-learning process (Penney, Brooker, Hay, & Gillespie, 2009).

In effective PETE programs, field-based learning experiences are balanced with on-campus opportunities for continued learning and reflection through constructivist oriented learning strategies that promote reflection and critical thinking. Richards, Gaudreault, and Templin (2014) overview a PETE seminar series focused on helping preservice teachers prepare for the realities of life in schools that integrates constructivist pedagogies. Examples of such strategies include case-based learning (Timken & van der Mars, 2009), autobiographical essay writing (Betourne & Richards, 2015), and small and large group discussions (Gore, 1990). These strategies help recruits to more deeply consider their experiences and reflect upon challenges they have faced in the field. For example, student-authored case studies have been used as a way to help preservice teachers more deeply consider challenges they face during field experiences, and how they would navigate similar challenges as beginning teachers (Richards, Hemphill, & Wilson, 2015). Experiences such as these can be used to help preservice teachers prepare strategies for navigating custodial teaching environments (Collier, 2011), including how to overcome challenges related to assessment implementation (Stroot, 2017).

Preservice Teachers' Assessment Literacy

Recognizing that prior socialization experiences do not always lead preservice teachers to view assessment as an important part of the physical education profession, PETE programs are tasked with the challenge of helping preservice teachers integrate assessment practices into their subjective theories. In an attempt to promote deeper pedagogical action (DinanThompson, 2013), it is important to help preservice teachers come to see assessment as a vital element of the teaching-learning process, on par with planning and instruction (Lund & Tannehill, 2010; Penney et al., 2009). Toward this end, there has been a shift toward assessing *for* learning, which informs and provides feedback to students regarding their progress, rather than only assessment

of learning, which is an evaluation of student performance (Black & Wiliam, 1998). Although some progress has been made in using alternative forms of assessment, such as integrating assessment for learning into teacher educating programs (López-Pastor et al., 2013), assessment literacy remains an important area to address in PETE (DinanThompson & Penney, 2015).

Evidence suggests that recruits' experiences through their own physical education as children influences their views of assessment (Matanin & Collier, 2003), and that these views are very resistant to change (Richardson & Placier, 2001). Currently, however, little is known about how preservice teachers learn to use assessment, and how PETE programs influence their beliefs. Understanding how preservice teachers learn to use assessment is particularly important as evidence indicates that they struggle when transferring assessment practices and theory discussed in the classroom to early field experiences, particularly when they have to navigate the challenges of real-world teaching environments (Collier, 2011). These experiences may be used to reinforce initial beliefs that assessment is not necessary in physical education, or impractical given the realities of life in schools (Hay & Penney, 2009; Veal, 1988). In particular, the feeling that time spent on assessment can be better used for other purposes, such as keeping students active or practicing skills (Rink, 2013), contributes to a perspective in which assessment is reduced to an isolated event rather than a central component of the teaching-learning process (Hay & Penney, 2013).

Previous research has indicated that preservice teachers' beliefs about student learning and assessment are influenced in different ways during a field-based learning experience. For some, the use of authentic assessment resulted in an expanded understanding of assessment, whereas others resisted or blended in new knowledge into existing belief structures (Goc Karp & Woods, 2008). In another study, preservice teachers struggled to implement assessment in a

Sport Education unit, and instead relied on subjective measures such as effort and participation (Braga & Liversedge, 2017). Some recognized, however, the need to learn more about assessment in order to understand how it could benefit their teaching process. Similarly, when working with students with disabilities, teachers have shown to lack adequate training (Columna, Davis, Lieberman, & Lytle, 2010; Meegan & MacPhail, 2006) towards assessment practices.

In several studies it has been noted that student teachers lacked experience when planning, implementing, and integrating assessment and instruction effectively in physical education (Lund & Veal, 2008). In these situations, the student teachers did not use formative assessment strategies, had difficulty with assessment implementation, perceived a disconnect between assessment and instruction, relied heavily on teacher-directed assessments, and were challenged when writing objectives to establish criteria for learning. Moreover, assessment misconceptions were reflected in their struggle to hold students accountable for learning due to lack of fairness, using written tests only for pre- and post-assessment, and taking time away from active learning (Lund & Veal, 2008; Veal, 1988). In contrast, preservice teachers in England demonstrated an understanding of assessment practices during their PETE program in which there was an intentional focus on developing assessment literacy (Lorente-Catalán & Kirk, 2016). The alignment between national policy and PETE program priorities facilitated legitimacy in the use of assessment for learning for these students. Further, preservice teachers were able to apply different assessment for learning strategies, but recognized the need to continue learning how to effectively integrate assessment and instruction into their practice.

Given that the prevailing culture in many school environments limits or inhibits physical educators' ability to integrate assessment into the teaching-learning process (Rink, 2013), and the prevalence of beginning teachers concerns related to student assessment (Graber, 1998; Liston,

Whitcomb, & Borko, 2006), preservice teachers need to be provided with appropriate tools and opportunities to practice assessment so as to increase their assessment literacy. We, therefore, believe that PETE should be conceptualized as an intervention with the goal of helping preservice teacher develop assessment literacy (Richards et al., in press). Toward this end, we have developed an evidence-based conceptual framework for helping preservice teachers develop assessment literacy. This framework is presented in a four-part progression that can be used to (a) help preservice teachers question their subjective theories developed through acculturation, (b) learn effective assessment practices, (c) practice implementing assessment strategies in real-world environments that mirror the challenges they will face as beginning teachers, and (d) critically consider the sociocultural implications of assessment practices. This model is rooted in the occupational socialization theory literature, and reflective of Lund and Veal's (2008) recommendations for teaching preservice teachers about assessment practices, and Hay and Penny's (2013) assessment literacy framework.

Prioritizing Assessment Literacy during Physical Education Teacher Education

Figure 1.1 provides a graphical representation of the research based conceptual framework for understanding the development of preservice teachers' assessment literacy while accounting for their prior and current socialization experiences. In the following sections, a four-phase model for developing assessment literacy in PETE is presented. These phases could be applied to a four year PETE program, or adapted to address the needs of specific programs. For example, each phase could be covered in one semester in a program that only has students for two years. These phases address both the technical skills of assessment and seek to help preservice teachers develop the sociopolitical savvy needed to implement assessment in school environments that may marginalize physical education. Toward this end, we seek to engage

students in essential knowledge of assessment while also acknowledging the active process each preservice teacher takes in their own learning (Richards et al., 2013). As we introduce each phase of the model (see Table 1.1), we provide an overview of the literacy focus (Hay & Penney, 2013) and discuss each learning focus (Lund & Veal, 2008). We complete our discussion of each phase by providing suggestions to facilitate assessment literacy among preservice teachers at that stage of development. The suggestions provided should not be considered comprehensive, but rather examples of activities that can be used to help preservice teachers progressively learn to design and implement assessment strategies.

Phase One: Assessment Comprehension

Assessment comprehension is defined as “focusing on knowledge and understanding of assessment expectations and conditions of efficacy” (Hay & Penney, 2013, p. 73). Specifically, the comprehension phase seeks to promote a general understanding of assessment, including how it can be used to facilitate student learning, promote authentic learning experiences, and evaluate physical education programming. Preservice teachers are also encouraged to consider socially just practices and outcomes related to assessment (Hay & Penney, 2009), and understand different techniques, including the differences between formative and summative assessment, and assessment *for* learning or assessment *of* learning (Hay & Penney, 2013). Key to comprehension is ensuring that preservice teachers understand the teaching-learning process, which exemplifies how to plan so that curriculum, pedagogy, and assessment work together to promote integrated and effective practices in physical education environments.

The comprehension phase acknowledges that preservice teachers have preconceptions of assessment, which influences their receptivity to learning (Brown, 2004). Since assessment was not likely part of acculturation for most preservice teachers, they may be initially resistant to its the integration into their practice (Richards et al., 2013). A first step in promoting effective

assessment practice, therefore, is facilitating conversations among preservice teachers to provide insight into their beliefs and values of assessment, and the teaching-learning process in physical education more generally. These conversations and experiences can provoke preservice teachers to think more critically about their own views of assessment, which can lead to the reformulation of their subjective theories. Toward this end, constructivist-oriented teaching strategies, such as case-based learning, writing autobiographical essays, and problem-based learning can be particularly effective in helping preservice teachers reflect upon and interrogate their initial belief structures (Richards et al., 2013). In particular, case studies (Stroot, 2017) present situational experiences to which students can respond by drawing from their own experiences with and knowledge of assessment.

Further, teacher educators cannot assume that preservice teachers will know how, when, and what to assess (Lund & Veal, 2008). Preservice teachers tend to struggle to develop assessment for student learning in particular, and often view assessment something that is done after instruction is complete in both physical education (Lund & Kirk, 2010) and adapted physical education contexts (Columa et al., 2010). Therefore, the focus of this phase is on ensuring that preservice teachers understand how to identify the most important elements of instruction and then develop assessment plans. This includes learning to write objectives and select criteria to assess aligned with the objective (Lund & Veal, 2008). Another important consideration in this phase is to promote an understanding of the teaching-learning process where assessment is understood as a necessary component. By placing emphasis on the importance of assessment toward the beginning of the PETE program, it can be positioned as an integral part of the teaching learning exchange and as necessary for effective teaching.

Phase Two: Assessment Comprehension and Application

In the second phase, we recommend a continued focus on comprehension while also moving preservice teachers toward the application of assessment practices. Application, defined as, “focusing on the conduct of assessment in terms of either teacher implementation or student engagement,” acknowledges the need for preservice teacher to practice using assessment tasks in different environments while providing evidence of student learning (Hay & Penney, 2013, p. 73). Broadly, the focus of the second phase is on developing an expanded repertoire of assessment tools to measuring learning across domains (i.e., affect, cognitive, psychomotor), and putting those tools into practice so as to include all students. The focus of application should be on considering the alignment of curriculum, pedagogy, and assessment in practical experiences. Preservice teachers should, therefore, use data gathered through field experiences to understand the influence of instruction on student learning, and consider the implications of assessment for future teaching.

A critical component of this phase is for preservice students to be provided experiences in which they have opportunities to practice using assessment in both the role of a learner and as a teacher (Lund & Veal, 2008). As preservice teachers begin to feel comfortable with the teaching-learning process, they should begin to recognize that assessment practices can be authentic and alternative, which helps them move beyond the sole implementation of traditional, teacher-driven assessments and fitness evaluations. Importantly, preservice teachers should practice creating specific assessments aligned with their lesson planning (Lund & Veal, 2008). This can be done by helping preservice teachers recognize the connection between their lesson objectives, planned activities, and assessment strategies. Preservice teachers should then have an opportunity to implement lessons learned about the design of assessments into their field

experiences. Following the completion of an implementation, they should reflect upon the process of designing and conducting an assessment, along with the implications for student learning and future instruction. All reflections and discussion of learning are supported with a formal documentation (Strike & Posner, 1992).

Through the reflection process, particularly during group debriefing discussions (Gore, 1990), preservice teachers should begin to consider the realities of using assessment in physical education environments. They should, for example, think about the challenges and barriers to implementing assessment, such as large classes, limited time, the need for constant supervision, and consider strategies for overcoming these challenges. By considering these challenges in a group setting, students can share experiences and provide examples of successful implementation strategies in light of barriers they face. Aligned with a constructivist approach to teacher education, preservice teachers participate in the process of knowledge generation by contributing lessons learned through firsthand experience (Richards et al., 2013). Teacher education faculty should act as facilitators in their process by encouraging students' reflection and sharing during group sessions.

Phase Three: Assessment Application and Interpretation

Once preservice teachers have gained an understanding of the relationship between assessment, curriculum, and pedagogy, and are then able to begin applying efficacious assessment in the classroom (Hay & Penney, 2013), they will then move towards the third phase of the assessment literacy process. This includes a continued focus on application while also moving students toward interpretation. When moving into interpretation, students are “focusing on making sense of and acting on the information that is collected through assessment practices, including traversing and negotiating the social relations of assessment,” while also developing a

plan to act upon the assessment information they have gathered while working in schools (Hay & Penney, 2013, p. 73). A major component of this phase is holding the preservice teacher accountable for the assessment comprehension they developed in the first two phases, as well as their ability to make meaningful assessment interpretations from two specific areas: (1) interpretation of information related to instructional decision, and (2) interpretation of student data against a set standard or criteria (Hay & Penney, 2013).

Assessment interpretation related to instructional decisions is not a new topic for most PETE programs, but it is an area with which many novice teachers struggle (Lund & Veal, 2008). As Lund and Veal (2008) noted, preservice teachers “usually can use assessment results to calculate student grades, but they also need to know that formative assessments provide valuable information about whether pupils have learned and this information is useful for planning future lessons” (p. 509). This is an imperative time for cooperating teachers to help guide preservice teachers on the understanding and application of assessment that is both *for* and *of* learning. The second component of assessment interpretation is related to determining levels of student achievement or attainment by comparing data that has been gathered against specific standards or criteria (Hay & Penney, 2013). What makes this task challenging for early career teachers is that standards and assessment criteria vary greatly depending on the program goals (Wyatt-Smith, Klenowski, & Gunn, 2010). This variance can be particularly difficult while trying to identify and meet the learning outcomes of both models-based practice and skill content adding complexity to the process of matching learning and assessment to instructional goals (Lund & Veal, 2008).

During this third phase, preservice teachers should have multiple and varied practical experiences using assessment information, both formal and informal, to help adapt or enhance

the learning tasks for a particular individual, group, or class. Although this might be more difficult to do during segmented teaching lessons in field experiences, preservice teachers need to think past an individual lesson and considered how they might extend the lesson the following day based on assessment data. Thus, it is imperative for preservice teachers to have a clear understanding of the performance criteria of a given program. Whether it is a grading scheme, rubric criteria, or scores on criterion a referenced fitness test, preservice teachers need to not only understand the performance criteria of the assessment, but need practice interpreting data to draw meaning from student performance in applied settings. These opportunities will help them begin to understand how assessment data can be used to guide future programming decisions and also (Lund & Kirk, 2010). Teachers could, for example, utilize assessments and present that data to school administrators to document program effectiveness and student learning.

Phase Four: Assessment Interpretation and Critical Engagement with Assessment

The fourth phase of assessment literacy connects the phases of assessment interpretation while critically engaging with assessment. Critical engagement “promotes consideration of the contribution of assessment to the teacher’s power in the field and its impact on the social dynamics of the classroom field” (Hay & Penney, 2013, p. 77). Preservice teachers in this phase should start to see the impact their assessment practices have on their students’ learning and development, begin to understand the power dynamic that is inherent between the assessor and assessed, and consider the impact or consequences assessment has on all parties involved in the instructional exchange (DinanThompson & Penney, 2015).

One way critical engagement takes place in this phase is when preservice teachers are encouraged to understand the limitations of the interpretations they make from assessment data. Preservice teachers need to learn how to be cautious with how they treat assessment data,

understanding that no form of assessment is perfect and that all carry inherent limitations and flaws that need to be acknowledged (Hay & Penney, 2013). Toward this end, assessment-literate teachers are able to recognize that assessment is a flexible process that is laden with issues related to validity, reliability, and objectivity that all influence what types of conclusions can be drawn about student learning. Preservice teachers should use their understanding of assessment limitations in order to take an intentional approach to how they manage assessment data and report student results (Lund & Veal, 2008). Acknowledging power dynamics inherent in the assessment process, preservice teachers should remember that assessment data is privileged and that student-level data should not be shared or displayed beyond the individual students and their families (Hay & Penney, 2013).

In field based settings, preservice teachers will have to navigate the technical capacities such as managing and conducting assessment but also understanding the sociocultural influences and consequences of assessment (DinanThompson & Penney, 2015). Toward this end, they need to determine rules, routines, and expectations for assessment practices in real settings just as they would with any other transition and use of equipment. Additionally, preservice teachers should not underestimate the realities of the school and the social dynamics of assessment between the teacher and the student. It is possible, for example, receiving a negative assessment or poor grade in physical education without explanation or justification of the grade would have implications for future learning (Hay & Penney, 2013). Preservice teachers should remember that many children may not be used to assessment in physical education, and should be intentional about how results are shared and information and interpretations are communicated with students. They should specifically work toward establishing a culture which utilizes more authentic forms and assessment for learning so that assessment becomes integrated into the teaching-learning

process and is used in a way that provides students with information about their learning that can be used to make further improvements. One way to do this might be for preservice teachers to teach students how to use assessment by making them aware of criteria instead of expecting them to understand. Moreover, with a critical perspective toward assessment, it is imperative that preservice teachers learn to and are held accountable for being reflective practitioners as they integrate assessment continuously while considering both the technical and social practices.

Conclusions and Final Thoughts

The purpose of this manuscript was to develop an evidence-based conceptual framework for progressively introducing preservice physical education teachers to assessment practices that are grounded in the occupational socialization theory literature. The framework is also reflective of Lund and Veal's (2008) recommendations for teaching preservice teachers about assessment practices, and Hay and Penny's (2013) assessment literacy framework. Along with others in the field of physical education (Braga & Liversedge, 2017; Goc Karp & Woods, 2008; Lorente-Catalán & Kirk, 2016; Lund & Veal, 2008), we argue that, given the challenges associated with employing quality assessment practices in physical education, an increased emphasis on developing intentional assessment practices among preservice teachers is warranted.

Recognizing barriers associated with assessment, physical education teacher education programs are faced with helping recruits question initial subjective theories that often deemphasize assessment and provide opportunities to utilize, reflect upon, and critique their own assessment practices. This process works toward increasing assessment literacy among preservice teachers while also adopting lessons learned through occupational socialization theory (Richards & Gaudreault, 2017; Templin & Schempp, 1989) related to how teachers are recruited into the physical education profession and prepared for life in schools.

The assessment literacy framework presented by Hay and Penney (2013) seeks to understand both technical and sociocultural complexities associated with developing and implementing meaningful assessment practices. The four phases of assessment literacy – comprehension, application, interpretation, and critical engagement – highlight the necessity to understand “how to design quality assessment tasks, scrutinizing assessment data and asking questions about what the assessment tells students” (Stiggins, 1991, p. 535). Previous research has indicated that preservice teachers often view assessment as an afterthought (Hay, Tinning, & Engstrom, 2015) and many struggle to apply it in their teaching practice (Columna et al., 2010; Lund & Veal, 2008). We suggest that preservice teachers need to practice assessment in different contextual environments so as to explore both technical and sociocultural complexities and be met with discussions surrounding their values and beliefs as an intentional component of their PETE programming.

Research has indicated that if shifts are to be made, preservice teachers need the opportunity to critically grapple with their beliefs through new experiences that provoke them to think in new and different ways (Goc Karp & Woods, 2008; Lorente-Catalán & Kirk, 2016; Lund & Veal, 2008). Additionally, assessment needs to be conceptually intertwined in alignment with curriculum and pedagogy, which encourages the use of more authentic assessment in line with assessment for learning. However, there is a need to understand how preservice teachers view assessment as a part of the teaching-learning process. This work should also be extended to understand how preservice teachers are able to transfer assessment practices learned through PETE programs into their work with children in schools (Lorente-Catalán & Kirk, 2016). Importantly, learning to design and implement assessment practices should include a focus on assessing children with a variety of learning needs, including those with disabilities. While our

arguments in the current manuscript focused on socialization and assessment literacy in a general sense, we believe that this work could and should be extended to include preservice teachers' perspectives on and ability to assess children with disabilities through future works. This seems particularly important given the focus in adapted physical education on using assessment not only to monitor learning gains, but also to determine placement in the least restrictive environment (Hodge, Lieberman, & Murata, 2012), which is enforced through federal legislation such as the Individuals with Disabilities Education Act (IDEA, 2004).

While PETE programs have a responsibility to prepare preservice teachers with the knowledge and skills required to effectively integrate assessment into their practice, a teacher's education does not end with the culmination of PETE (Knight, 2002). If physical educators hope to transfer quality assessment practices into schools, we need to consider how school structures and priorities facilitate or inhibit assessment practices (Brown & Evans, 2004). School administrators and professional development providers have a responsibility to help both beginning and veteran teachers develop assessment practices that include assessment for learning and position assessment as an integral component of the teaching-learning process (Hay & Penney, 2009). This work should acknowledge the barriers that physical educators face when using assessment in schools (Richards et al., 2013), and incorporate best-practices for continuing professional development, such as providing teachers a voice in the conceptualization of their learning experiences, embracing the social nature of learning through teacher learning communities, and providing ongoing support through teachers' attempts to implement what they have learned (Armour & Yelling, 2007; Fullan, 2007; Guskey, 2002). University faculty members could also develop partnerships with local schools to continuing teacher learning through formal teacher induction programming. Such approaches may ease the transition into

teaching and protect against the washing out of lessons learned in PETE (Blankenship & Coleman, 2009).

Building from the conceptual framework advocated in this manuscript, as well as the work of others (Hay & Penney, 2013; Lund & Veal, 2008), further research should seek to better understand the ways in which teacher socialization experiences frame receptivity to and ability to implement effective assessment practices. This work should examine the influence of pretraining socialization in physical education programs that may not utilize effective assessment practices, PETE programs in overcoming recruits' initial subjective theories and helping them develop skills and beliefs related to assessment, and school environments that may marginalize physical education and formally or informally inhibit the implementation of effective practices. In particular, this work should highlight the efforts of teachers who have been able to successfully overcome the constraints of their environments in order to implement highly effective assessment practices that are acknowledged and embraced by school administrators. This kind of research will help the physical education profession develop a better understanding of the contextual factors that support or inhibit assessment implementation, which could eventually help to promote the implementation of assessment strategies that seek to build upon and support student learning in physical education.

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Table 1.1

Four-phase conceptual framework for helping preservice teachers develop assessment literacy during teacher education

Focus (modified from Lund and Veal, 2008)	Overviewing the teaching/learning process	Learning tools to measure student learning	Implementing assessment and working data in EFE	Designing and implementing assessment plans and critiquing results
Literacy Focus (Hay & Penney, 2013)	Comprehension	Comprehension/ Application	Application/ Interpretation	Interpretation/Critical
Suggestions for Building Assessment Literacy	Create conversations related to perceived assessment practices in physical education (e.g. assessment <i>of</i> and <i>for</i> learning)	Employ assessment course (measurement & evaluation for physical education) in which students learn strategies and tools to use assessment	Intentionally select components of pedagogical models to guide assessment in EFE (Braga & Liversedge, 2017)	Intentionally build assessment into the curriculum planning as a continuous process
	Show and discuss examples of assessment utilized successfully in physical education with s specific emphasis on alignment with three learning domains	Provide examples of, and in class practice with assessment options for measuring learning in all three domains	Hold on campus debriefing sessions that focus on managing assessment in the schools	Reflect on implications and barriers to using assessment in the schools through written assignments and group discussions
	Case studies of teachers using assessment in PE (see Stroot, 2014)	Identify critical assessment components of activity, pedagogical model, or sport preservice teachers will teach (Lund & Veal, 2008)	Hold preservice teachers accountable for using both assessment of learning and assessment for learning in EFE	Hold students accountable for collecting raw data of student learning during student teaching
	Discuss intentional alignment of the teaching/learning process to promote curriculum, pedagogy and instruction to work together (Penney, Brooker, Hay & Gillespie, 2009)	Practice creating lessons where a record form must be designed, time within the lesson must be allotted, and data must be collected to demonstrate learner performance (Lund and Veal, 2008)	Discuss assessment with cooperating teachers to understand the realities of implementing assessment and accountability in schools	Have critical aspect of assessment literacy of K-12 students & navigating sociopolitical environment of administration and other teachers during seminars
	To promote legitimacy of assessment practices, discuss alignment between SHAPE America and PETE pedagogy practices (Lorente-Catalan & Kirk, 2016)	Learn to write performance-based objectives that are linked with assessment (Lund & Veal, 2008)	Employ assessment practices in field work in connection with methods courses to make connections between concepts and principles of assessment in real world settings (Ingersoll, Jerkins, & Lux, 2014)	Practice interpreting assessment results and determine their significance to the educational process (Lund and Veal, 2008) by being able to interpret K-12 student data, reflect on the meaning drawn from said data, and use that information to make informed planning decisions for future instruction
	Discuss how to identify what they need to assess to document pupil learning (Lund & Veal, 2008)	Round table discussions of barriers to assessment in physical education & have students come up with own solutions	Have an open discuss with students about how assessment practices and data can be used as an advocacy tool for the promotion of quality physical education programming	Integrate assessment results into the teacher reflection and continuous program improvement processes
	Writing autobiographies or teaching metaphors, and discussing subjective theories (Betourne & Richards, 2015)	Ensure preservice teacher reflections of K-12 student learning supported with written evidence (Strike & Posner, 1992)		

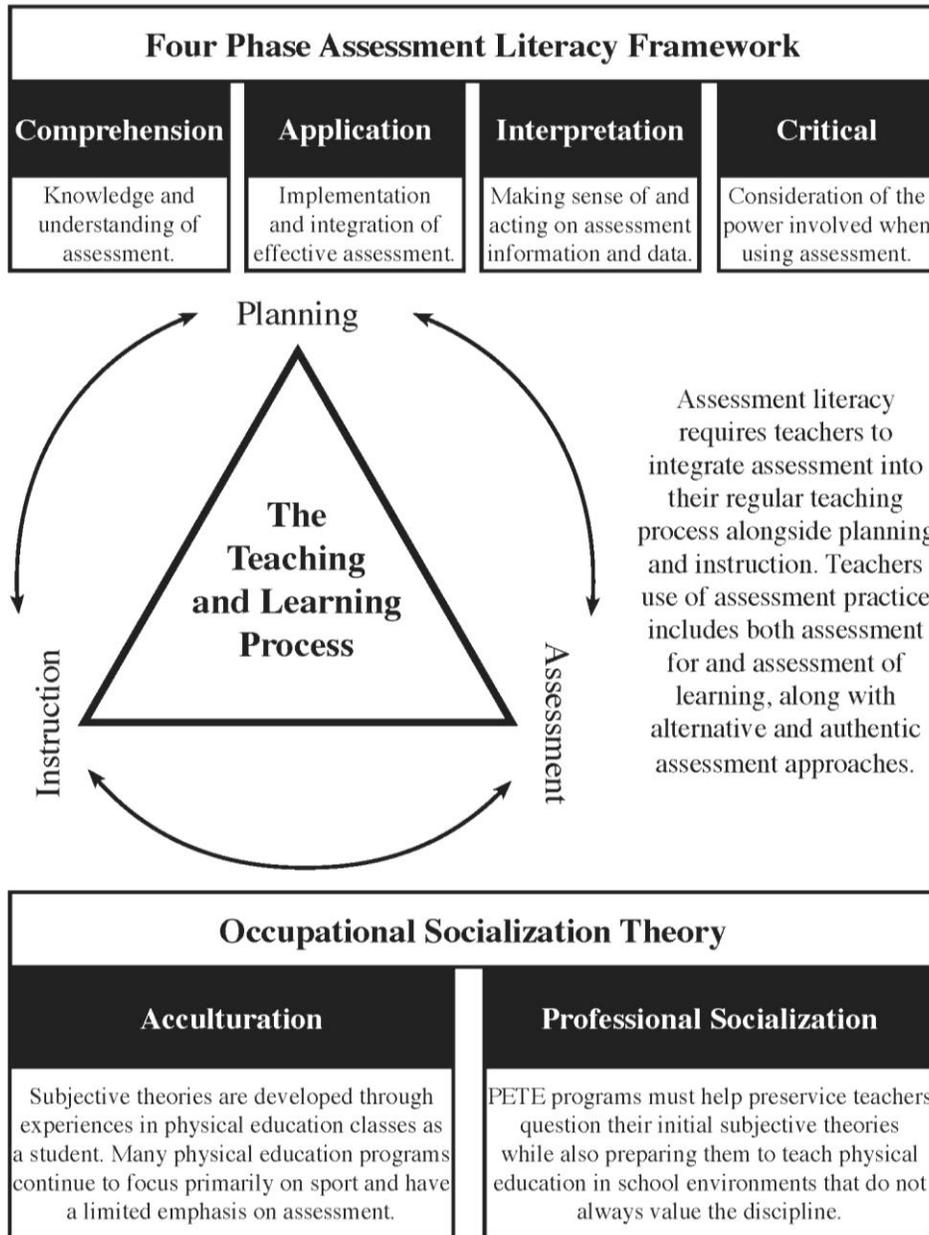


Figure 1.1 A research-based conceptual framework for helping pre-service teachers develop assessment literacy founded in occupational socialization theory.

CHAPTER 2

THE INFLUENCE OF SOCIALIZATION FACTORS ON PHYSICAL EDUCATORS' CONCEPTIONS OF ASSESSMENT AND PERCEIVED QUALITY OF ASSESSMENT

Abstract

Although scholars argue that assessment is an integral component of the teaching-learning exchange in physical education, it is still far from being regular, integral, widespread, and productive (López-Pastor, Kirk, Lorente-Catalán, MacPhail, & Macdonald, 2013). Given that many physical education recruits do not experience assessment during their formative education (Stern & Keislar, 1977), many develop belief systems that do not value assessment (Starck, Richards, & O'Neil, 2018). Understanding the lack of assessment in physical education, therefore, requires an examination of both workplace factors and individual beliefs. Little is known, however, about how these environments influence teachers' assessment literacy. However, it is likely that class size, perceptions of organizational support and marginalization influence teachers' assessment practices. Using occupational socialization theory (Richards & Gaudreault, 2017), this study sought to understand the influence of workplace factors and teachers' conceptions of assessment on the extent to which they report integrating quality assessment into their practice. Participants included 90 inservice physical education teachers (47 males, 43 females) from the state of Alabama who had been teaching for an average of 15.6 years and were teaching at primary ($n = 42$; 47%) and secondary levels ($n = 44$; 49%) with few teaching across schools ($n = 4$; 4%). Participants completed an online survey beginning with a demographic questionnaire. Measures of workplace factors included the Survey of Perceived

Organizational Support (Eisenberger, Huntington, Hutchison, & Sowa, 1986), the Marginalization subscale of the Physical Education Marginalization and Isolation Survey (Gaudreault, Richards, & Woods, 2016). The next section included Teachers' Conceptions of Assessment III (Brown, 2006), including (a) assessment makes schools accountable, (b) assessment makes students accountable, (c) assessment improves education, and (d) assessment is irrelevant. The survey concluded with the Quality of Assessment subscale from the Physical Education Assessment Questionnaire (Borghouts, Slingerland, & Haerens, 2017). Using IBM SPSS 23.0, teachers' perceived quality of assessment was regressed on workplace factors (perceived organizational support, marginalization, and class size) and conceptions of assessment using Ordinary Least Squares regression. The first regression model (adjusted $R^2 = .08$) did not include any significant predictors, so a second was run to examine if workplace factors and conceptions of assessment could be used to predict the belief that assessment improves education. In the second model (adjusted $R^2 = .66$) the following variables were significant: assessment makes schools accountable ($\beta = .45$, $p < .001$), assessment makes students accountable ($\beta = .19$, $p = .007$), assessment is irrelevant ($\beta = -.16$, $p = .047$), marginalization ($\beta = .14$, $p = .017$), and perceived organizational support ($\beta = .19$, $p = .001$). The importance of this study lies in how schools prioritize teacher effectiveness in conjunction with teachers' assessment literacy given their reported conceptions of assessment for accountability and irrelevance when using assessment for improvement (DinanThompson & Penney, 2015). Due to marginalization and perceived organizational support influences on utilizing assessment for improvement, there is a call to educate administration and policy makers on the contextual differences of physical education and what quality physical education teaching looks like (Rink, 2014).

Keywords: organizational socialization, assessment literacy, physical education, inservice teachers

Introduction

Although scholars have argued that assessment is an integral component of the teaching-learning exchange (Mercier & Doolittle, 2013), and one of the four essential components of physical education (Society of Health and Physical Educators America, 2009), assessment in physical education is still “far from being regular, integral, widespread, and educationally productive” (López-Pastor, Kirk, Lorente-Catalán, MacPhail, & Macdonald, 2013, p. 71). Assessment continues to be a fraught and troublesome area of physical education teacher’s practice (López-Pastor et al., 2013), with evidence suggesting that they lack assessment literacy and the belief that assessment is an integral component of the teaching-learning exchange (DinanThompson & Penney, 2015). *Assessment literacy* has been conceptualized as the development of knowledge and ability to utilize assessment in practice, and includes both the technical side of implementing assessments as well as a sociocultural dimension related to using assessment in a way that promotes student equity (Hay & Penney, 2013).

Understanding the lack of assessment in physical education requires an examination of both workplace factors and individual beliefs related to the role of assessment in the teaching-learning process (Capel, 2016; Lawson, 1983a). Theories of workplace socialization examine how individuals acquire the knowledge, skills, and dispositions needed to become effective members of specific profession (Bauer & Erdogan, 2011). Given that many physical education recruits do not experience assessment during their own formative education (Stern & Keislar, 1977), many develop belief systems that do not value the role of assessment in their practice (Starck, Richards, & O’Neil, 2018). Further, while policies and accountability systems have been developed to guide teachers’ practice in other subjects, many physical educators do not and are

not required to formally measure program outcomes at any level (Rink, 2013). This lack of accountability relates to the social construction of physical education as a marginalized subject and creates barriers to the integration of high quality assessment practices (Rink, 2013) with little value placed on teacher effectiveness and outcomes (Norris, van der Mars, Kulinna, Amrein-Beardsley, Kwon, & Hodges, 2017).

Schools present complex, sociopolitical environments that influence how teachers make decisions and where efforts are placed in their teaching (Day & Gu, 2010). Little is known, however, about how these environments influence teachers' assessment literacy. As conceptions of teaching, learning, and curricula strongly influence how teachers teach and what students learn (Brown, 2004), additional research is needed on whether teachers' workplace environments influence their conceptions of assessment. Further, given inservice teachers underdeveloped assessment literacy (DinanThompson & Penney, 2015) and minimal accountability placed on quality assessment practices in physical education in schools (Rink, 2013), there is also a need to examine the extent to which teachers perceive their assessment to be in line with best practices. Through the lens of occupational socialization theory (Richards, Templin, & Graber, 2014; Templin & Schempp, 1989), in this study we will seek to understand the influence of workplace factors and teachers' conceptions of assessment on the extent to which they report integrating quality assessment into their practice.

Conceptions and Practices of Assessment

Scholars have defined *conceptions* as including more than just beliefs, but rather a “general mental structure, encompassing beliefs, meanings, conceptions, proposition, rules, mental images, preferences and the like” (Thompson, 1992, p. 130). Given contextual differences across school sites, teachers' conceptions of assessments are viewed, experienced,

and interpreted differently within each school environment (Pratt, 1992). Moreover, as these conceptions are interconnected with past and current socialization experiences, teachers' conceptions of assessment may not align with prevailing perspectives within their school. This can lead to teachers prioritizing assessment for different purposes than for what is supported within their school. Recently, Hay and Penney (2013) drew attention to teachers assessment literacy as a means to promote quality assessment as it endorses an understanding of how to design quality assessment tasks, scrutinize assessment data, and ask questions about what assessment tells students. Often assessment standards, which are aimed to connect teaching and learning, are also tied to regulation and administration (Brown, 2004). It is no wonder than why many teachers' conceptions of assessment may be influenced by workplace environments when considering top down policy mandates that dictate what data be collected and how it be used.

The connection policy mandates with assessment is important because it is possible that high stakes assessment will alter teachers' conceptions of assessment towards a practice that is not authentic and does not produce equitable outcomes for students (DinanThompson & Penney, 2015). Using assessment that is authentic and relevant to the learner (Hay & Penney, 2013) can promote a mechanism of accountability to improve programs, contribute to student learning, and improve teachers' practices (MacPhail & Halbert, 2010). Many physical educators have indicated that they struggle to implement more authentic forms of assessment in their practice, however, because of factors including (a) lack of time, (b) lack of administrative accountability, (c) large classes, (d) lack of professional preparation, (e) and a belief that assessment is not necessary (James, Griffin, & Dodds, 2009; Rink, 2014). These barriers, which include both organization workplace factors and conceptions of assessment, suggest there is a gap in both policy and practice towards increasing assessment literacy. We, therefore, argue that teachers'

assessment conceptions are influenced by socialization experiences that occur across their lives and careers and these influences can be understood through the lens of occupational socialization theory (Starck et al., 2018).

Occupational Socialization Theory

Occupational socialization theory (Richards & Gaudreault, 2017; Templin & Schempp, 1989) takes a dialectical perspective on socialization (Schempp & Graber, 1992) into and through the physical education profession that views individuals as active participants in their own socialization. This is in contrast to functionalist perspective, which views individuals as being passively socialized into work roles and without the agency to resist those who seek to socialize them (Templin & Richards, 2014). Socialization occurs as the individual interacts with socializing agents over time and is usually discussed across a continuum that includes acculturation, professional socialization, and organizational socialization (Richards et al., 2014).

Acculturation relates to experiences that attract recruits into the field of physical education and contribute to their decision to enter a teacher education program (Lawson, 1983b). Prior to entering physical education teacher education (PETE), recruits develop subjective theories (Grotjahn, 1991) based on their apprenticeship of observation (Lortie, 1975) as children in school environments that frame their understanding of what it means to be a physical educator (Templin & Schempp, 1989). Recruits' subjective theories are often constructed with minimal insight into the technical and sociopolitical cultures of teaching (Richards, Templin, & Gaudreault, 2013) and tend to emphasize team sport content taught through traditional pedagogical approaches. Moreover, many recruits hold conceptions of assessment which are inconsistent with effective assessment practices due to limited exposure to quality assessment in physical education during their formative education (Lund & Veal, 2008; Starck et al., 2018).

Professional socialization describes how recruits learn to assume the role of a physical education teacher through a PETE program (Lawson, 1986). Given that socialization is a dialectical process, recruits may filter out information provided by the PETE program if it does not align with their subjective theories developed during acculturation (Richards et al., 2014; Schempp & Graber, 1992) such as resistance to assessment practices (Lund & Veal, 2008; Starck et al., 2018). Preservice teachers' learning about assessment in PETE is, therefore, dependent on their willingness to integrate it into their existing subjective theories of teaching (Lund & Veal, 2008). Research has indicated that when PETE faculty develop field-based teacher education programs, have a shared technical culture (Curtner-Smith, Hastie, & Kinchin, 2008; Lortie, 1975), and acknowledge recruits' acculturation, recruits may be more likely to question and reformulate their subjective theories (Richards et al., 2013). With hopes of challenging recruits' assumptions about assessments role in physical education, PETE programs are tasked with providing opportunities to implement assessment in authentic contexts and explore the realities of the school environment.

When new teachers enter the workplace, they begin *organizational socialization*, which is an ongoing process through which they are formally and informally taught what it means to teach physical education within a particular school (Lynn & Woods, 2010; Richards, Templin, Levesque-Bristol, & Blankenship, 2014). While some teachers begin their careers working in supportive environments that embrace the innovative perspectives, others encounter issues and challenges related to the school environment and culture (Curtner-Smith et al., 2008; Lawson, 1983a). Many schools continue to operate as custodial bureaucracies that lean toward preservation of the status quo and prioritize experience over innovative practices (Curtner-Smith, 2009). As a result, beginning teachers tend to lack authority and experience compared to

experienced colleagues and may feel pressure toward conformity (Ensign & Woods, 2017; Zeichner & Tabachnick, 1983) away from innovative practices. Often beginning teachers feel they lack formal training necessary to navigate these environments and may internally adjust their teaching to meet the organizational expectations of their schools (Blankenship & Coleman, 2009; Zeichner & Tabachnick, 1981). This can result in the washing out of practices emphasized in PETE, including the use of effective assessment (Starck et al., 2018).

As assessment decision making is largely influenced by the tension between teachers' internal beliefs and external influences imposed them within school environments and the larger educational system (Black & Wiliam, 1998), recognizing factors that influence assessment within the teaching-learning process is necessary. Previous research has identified several factors within the school organizational culture that serve to influence teachers working experiences and socialization, and may contribute to the washout of practices (Blankenship & Coleman, 2009; Lawson, 1989). In particular, evidence indicates that factors such as marginalization, perceived organizational support, and class size, are crucial in understanding teachers' experiences and school environments will likely have implications for assessment practices.

Subjects that are not viewed as central to the mission are socially constructed as marginal or peripheral (Armour & Jones, 1998; Sparkes, Templin, & Schempp, 1993). Physical education is often socially constructed as a *marginalized subject*, and physical educators are often rewarded for managing student behavior rather than their influence on student learning (O'Sullivan, 1989). Consequentially, this marginal status often leads to teachers believing their work is less impactful and important than others (Eldar, Nabel, Schechter, Talmor, & Mazin, 2003). Conversely, teachers have shown the ability to resist marginalization through advocacy and by developing relationships with colleagues and administrators in their schools (Gaudreault,

Richards, & Woods, 2017; Lux & McCullick, 2011). Toward this end, teachers who feel less marginalized are likely to be more committed to teaching and student learning (Weiss, 1999).

This can include the drive to facilitate more effective programs which include the use of state of the art curriculum, instruction, and assessment (Templin & Richards, 2014).

Related to feeling less marginalized, *perceived organizational support* has been discussed as the beliefs individuals hold about how they feel as if they are supported and valued by the larger culture operating within the workplace (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001). Feeling higher levels of organizational support has been found to facilitate teachers' commitment to the school as an organization (Eisenberger et al., 2001) and also improve their work performance (Bogler & Nir, 2012). In contrast, factors that limit organizational support factors, such as large classes, limited instructional time, insufficient equipment, and lack of collegial and administrative support hinder can hinder teachers' ability to utilize sound practices, such as using assessment to monitor student learning (Veal, 1990).

Finally, scholars have recognized large *class sizes* in physical education as a challenge may teachers face throughout their careers (Lynn & Woods, 2010; Veal, 1990). Specifically, literature has indicated that physical educators often forgo assessment practices in their teaching when they have large class sizes (Braga & Liversedge, 2017). This becomes particularly important as class size contributes to both teacher effectiveness and student learning by lessening student opportunities to respond and interact with the curriculum (Hastie & Saunders, 1991; McNeill, Fry, Wright, Tan, Tan, & Schempp, 2004). Moreover, class size seems to be a relevant factor which may contribute toward assessment conceptions and the quality of assessment practiced by physical education teachers as research has indicated that under such conditions, teachers feel that assessment is a less important task (Braga & Liversedge, 2017).

Rationale and Purpose of the Study

With the many functions and competing purposes of assessment (documentation, accountability, monitor learning, providing feedback, inform teaching, student learning), there is a need to better understand the personal and contextual factors that frame teachers' assessment literacy so as to increase the learning benefits of assessment while limiting potential negative consequences associated with inappropriate assessment, such as inequitable teaching practices (Hay & Penney, 2013). Through the lens of occupational socialization theory, teachers' conceptions of assessment are developed through socialization and are related to their subjective theories of teaching.

Figure 2.1 provides a graphical representation for understanding the impact of occupational socialization on teachers' perceived quality of assessment. As seen in the model, teachers' conceptions of assessment and workplace factors both directly influence teachers' perceived quality of assessment. In addition, workplace factors also directly influence teachers' conceptions of assessment and indirectly influence teachers' perceived quality of assessment through conceptions of assessment. Although not measured in the study, the representation of teachers' conceptions of assessment includes both teachers' acculturation and professional socialization. Occupational socialization theory literature supports this notion in that formative experience during K-12 physical education programs and training during a PETE program will have on teachers' conceptions of assessment (Starck et al., 2018). Next, the influences of workplace factors on teachers' organizational socialization are measured through the constructs of marginalization, perceived organizational support, and class size. Finally, the construct of teachers' perceived quality of assessment describes teachers' actual practices in physical education; however no direct observations were taken in the study.

Toward this end, the purpose of this study was to understand the influence of workplace factors and conceptions of assessment on physical educators' perceived quality of assessment in physical education. The research questions include the following: (1) to examine the relationship between teachers' conceptions of assessment and their perceived quality of assessment; and (2) to examine the relationship between various workplace factors and teachers' perceived quality of assessment.

Methods

Participants and Setting

Participants in this study were 90 physical education teachers from the state of Alabama. The sample comprised of 47 males and 43 females. The school districts from which participants were recruited from were employed in rural ($n = 32$; 36%), suburban ($n = 39$; 43%), and urban ($n = 19$; 21%) areas. With respects to racial affiliation, the bulk of the participants were Caucasian ($n = 71$; 79%), with fewer participants reporting African American ($n = 14$; 16%), mixed race ($n = 3$; 3%), and Native American ($n = 1$; 1%) and reported an average age of 43 years old ($SD \pm 11.20$). The average participant had been teaching for 15.6 years ($SD \pm 9.97$), and more than half of the participants had completed an advanced degree (58%). Finally, the participants were mostly split between primary ($n = 42$; 47%) and secondary teaching levels ($n = 44$; 49%) with a few itinerant teachers who worked across multiple school sites ($n = 4$; 4%).

Procedures and Instrumentation

Contact information of inservice physical education teachers were obtained through the publicly available school websites of school districts in Alabama. An email was sent to 1,300 teachers drawn from school websites with an invitation to participate in the study. Teachers who were interested in participating were asked to follow a URL link to an online survey. In addition

to the initial email, three follow-up emails were sent in two-week intervals to teachers who had not yet completed the survey. Prior to administration, seven inservice physical education teachers, and eight physical education doctoral students who did not subsequently participate in the study completed a pilot test to identify potential errors in the survey structure. This included identifying issues related to wording, flow of the survey, and to gauge approximate time of completion. This pilot resulted in minimal changes to the survey and estimated a completion time of approximately 15 – 20 minutes.

The final survey consisted of 65 items, including a 12 question demographic questionnaire, the six-item Survey of Perceived Organizational Support (SPOS; Eisenberger, Huntington, Hutchison, & Sowa, 1986), the five-item Marginalization (M) subscale of the Physical Education Marginalization and Isolation Survey (PE-MAIS; Richards, Gaudreault, & Woods, 2017), the 27-item Teachers' Conceptions of Assessment III (COA-III; Brown, 2006), and the 15-item Quality of Assessment (QA) subscale from the Physical Education Assessment Questionnaire (PEAQ; Borghouts, Slingerland, & Haerens, 2017).

Perceived organizational support. Perceived organizational support was measured using six-items from the SPOS (Eisenberger et al., 1986). Sample items included: “my school really cares about my well-being” and “my school cares about my opinion.” Items were measured using a seven-point, Likert-type scale. For this scale, “very strongly disagree” represented the lowest response stem and “very strongly agree” was the highest. Internal consistency reliability has been demonstrated in previous research (Eisenberger et al., 1986), and was excellent in the current study (Cronbach’s $\alpha = .98$).

Marginalization. Marginalization was measured with the associated five-item subscale from the PE-MAIS (Gaudreault et al., 2017). Sample items included: “I feel as if physical

education is a lower class subject in my school” and “as a physical education teacher, my opinions are valued in my school (reverse scored).” Items were measured using a seven-point, Likert-type scale. For this scale, “strongly disagree” represented the lowest response stem and “strongly agree” was the highest. Internal consistency for the marginalization subscale has been demonstrated through previous research (Gaudreault et al., 2017) and was good in the current study (Cronbach’s $\alpha = .82$).

Teachers’ conceptions of assessment. Teachers conceptions of assessment were measured using the Abridged Teachers’ Conceptions of Assessment III Inventory (Brown, 2006), which examined conceptions of assessment along the four domains including (a) assessment makes schools accountable (ASC; three items), (b) assessment makes students accountable (AST; three items), (c) assessment improves education (AIE; second order construct including four subdomains and 12 items), and (d) assessment is irrelevant (AIR; three items). Example items included “assessment is an accurate indicator of a school’s quality” (ASC) and “assessment is integrated with teaching practice” (AIE). Items were measured using a six-point, Likert-type scale. For this scale, “strongly disagree” represented the lowest response stem and “strongly agree” was the highest. In previous research, the inventory showed good model fit through confirmatory factor analysis (Brown, 2006), and internal consistency reliability was excellent in the current study (Cronbach’s α ranged from .90 to .94).

Quality of assessment. The 15-item QA subscale from the Physical Education Assessment Questionnaire (Borghouts et al., 2017) was adopted as a second-order construct to measure perceived quality aspects of assessment in physical education along five subdomains that included (a) clear purpose, (b) clear targets, (c) sound design, (d) effective communication, and (e) student involvement. Sample items included, “all physical education teachers in my

school use identical criteria for assessment” and “assessment criteria are shared with my students prior to assessment” Items were measured using a five-point, Likert-type scale. For this scale “strongly disagree” represented the lowest stem and “strongly agree” was the highest. Internal consistency reliability has been demonstrated through previous research (Borghouts et al., 2017) and was excellent in the current study (Cronbach’s $\alpha = .91$).

Class size. Class size was measured by asking teachers to report the number of students in their average class. Teachers responded to the question of “What is the average number of students in the classes you teach?”

Data Analysis

The analysis process began with standard procedures for data cleaning and screening (Tabachnick & Fidell, 2013). The data were then coded as necessary with Cronbach’s internal consistency determined for scales and subscales to which all factors exceeded the $\alpha = .70$ standard for internal consistency as well as indicators for each of the factors were averaged into composite scores.

Relations between physical education teachers’ conceptions of assessment and workplace factors on perceived quality of assessment were examined by way of Ordinary Least Squares (OLS) regression. The approach to OLS model building followed a hierarchical blocking procedure. As a part of this approach, main and interaction effects were tested between predictors and outcomes, and also monitored (changes to) each model’s R-squared in order to maximize each model’s explanatory power. The final model reflects model estimates that demonstrate significant main effects between predictors and outcome (interaction effects were not significant) and also had the best explanatory power. In order to maintain appropriate level of *statistical power* in our analyses, our OLS models were limited to 7 predictor variables due to the

sample size (Austin & Steyerberg, 2015). The “alpha” threshold for statistical significance in our analysis was “.05”. All analyses were conducted using IBM SPSS 23.0.

Results

Descriptive Statistics and Bivariate Correlations

Table 2.1 displays several kinds of descriptive statistics. At the top of the table is a correlation matrix which shows bivariate associations between the study constructs. These associations were generally small; suggesting that the relationships between teachers’ perceived quality of assessment, conceptions of assessment, and workplace factors is generally weak even in the absence of controls. The bottom of Table 1 provides information about the means, standard deviations, and range of each construct, as well as common indicators of skew.

The Relationship between Perceived Quality of Assessment, Conceptions of Assessment, and Workplace Factors

As shown in Table 2.2, our first OLS regression model estimated the association between teachers’ perceived quality of assessment and the following predictor variables: assessment makes schools accountable, assessment makes students accountable, assessment improves education, assessment is irrelevant, marginalization, perceived organizational support, and class size. This association was not significant. Moreover, the Adjusted R-Square for this model was .08, indicating that the model had very weak explanatory power.

As a consequence of the aforementioned null findings, concerns were raised about the research question that was initially asked regarding teachers’ perceived quality of assessment. To this end, it might be that teachers may not be using assessment in their practice; therefore we should seek to understand teachers’ conceptions of assessment first. Toward this end, the researchers performed an alternative set of post-hoc regression analyses with teachers’ valuation

toward assessment in their professional practice specified as an outcome variable of assessment improves education. Our final OLS regression model is presented in Table 2.3. In this model assessment improves education is the outcome variable and assessment makes schools accountable, assessment makes students accountable, assessment is irrelevant, marginalization, perceived organizational support, and class size are specified as predictors. This model yields an Adjusted R-squared of .66, indicating that over two-thirds of the variance in assessment improves education is explained by the included predictor variables.

In addition to the model Adjusted R-squared, this final model yielded several significant coefficients. First, the relationship between assessment makes schools accountable and assessment improves education was significant, ($\beta = .45, p < .001$). Next, there is a significant relationship between assessment improves education and assessment makes students accountable, ($\beta = .19, p < .005$). Further, significant relationships were found between assessment is irrelevant and assessment improves education, ($\beta = -.16, p < .005$), and between assessment improves education and perceived organizational support, ($\beta = .19, p < .001$). Finally, a significant positive relationship yielded between marginalization and assessment improves education, ($\beta = .14, p < .005$). Class size did not reveal a statistically significant relationship with assessment improves education.

Discussion

Informed by occupational socialization theory (Lawson, 1986; Templin & Schempp, 1989), the purpose of this study was to understand the influence of workplace factors and conceptions of assessment on teachers' perceived quality of assessment practice. Initial results, however, indicated that the predictor variables did not significantly predict perceived quality of assessment. One explanation for these findings may be contributed to misconceptions teachers

hold related to the purposes of assessment. Following the occupational socialization theory literature, recruits' subjective theories related to what constitutes quality physical education are often flawed or incomplete (Richards et al., 2013) including the role of assessment (Starck et al., 2018). If these misconceptions are not challenged through PETE (Richards et al., 2014), recruits subjective theories will likely be reflected in inservice teachers' beliefs and practices. This may mean that they do not fully understand the role of assessment as part of a quality physical education program and therefore will not include it in their practice (DinanThompson & Penney, 2015).

Further, factors operating within school environments during organizational socialization, such as pressure to conform to custodial teaching practices that do not recognize the importance of assessment, may reduce the extent to which assessment is used (Curtner-Smith et al., 2008; Veenman, 1984). Given that many aspiring physical educators do not value assessment, school cultures do not support assessment, and there are no reasonable accountability measures to ensure that physical educators are using assessment regularly (Rink, 2013), it is possible that the teachers in this study were not using assessment regularly, which makes questions about the quality of their assessment practice premature. This interpretation is supported in part by the non-significant relationship between perceived quality of assessment and assessment to improve education, and hints to a larger issue related to physical educators' assessment literacy that should be explored in future research (Hay & Penney, 2013).

The non-significant findings from the first regression analyses led us to run an additional model to consider the relationship between teacher's assessment conceptions and workplace factors with the understanding that assessment conceptions likely precede perceived quality of assessment. In both models, the predictor variable of class size did not reveal a significant

relationship with assessment improves education or perceived quality of assessment. Although literature has suggested that large class size has an influence on school and teacher quality as well as academic achievement (Braga & Liversedge, 2017; Hastie & Saunders, 1991), one possible explanation for the non-significance in this study may be due to teachers' holding conceptions of assessment from an accountability perspective. With this in mind, teachers viewed assessment from a high stakes perspective which may have rendered assessment for improvement meaningless regardless of class size. This subsequent analysis however does suggest that teachers' conceptions of assessment to improve education can be explained, at least in part, by the predictor variables of assessment makes schools accountable, assessment makes students accountable, assessment is irrelevant, marginalization, and perceived organizational support.

First, teachers in this study recognized their assessment conceptions to make schools and students accountable as significant constructs in using assessment to improve education. One rationale for the variance explained by the school and student accountability variables might be due in part to policy efforts which emphasize assessment as a primary mechanism of evaluation through which schools are held accountable from a performativity standpoint (DinanThompson & Penney, 2015) and evaluate teachers by student performance outcomes (Rink, 2013). Interestingly, as many policy efforts to measure teacher effectiveness are based on a model that does not differentiate physical education from other subjects (Rink, 2014), teachers may not see the relevance of utilizing assessment for other purposes. How each school prioritizes effectiveness, therefore, serves as a mechanism of accountability. Research continues to indicate, for example, that administration still tends to prioritize busy, happy, good practices (Norris et al., 2017; Placek, 1983) in physical education, which contributes to a lack of innovation in the

discipline. Moreover, given the literature supporting teachers' lack of assessment literacy and misconceptions of assessment, teachers will continue to prioritize high stakes assessment (Hawley & Valli, 1999) unless their conceptions of assessment are met with discussions and training is provided which values assessment in the teaching-learning process.

The significant relationship identified between assessment improves education and assessment is irrelevant is consistent with previous research indicating that teachers place low importance on assessment in physical education (Braga & Liversedge, 2017). Literature from occupational socialization theory suggests that because many physical education teachers do not experience physical education programs which utilize assessment in ways other than traditional formats (DinanThompson & Penney, 2015), their conception of what it means to be a physical educator (Templin & Schempp, 1989) does not include assessment. Further, research has indicated that PETE programs often have little influence on changing recruits conceptions of assessment (Curtner-Smith, 1999; Lund & Veal, 2008) and instead maintain a belief that assessment is irrelevant upon entering their first job. Further, literature suggests that there are few teachers who use innovative practices such assessment, and those who do, face resistance and conform to custodial practices (Hamodi, López-Pastor, & López-Pastor, 2017). Given the current culture surrounding assessment in many schools (Rink, 2013) and teachers' lack of assessment literacy, there is call for PETE programs to intentionally build assessment into programs to help future teachers understand its role as a part of the teaching-learning process (DinanThompson & Penney, 2015; Goc Karp & Woods, 2008; Lund & Veal, 2008; Starck et al., 2018).

The final regression analysis also indicated that marginalization was a significant, positive predictor of teachers' conception of assessment to improve education that could be

explained in two competing theories. First, teachers' conception that assessment is used to make schools accountable emphasizes its role in publicly demonstrating schools and teachers who are delivering quality instruction (Smith & Fey, 2000) and identifies those who are effective. However, those who are not valued and viewed as effective may be presented with consequences (Brown, 2004). From this perspective, with policy producing a mechanism of what is valued with more or less importance (Hay & Penney, 2013), physical education teachers' feelings of marginalization may help to explain the importance placed on assessment to improve education. Although in contrast to research in physical education, teachers in these schools may feel pressure to adapt measures of assessment for school accountability with the goal of minimizing feelings of marginalization to legitimize physical education as a field and afford them status in their school (Richards & Hemphill, 2017).

The second explanation for the marginalization as a positive predictor of assessment to improve education is in line with much of the occupational socialization literature. Given the limited demonstration of authentic assessment in inservice physical education teaching (López-Pastor et al., 2013), physical educators who conceptualize assessment to improve education may feel marginal effects from their own peers who do not conceptualize assessment the same way (Hamodi et al., 2017). Occupational socialization theory indicates that teachers who try to utilize innovative practices, such as assessment, may be confronted by more experienced colleagues and administrators who do not believe that physical education should include assessment (Norris et al., 2017). This can result in a pressure to conform so that teachers who use assessment in an attempt to strategically redefine (Lacey, 1977) the status quo of their school, ultimately face social risks. In other words, given the belief in assessment as a way to improve physical education is incongruent with the prevailing understanding of physical education as a non-

assessed subject, it may actually cause additional feelings of marginalization. Teachers who have reported valuing assessment for improvement of education, though when feeling marginalized, may be challenged towards the continuation of the non-teaching physical education teacher cycle (Curtner-Smith, 2009).

Finally, perceived organization support was a significant and positive predictor in understanding teachers' conception that assessment improves education. Research has indicated that teachers who perceive organizational support from their school organization in which they are working, are more likely utilize effective teaching practices central to the mission of the school (Eisenberger, Cummings, Armeli, & Lynch, 1997; Hochwarter, Kacmar, Perrewe, & Johnson, 2003). In contrast, lack of perceived organizational support may hinder physical education teachers' ability to utilize sound practices such as using assessment to monitor student learning (Hastie & Saunders, 1991; Veal, 1990). However, as many school administrators' priorities often do not align with innovative practices learned in PETE, teachers may perceive less organizational support if the school environment and culture do not cultivate innovative practices toward utilizing assessment in physical education (Curtner-Smith et al., 2008).

Implications for Practice

Particularly, the importance in this study lies in how each school prioritizes and determines teacher effectiveness as well as recognition of teachers' lack of assessment literacy. As many administrators rating of teacher effectiveness is based on little training and subjective measures (Norris et al., 2017) and more often toward busy, happy, good practices (Placek, 1983), teachers' should advocate for what effectiveness looks like and identify outcomes for their program. Therefore, there is a call to educate administration and policy makers on the contextual

differences of physical education and what quality physical education teaching looks like.

However, if actual changes are to be made, this cannot be left to teachers alone, “our state and national organizations, pedagogy faculty in our colleges and universities, district coordinators, and teachers in the field” all need to be involved in the process (Rink, 2014, p. 285).

In addition to advocating and educating policy makers, this study also draws attention to the need to increase inservice teachers’ assessment literacy. Due to the conceptions which were presented by teachers, it is clear PETE faculty need to work alongside and collaborate with inservice teachers to help to develop assessment literacy while recognizing workplace complexities. Equally important, there is also a strong need for PETE programs to intentionally build assessment into programs to develop assessment literacy among preservice teachers. To reduce the risks of reality shock and a washout of practices upon entrance into the schools, preservice teachers need to challenge their assumptions while navigating the realities of the school environment (Starck et al., 2018).

Limitations and Future Directions

This study sought to provide a large-scale quantitative analysis of the relationship between inservice teachers’ conceptions of assessment, influences of workplace factors, and their perceived quality of assessment. While some important conclusions can be drawn from this work, there are some important limitations that should be taken into consideration. First, the sample size and response rate were rather low. While lower response rates do not necessarily mean lower response representativeness (Lambert & Miller, 2014), the small sample limited our opportunities to explore relationships among the variables. A larger sample, for example, would have allowed us to consider more nuanced statistical techniques such as structural equation modeling. Second, the sample population in this study was contained to only a small population

of teachers in the state of Alabama, therefore the results may not be representative of all regions of the state, U.S., or global community. Particularly, it is important to consider the differing policies that guide physical education including the use of assessment from state to state as well as the teacher/role conflict many teachers are presented with. Future scholars should survey teachers in others regions to see if the findings are transferable beyond the U.S. southeast.

Due to the individualistic nature of teaching, Brown (2004) suggested that it is critical that assessment conceptions and relationships of conceptions be made visible. As no variance was explained in teachers' perceived quality of assessment, how assessment is understood by physical education teachers in the teaching-learning process should be at the forefront of future research. To this end, there is relevance in acknowledging barriers and facilitators which lead to the increased and effective use of assessment practices to promote equity among children in physical education. Moreover, as previously stated by DinanThompson and Penny (2015), there is a strong need to qualitatively look at inservice teachers' and preservice teachers assessment literacy from a sociocultural perspective. Specifically, investigators should consider what influences teachers' decision making and how they understand the teaching-learning process to ensure student learning. In addition, research should seek to understand how physical education teacher effectiveness is understood and prioritized within in various school contexts. Finally, developing and testing interventions during PETE that overcome the influence of acculturation and help preservice teachers develop assessment literacy (Starck et al., 2018) is necessary.

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Table 2.1

Descriptive Statistics and Bivariate Correlations for Assessment Variables

Scale	QA	AIE	ASC	AST	AIR	POS	M	CS
QA	1.00							
AIE	.26*	1.00						
ASC	.21	.71**	1.00					
AST	.22*	.53**	.48**	1.00				
AIR	-.13	-.21*	-.15	.10	1.00			
POS	.22*	.41**	.27**	.17	-.17	1.00		
M	-.25*	-.19	-.25*	-.05	.18	-.70**	1.00	
CS	-.01	-.09	-.11	-.05	.10	.08	-.06	1.00
Mean	3.22	3.83	3.72	4.11	3.15	5.27	3.53	57.61
SD	.83	.86	1.09	1.00	.70	1.46	1.35	30.29
Skewness	-.35	.11	-.13	-.35	.25	-.71	.28	1.30
Kurtosis	-.26	.45	-.66	.18	-.09	.40	-.39	1.20
Minimum	1.27	1.42	1.00	1.00	1.56	1.00	1.00	25.00
Maximum	5.00	6.00	6.00	6.00	4.89	7.00	7.00	150.00

Note. Variables POS & M were measured on a seven-point, Likert-type scale ranging from 1 to 7. AIE, ASC, AST, & AIR were measured on a six-point, Likert-type scale ranging from 1 to 6. QA was measured on a five-point, Likert-type scale ranging from 1 to 6. QA = Perceived quality of assessment; AIE = Assessment improves education; ASC = Assessment makes schools accountable; AST = Assessment makes students accountable; AIR = Assessment is irrelevant; POS = Perceived organizational support; M = Marginalization; CS = Class size; SD = Standard deviation. ** $p < .01$; * $p < .05$.

Table 2.2

Regression Table of Conceptions of Assessment Influencing Perceived Quality of Assessment

	B	SE B	Beta (β)	t	Sig. (<i>p</i>)
Constant	3	.881		3.404	.001
Assessment Makes Schools Accountable	-.103	.120	-.134	-.790	.432
Assessment Makes Students Accountable	.134	.113	.158	1.182	.240
Assessment Improves Education	.292	.173	.305	1.685	.096
Assessment is Irrelevant	-.085	.130	-.072	-.657	.513
Marginalization	-.168	.095	-.274	-1.777	.079
Perceived Organizational Support	-.071	.093	-.125	-.769	.444
Class Size	.003	.003	.114	1.080	.283

*Adjusted R*² = .08

F = 7,81, sig *F* change: *p* = .05

Table 2.3

Regression Table of Variables Influencing Assessment Improves Education

	B	SE B	Beta (β)	t	Sig. (<i>p</i>)
Constant	.523	.558		.936	.352
Schools Accountable	.451	.066	.561	6.793	.000
Students Accountable	.191	.069	.216	2.770	.007
Assessment is Irrelevant	-.163	.081	-.131	-2.020	.047
Marginalization	.142	.058	.222	2.443	.017
Perceived Organizational Support	.187	.055	.312	3.369	.001
Marginalization	.142	.058	.222	2.443	.017
Class Size	-.002	.002	-.080	-1.253	.214

*Adjusted R*² = .66

F = 6,82, sig *F* change: *p* < .000

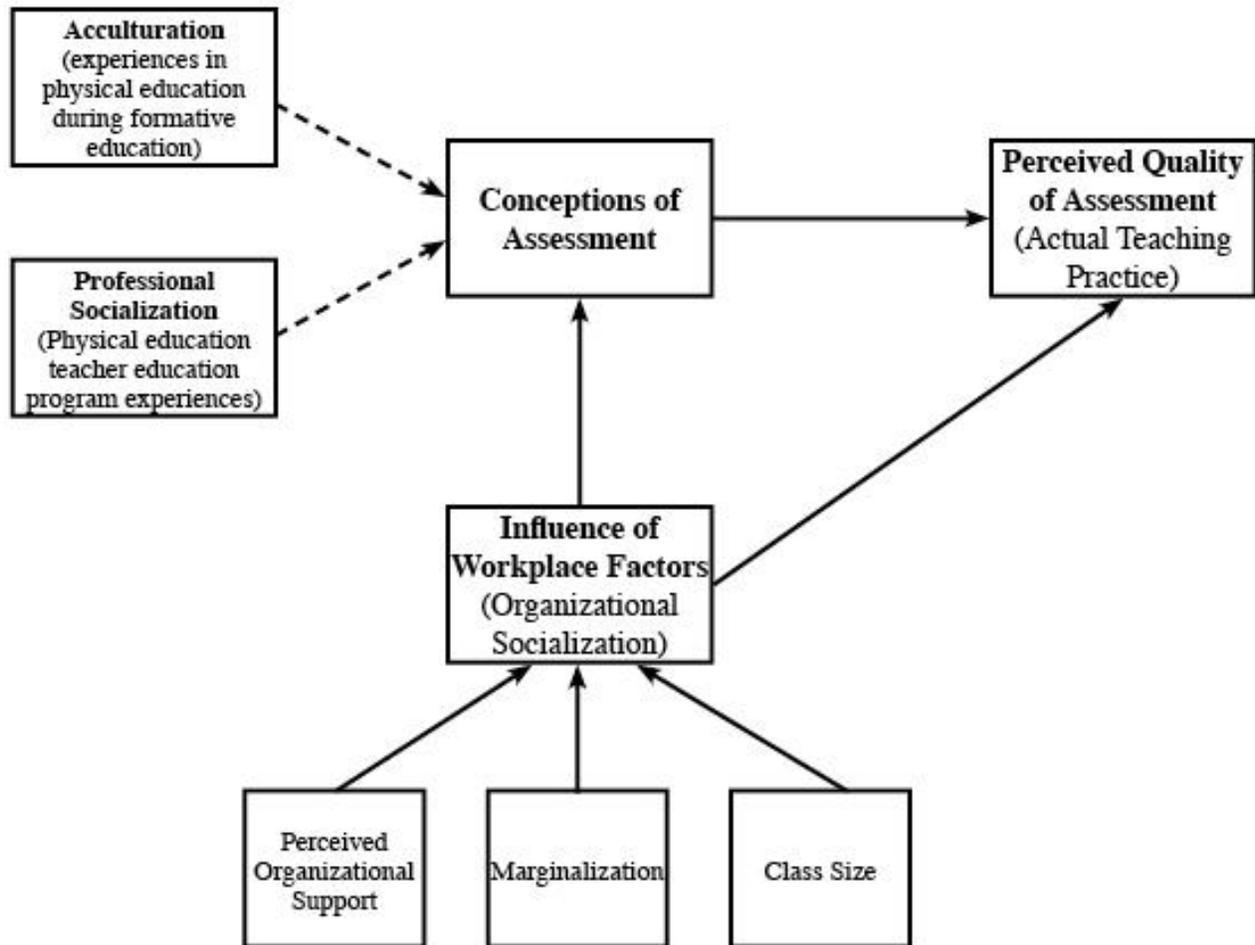


Figure 2.1 Visual representation of the impact of occupational socialization on teachers' perceived quality of assessment.

CHAPTER 3
PRESERVICE TEACHERS ASSESSMENT LITERACY WITHIN
MODELS BASED PRACTICE

Abstract

Regular assessment of student practices in Sport Education is a critical part of the pedagogical model, however learning to plan with curriculum, pedagogy, and assessment in alignment has demonstrated to be a difficult task for preservice teachers. Using the assessment literacy framework, the purpose of this study was to explore how preservice teachers understand and enact the message system (assessment, pedagogy, and curriculum) while employing the Sport Education model in an early field experience. Specific research questions included: (a) how do preservice teachers make instructional decisions related to models-based practice?, (b) how and to what degree assessment practices are driven by the model?, and (c) how preservice teachers' understanding and beliefs of assessment correspond with their practices? Six participants were purposely selected due to enrollment in advanced physical education methods course and had experienced success in previous Sport Education seasons. Preservice teachers taught Sport Education at local elementary schools for 12 class periods (45 minute lessons) totaling 540 instructional minutes. Data collection included interviews (formal, focus group and informal), reflective journals, passive participation observation, document collection, and video recordings of lessons. Analysis included inductive and deductive analysis using open, axial, and final coding. Trustworthiness included data triangulation, peer debriefer, negative case analysis, member checking, and an audit trail. Results from the study revealed a lack of assessment

literacy upon implementation in a field experience setting. Participants reported a lack of time and feeling pressure to get through all features of the model in order to use assessment effectively. In contrast, one participant felt the use of assessment afforded him the ability to shift control to the students as the model progresses. Although the preservice teachers demonstrated an understanding and value of assessment, they struggled to utilize assessment as a critical part of the process in a field based setting. Future research should explore how the message system is understood and enacted in different contextual settings.

Keywords: models-based practice, physical education teacher education, assessment, teaching-learning process

Introduction

Assessment in physical education has changed over the years toward the use of integrated and alternative assessment practices, however, scholars lament that assessment is “far from regular, integral, widespread, and educationally productive” (López-Pastor, Kirk, Lorente-Catalán, MacPhail, & Macdonald, 2013, p. 73). While recognized as a process of collection and interpretation of information on students’ performance (Desrosiers, Genet-Volet, & Godbout, 1997), assessment can also serve to communicate subtle messages, while shaping the values and expectations for learning (Redelius & Hay, 2009). Although assessment appears to be embedded in inservice teachers practices, it continues to remain superficial (DinanThompson & Penney, 2015) in how it is understood as a part of the teaching-learning process. Furthermore, assessment tends to be the ‘missing ingredient’ in quality educational practices as it is assumed or implicit in pedagogical and curriculum knowledge but is rarely taught (DinanThompson (2013). Empirical evidence suggests that preservice and novice teachers struggle to take assessment theory from

the classroom and apply it in their teaching practice (Collier, 2011) and possess a lack of literacy (DinanThompson & Penney, 2015).

Upon entering the schools many preservice teachers feel unprepared to teach when they realize that what is taught in schools is different than how they were prepared to teach (Wood, 1996). Consequently, there is a call for physical education teacher education (PETE) programs to not only provide students with knowledge, skills, and dispositions to become effective teachers but also prepare them for the realities of schools (Richards, Templin, & Gaudreault, 2013). As an essential component of the teaching-learning process (Society of Health and Physical Educators America, 2009), is imperative for PETE programs to prepare preservice teachers to understand and appropriately use assessment in schools. However, the realities of schools can also undermine efforts to implement quality physical education practice and lead to the washing out of behaviors learned during PETE in favor of more traditional pedagogies or non-teaching approaches (Blankenship & Coleman, 2009).

Many preservice teachers did not experience a K-12 physical education program which utilized assessment effectively (Lund & Veal, 2008), instead they experienced many traditional and evaluative forms of assessment such as the Presidential Fitness test or the FITNESSGRAM test (López-Pastor et al., 2013). Empirical evidence suggests that therefore many preservice teachers commonly reduce assessment to an isolate event instead of being tied to the foreground of learning (Hay & Penney, 2013). Moreover, many preservice teachers demonstrate resistance of assessment activities due conceptions, beliefs, and values they hold (Capel, 2016; Lawson, 1983a).

Therefore, if effective practices are to include more than a superficial understanding of assessment, then preservice teachers need to have the technical capacities for conducting

assessment and understand the broader sociocultural environment they teach in and contribute to (Hay & Penney, 2013). Moreover, since assessment knowledge, practices, and the interrelation between curriculum, pedagogy, and assessment are critical to attaining educative outcomes (DinanThompson, 2013), there is a need for thorough understanding of how preservice teachers learn to use assessment. Although there are initial reports describing preservice teachers' assessment practices in the recent literature (Goc Karp & Woods, 2008; Lorente-Catalán & Kirk, 2016; Lund & Veal, 2008) there is a dearth of research on how preservice teachers understand and utilize assessment in the teaching-learning process and during field based experiences.

Assessment Literacy Framework

Assessment literacy framework can serve as a valuable framework to critically examine the technical qualities and sociocultural practices teachers and students possess towards assessment (Hay & Penney, 2013). Literacy is often recognized as the ability to read and write, however, Stiggins (1991) work on assessment literacy has shown the need to include a critical component to its structure. Assessment literacy is then conceptualized not only as an understanding of assessment and its tools, but an “understanding [of] how to design quality assessment tasks, scrutinize assessment data, and ask questions about what assessment tell students” (Stiggins, 1991, p. 535). Recently, Hay and Penny (2013) further extended this notion of assessment literacy in physical education asserting that assessment is fundamentally social and contextually bound. Thus, including both technical and sociocultural aspects, the assessment literacy framework (Hay & Penney, 2013) is theorized to comprise of four inter-related components of assessment comprehension, assessment application, assessment interpretation, and critical engagement with assessment. Moreover, assessment literacy framework provides insights into how teachers understand and utilize assessment as a part of the teaching-learning

process while acknowledging the sociopolitical influences and realities of schools settings and the influence on their ability to become effective physical education teachers (Richards & Gaudreault, 2017).

Comprehension

The first component in the literacy framework, *comprehension*, is defined as “focusing on knowledge and understanding of assessment expectations and conditions of efficacy” (Hay & Penney, 2013, p. 73). Key to teachers’ comprehension is how assessment is understood in alignment with curriculum and pedagogy as a part of the teaching-learning process. Specifically, this includes a general understanding of assessment, facilitation of student learning, promotion of authentic learning experiences, and recognition of the interpretations and basis for judgments made. In addition to grasping the relationship amongst the teaching-learning process, comprehension also encompasses one’s technical skills which include his or her knowledge of assessment tools, assessment techniques, and being able to articulate the logic to which it is utilized in teaching. For example, this might include differentiating between using assessment *for* learning or assessment *of* learning (Black & Wiliam, 1998) and discerning and incorporating formative and summative assessments for their intended purposes (Lund & Kirk, 2010) throughout a unit.

However, because many students enter a physical education teacher education program without much insight into quality assessment through their apprenticeship of observation (Lortie, 1975), their ideologies as a teacher (Templin & Schempp, 1989) have a direct influence on their beliefs and values for physical education teaching (Curtner-Smith, 2017) and make up much of their subject theories (Richards et al., 2013). Further, pre-service teachers’ understanding is often incomplete and or may emphasize traditional teaching methods where assessment is regarded as

an obstacle instead of a necessary part of the teaching-learning process (Matanin & Tannehill, 1994). Moreover, such beliefs have an impact on how future teachers engage with and comprehend assessment (Brown, 2004).

Application

While “focusing on the conduct of assessment in terms of either teacher implementation or student engagement,” the second component of literacy framework, *application*, acknowledges the need for preservice teachers to practice using assessment tasks in different environments while providing evidence of student learning (Hay & Penney, 2013, p. 73). Fundamentally, application of assessment is inseparable from comprehension in that it requires one to apply what they know about assessment in their teaching. With this in mind, a teacher’s comprehension of assessment as a part of the teaching-learning process will result in a different outcome or application based on how it is understood.

Application of assessment is a dynamic process that occurs between the teacher and the student which impacts on how students learn. From a sociocultural perspective, teachers should take into consideration the context when collecting and reproducing data on student learning to ensure it is based on valid assumptions to which interpretations can be made from (Hay & Penney, 2013). For example, upon application, teachers must ensure they provide students with expectations of criteria in advance of utilizing assessment and must articulate the importance of those criteria to focus student attention. However, it is often that preservice teachers don’t have opportunities to practice application of assessment in alignment with curriculum and pedagogy, making it difficult for them to question their own subjective theories and move towards espousing values and beliefs representative of effective practices in PETE (Van Maanen & Schein, 1979). As there are incongruences between assessment practices advocated in teacher

preparation programs and the assessment practices of in-service teachers (Wood, 1996), preservice teachers may use poor practices in field experiences to reaffirm their subjective theories and undermine PETE programs (Sofa & Curtner-Smith, 2005). Therefore, due to the lack of assessment culture in student teaching placement sites and non-established assessment culture in class, many preservice teachers have found it difficult to use assessment application in a field based experience (Lund & Veal, 2008).

Interpretation

The third component, *interpretation* is defined as “focusing on making sense of and acting on the information that is collected through assessment practices, which includes traversing and negotiating the social relations of assessment,” while also developing a plan to act upon the assessment information they have gathered (Hay & Penney, 2013, p. 73). Hay and Penney (2013) suggest that interpretation of assessment relates to the two primary purposes of assessment in that the data allow teachers to make decisions and inform changes to their pedagogy and curriculum as well as to delineate student learning in comparison to the criteria put forth.

Interpretation of assessment for both evaluation of student learning and informing teaching practices are important facets for teachers to consider, however both are also directly influenced by student comprehension and application of assessment. For example, if a teacher were to see assessment as something that occurs at the end of a unit, they would not utilize formative assessments and would inevitably not use it to inform their teaching-learning process. Lund and Veal (2008) have suggested that preservice teacher tend to endure challenges particularly when using formative assessment to inform teaching outside of grading. Likewise, if upon application, the teacher does not provide criteria to which the assessment evaluation is

based on, their interpretations are not valid (Hay & Penney, 2013). Further, challenges associated with interpretation have been identified as having difficulty in clearly articulating and setting a standard of criteria (Wyatt-Smith, Klenowski, & Gunn, 2010 2010). Moreover, the consideration of models-based practice outcomes with skill outcomes, adds another layer to the intricacies in aligning assessments with unit outcomes (Lund & Veal, 2008).

Critical Engagement

The fourth component, *critical engagement*, “promotes consideration of the contribution of assessment to the teacher’s power in the field and its impact on the social dynamics of the classroom” (Hay & Penney, 2013, p. 77). When conceptualizing the notion of power, assessment provides an unequal balance with most of the weight given to the teacher. Given that assessment denotes what is of value and of importance, a critical consideration of the message it portrays to students is necessary. With this in mind, an interpretation of the results must be treated with caution in understanding the limitations of results toward student learning.

Given physical education’s goal of promoting lifelong movers who value physical activity (Society of Health and Physical Educators America, 2009), physical educators are charged with a difficult job of not only holding students accountable for learning but also ensuring that the limitations and interpretations made about assessments do not communicate or dissuade students toward this ultimate goal. Further, critical engagement with assessment draws attention to the realities of the school and the social dynamics which occur between the teacher and the student. For example, a student may be given a poor grade from an assessment and without explanation, explicit criteria, or justification of the grade, there may be negative consequences toward future learning and motivation to engage in physical activity for those students (Hay & Penney, 2013).

Assessment literacy for teachers includes both the knowledge and ability to utilize assessment in the field while also understanding the outcomes of data and awareness of the consequences it may have on students. This framework presents four interrelated components which refer to “the capacities of teachers and students to engage with and utilize assessment practices and outcomes in a way that optimizes learning possibilities” (Hay & Penney, 2013, p. 81). Given preservice teachers’ difficulties in achieving both content and models outcomes (Lund & Veal, 2008), the assessment literacy framework serves as a way to frame how preservice teachers make instructional decisions.

Assessment in Models-Based Practice: Sport Education

Innovative practices that have been on the forefront of contemporary physical education include models-based practice or pedagogical models (Haerens, Kirk, Cardon, & De Bourdeaudhuij, 2011 & De, 2011; Kirk, 2013; López-Pastor et al., 2013; Siedentop, Hastie, & van der Mars, 2011; Tannehill, van der Mars, & MacPhail, 2015). Kirk (2013) noted that out of many pedagogical models, such as Teaching Games for Understanding, Teaching Personal and Social Responsibility and others, Sport Education is the most researched, as well as soundly justified, philosophically. The goal of Sport Education is to help students “develop as competent, literate, and enthusiastic sportspersons” (Siedentop et al., 2011, p. 4). To accomplish this goal, the structure of Sport Education includes a set of non-negotiable features as necessary elements of maintaining fidelity to the model (Hastie & Casey, 2014). These non-negotiable features include developing affiliation by the virtue of students remaining as a part of the same group (team) for the duration of the unit, engaging in nonplaying roles (e.g., coach, fitness trainer, manager, referee, statistician) that facilitate the flow of the season, structuring formal

competition, maintaining individual and team records, and promoting festivity that includes a culminating event or championship game (Siedentop et al., 2011).

Regular assessment of student practices in Sport Education is a critical part of this pedagogical model (Siedentop et al., 2011). Differing from traditional teaching approaches, Sport Education is designed to provide authentic, educationally rich sporting experiences which scholars consequently suggest using authentic assessment within its structure (Siedentop et al., 2011; Sinelnikov, Hastie, & Prusak, 2007). The learning outcomes of the model should include students' performance as players, as well as their performance in non-playing roles (e.g., coach, statistician, and referee) among others. Lund and Kirk (2010) further suggest that performance based assessments, which highlight authenticity, are typically open-ended, complex, and are to be used in units that are long enough to allow in depth learning, which is the case with Sport Education. Such assessments then, can and should be continuous and ongoing (Siedentop et al., 2011).

However, learning to plan for a Sport Education season with the understanding that curriculum, pedagogy, and assessment are in alignment has demonstrated to be a difficult task for preservice teachers (Braga & Liversedge, 2017). When implementing a full Sport Education season, preservice and inservice teachers suggest that it requires a lot of time and energy (McCaughtry, Sofo, Rovegno, & Curtner-Smith, 2004) and is hectic and tough (Braga & Liversedge, 2017). However, teachers report that carrying out the assessment within the structure of Sport Education was easier than doing so during traditional teaching (Clarke & Quill, 2003).

While there have been a number of studies describing different approaches to introducing models-based practice within physical education teacher education programs (Sinelnikov &

Hastie, 2017), there is a lack of empirical research examining preservice teachers' implementation of assessment within models-based practice. Yet, it is critical since "contextually specific way in which quality curriculum, pedagogy and assessment can and should be advanced" need to be investigated (Penney, Brooker, Hay, & Gillespie, 2009, p. 438). Therefore, using the of assessment literacy framework, the purpose of this study was to explore how preservice teachers understand and enact the message system (assessment, pedagogy and curriculum) while employing the Sport Education model in an early field experience. Specific research questions include: (a) how do preservice teachers make instructional decisions related to models-based practice? (b) how and to what degree assessment practices are driven by the model?, and (c) how preservice teachers' understanding and beliefs of assessment correspond with their practices?

Methods

Participants and Setting

Six participants were purposely selected from a southeastern university. Criteria for selection included: (a) enrollment in advanced physical education methods course, (b) successful completion of systematic and repeated set of experiences focused on models-based practices (Stran & Curtner-Smith, 2009), which included teaching a minimum of five units using models-based practice and a minimum of three seasons of Sport Education. All participants were in their final year of the physical education teacher education program and were between ages 20 and 24. Of the six participants, five were male, one was female, and all were Caucasian. Over the course of seven weeks, the preservice teachers taught Sport Education seasons at three local elementary schools. At school A, grades three through five were taught with approximately 30 students in each class and a student body which was made up by predominately Caucasian students at 86%;

at school B, grades three through five were taught with approximately 60 students per class with a study body made up by 68% African American and 24% Caucasian students; and finally at school C, grades two through four were taught in class sizes of approximately 25 students with a student body that was made up by majority of African American students (94%). Following Siedentop and colleagues' (2011) recommendation for Sport Education season length at elementary grade level, each preservice teacher taught Sport Education for a total of 12 class periods (45 minute lessons) twice a week totaling 540 minutes. Participants taught two soccer seasons and one basketball Sport Education season. Table 3.1 provides a general summary of the layout for each Sport Education season.

Before the start of the early field experience, an hour review of assessment in physical education was provided to the preservice teachers. The review included three main components: (a) knowledge and understanding of assessment, (b) examples of assessment implementation in a Sport Education unit, and (c) assessment implementation requirements of the course. A review of knowledge and understanding of assessment included: (a) performance based and traditional assessment, (b) formal and informal assessments, (c) formative and summative assessment, (d) assessment *for* and *of* learning (Black & Wiliam, 1998), and (e) the roles of assessment in physical education (Lund & Kirk, 2010). Next, specific examples of performance based assessments in Sport Education (Lund & Kirk, 2010; Oslin, Mitchell, & Griffin, 1998) were provided and discussed. During the unit, preservice teachers were required to employ two formal performance based assessments and one summative assessment. These requirements were supported from the works of Lambert's (2007) and Lund and Kirk's (2010) recommendation to employ at least one performance based assessment or checkpoint once a week or biweekly.

Additionally, each preservice teacher was also encouraged to utilize informal and traditional forms of assessment as well.

Data Collection

Data collection in this study included eight qualitative data collection methods comprising of interviews (formal, focus group, and informal), passive participation observation, weekly journals, critical incidents, document collection, and video recordings of Sport Education lessons.

Formal interviews. Over the length of the course, each student was formally interviewed in person on two occasions at the university campus. Specifically, the first interview occurred within the first week of the methods course prior to the start of the field experience and the second occurred within a week of the methods course concluding. Each interview lasted approximately 30 – 60 minutes and was audio-recorded. The interviews followed a semi-structured format (Patton, 2002) which provided the flexibility to deviate from planned questions. Interview topics included seeking to gain an understanding of preservice teachers' background, assessment literacy, their values and beliefs, and how they might employ assessment during a Sport Education unit. Example questions included, "What have you experienced in your PETE program that is different from your experiences in physical education?" and "What is the place of the student and the teacher when using assessment?" The second formal interview sought to further understand their perceptions of the message system, employment of assessment and instruction during the unit, values and beliefs, overall perception of assessment throughout the unit, and any contextual barriers they may have faced. Example questions included "How did you use assessment in the Sport Education unit during your field

experience?” and “What barriers did you face in your field experience when considering your planning for and actual implementation?”

Focus group interview. Approximately half way during the semester, all participants partook in a group interview that was audio-recorded which lasted approximately 60 minutes. This focus group interview sought to understand preservice teachers’ perceptions of the planning process of curriculum, pedagogy, and assessment in Sport Education as well as their thoughts on using assessment in the schools, including possible facilitators and inhibitors. Example questions included “How have you made instructional decisions for learning?” and “How has assessment in Sport Education changed over the course of the unit?”

Informal interviews. Whenever the opportunity arose, preservice teachers were informally interviewed either as an individual or in a group by the investigator with questions pertaining to the teaching-learning process. These interviews occurred before and after their assessment implementation, during class, after class, and during breaks. Formal notes on the contents of these interviews were documented as soon as possible or at the conclusion of field experience when no others were present.

Passive participant observation. Passive participant observation involved observing students before, during, and after implementing assessments on campus and during their field experience at local secondary schools. During observations, copious notes were taken describing what occurs and the degree to which preservice teachers made instructional decisions on assessment practices.

Weekly journal. The participants kept a weekly journal reflecting on their field experience pertaining to the alignment of curriculum, instruction, and assessment as well as contextual barriers and successes of teaching. Example questions included, “How has this

clinical experience impacted the way you view the planning process?” “How were you able to impact student learning during today’s lesson?” and “What evidence can you provide to support your beliefs?” A total of six journal entries for each participant were collected at the end of the season.

Critical incident reports. The critical incident technique (Flanagan, 1954) was used to collect recollections of significant daily events that may have contributed to better understanding of the participant’s teaching. Critical incident reports were completed immediately after each class period by each participant responding to the following question, “What was your most meaningful experience today?” A total of 72 critical incident reports were completed by the participants. This technique has been previously used to gain preservice teachers’ perceptions of the most meaningful experience during physical education lessons (Rust & Sinelnikov, 2010).

Document collection. Document collection involved collecting and examining materials which were utilized during the Sport Education season. Documents included unit plans, lesson plans, two formal performance-based assessments, one summative assessment, as well as other assessments the students may have used.

Video recordings of Sport Education lessons. All Sport Education lessons were videotaped. During the lesson, the video camera was positioned in the corner of the gym or field to allow an unobstructed view of all students and the teacher. The preservice teacher wore a wireless microphone to have an audio record of instructions.

Data Analysis and Trustworthiness

Qualitative analysis included an approach grounded in inductive and deductive analysis (Patton, 2015). The analysis process performed was mostly deductive; however an inductive approach remained when examining differences among participants. The preliminary phase of

analysis included open, axial, and final coding where the researcher created an emergent thematic structure while reading the transcripts (Lincoln & Guba, 1985). Once one-third of the transcripts were read for general themes, a codebook was created. To test the codebook, it was piloted on one-third of the previously uncoded data (Patton, 2015) and appropriate adjustments were made (Patton, 2015). A finalized codebook was then utilized to analyze the remainder of the data in its totality and themes were generated.

Data trustworthiness was ensured through data triangulation, peer debriefing, negative case analysis, member checking, and an audit trail (Lincoln & Guba, 1985). Data triangulation was performed through cross verification from multiple data sources including interviews, observations and field notes, weekly journal, critical incidents, and document analysis. A peer debriefer, not involved in the study, met with the researcher to hold an impartial view of the study to support the credibility of the analysis process (Lincoln & Guba, 1985). Through negative case analysis, discussions were held to discuss data that dispute the themes. Additionally, over the course of the study, an audit trail (Lincoln & Guba, 1985) was utilized to maintain transparency in the research process by documenting steps taken to trace and determine the logic behind the findings.

Fidelity of Sport Education Seasons

To maintain fidelity for non-negotiable features including procedures for organizing content, task structures, and the sequencing of learning activities (Hastie & Casey, 2014) of the Sport Education season, video recordings of the lessons were analyzed through the use a 23 point checklist (Sinelnikov, 2009) adopted from a 19 point checklist developed by Ko and colleagues (2006). Before conducting analysis of the research questions, the Sport Education specific teacher pedagogical behaviors displayed during the unit were identified. The results of the

fidelity check confirmed high levels of fidelity for each Sport Education season (see Table 3.2). Analysis of video demonstrated that each preservice teacher displayed the greater majority of hallmark specific teacher pedagogical behaviors according to the Sport Education model benchmarks instrument (Sinelnikov, 2009).

Results

Three themes generated during analysis were identified as: (a) the Sport Education model and informal assessment were driving forces of instructional decisions; (b) the structure of Sport Education was a driving force of formal assessment; and (c) high assessment value but low literacy.

The Sport Education model and informal assessment were driving forces of instructional decisions

Results of the study demonstrated two main driving forces in how the preservice teachers in this study made instructional decisions. Specifically, instructional decisions were guided by the structure and the phases of Sport Education model and informal assessment. These instructional decisions included, preservice teacher's attempts at aligning assessment with Sport Education model outcomes, feeling pressure to progress through Sport Education phases, using informal assessment to guide teaching modifications, and validating student learning through informal assessment practices.

Aligning assessment with Sport Education outcomes. For preservice teachers in this study, the structure and features of the Sport Education model were the main driving source of instructional decisions. The preservice teachers identified curriculum, pedagogy, and assessment in conjunction with one another prior to the start of the unit and continued to make decisions towards meeting the Sport Education features as the unit progressed. For example, Zak explained how his design of assessment changed along with the Sport Education model, "when doing a

Sport Education unit you have to align your assessments for that unit and figure out, do we do them when they officiate, or as coaches...they all need to align in order to be successful.” (Zak, F1) Adding to this perspective, Gabbi suggested that her focus of assessment in Sport Education was influenced when she considered what she wanted her students to learn over the course of the unit. “The progression [of Sport Education] does that... at the beginning you are teaching new skills so they can peer assess or self-assess so when you move to learning the rules you can assess there to see if they actually know.” (FG) Others had similar feelings when planning for which assessments to help meet the desired outcomes of Sport Education in mindful ways. For example, Jae suggested that he chose to use an affective outcome because it “talked about sportsmanship things you had to do at the end of the game while that's important, and what is fair play.” (F2) Further, others explained how using assessment in their planning provided a message to the students about what was important, “We chose assessments to line up with Sport Education unit, and really wanted to make sure students were clear with objectives and at an intentional, specific time.” (Griffin, F1) For example, the sequence of assessment would include “doing self-assessment first of the rules, then the peer assessment promoting fair play, then teacher observation of their skills and fair play.” (Tryston, F2)

Feeling pressure to progress through Sport Education phases. Over the course of the unit, the preservice teachers found themselves making more instructional decisions instead of shifting the responsibility to the students. Zak suggested that time was a major constraint, “You have to have a set plan. You know you need to be moved by this the stage because of time.” (F1) Although valuing assessment in the model, most participants continued to feel pressure to move through the phases of the season and did not use formal assessment data to inform instructional changes. When asked what assessment afforded him in the model, Al replied, “Seeing where the

kids were at within the lesson...but there was really no room, no turning back with strict certain amount of lesson.” (F2) Worryingly, some preservice teachers prioritized the progression of the model and moving on in the season over promotion of student learning. Jae suggested he didn’t utilize his assessment to alter his plans because, “Sport Education is already progressive. It’s kind of like a timeline, and you have to move forward really pretty much whether they have it or not... if you missed it then you just missed it... it has to move on.” (F2) When asked whether he continued to teach during formal competition, Zak replied that he would, “Let them go because at that point the coaches should be coaching...The pre-season is kind of when you are helping that coach. Like hey, you need to do this but then you step back when it’s season play.” (F2) Albeit feeling pressure to move along, Zak also understood the importance of helping students learn, “I felt pressure to get to the next level...but you need to take your time especially in that beginning and emphasize expectations before you start trying to jump to it the next phase.” (F2) To this end, others felt that if they had more time, they would be able to utilize assessment in the model more effectively. During his weekly journal reflection, Al said,

“It would have been nice to have more time for training camp to improve even more in skills, tactics, and strategies, another lesson or two for the regular season, a double elimination playoff, an entire extra lesson to really teach students their roles to double down on responsibility within each role, and lastly to take an entire lesson during the middle of the season to give a quality assessment that may have to take up an entire lesson. For example, a checklist where you, the teacher, take one team at a time off to the side and have them run through a skill drills.”

Similarly, Gabbi pointed out a need to progress through season phases and finish with a culminating event, “We just had to keep pushing because of the unit, we had to be able to get to the World Cup game, we had so many little things that we had set up, it was hard.” (F2)

Informal assessment guided teaching modifications. Most preservice teachers were in agreement that the use of formal assessment did not impact their curriculum planning and instead they relied on informal assessment to make adjustments to their daily lessons. For instance, Al suggested that informal assessment influenced, “how we started a lesson, there are certain things you see that you can hammer in during the intro of a lesson.” (F2) Similarly, Tryston reflected on using informal assessment to repeat a lesson, “due to the students not fully grasping the rules of basketball, we did the same lesson again...you could just tell that the students were a lot more active in calling violations today...I could tell by their reaction.” (FG) Griffin discussed being able to see what he wanted to work on during a lesson and make adjustments “I guess kind of walked around seeing like pair work. If they're passing a basketball, and if you can clearly see that they can't receive it or throw it, then you definitely should step in.” (F1) Additionally, Gabbi discussed how utilizing informal assessment informed her instructional decisions made during the lesson,

“From my first semester not having an assessment and then doing it now, it completely changes how you write a lesson; you know what the kids have to do. You know what you can do to help them more. So implementing it, it's saved me...before I never thought about informally assessing them. I would just be like, well, that kid doesn't know what he's doing and I'd focus on him. But now, I have a broad spectrum of all the kids.” (F2)

Furthermore, Gabbi suggested that utilizing informal assessment also helped inform her decisions to utilize formal assessment, “Informal [assessment] helped us ...to create the formal, because we [identified] where the kids are struggling, so we should move towards this.” (F2)

Validating student learning through informal assessment. All preservice teachers discussed informal assessment as a legitimate means for validating student learning. Al commented, “I definitely thought they and their knowledge improved. You know, they definitely were like mosh pits, but eventually they learned, and spread out, and got open for pass.” (F2) For Tryston, on the other hand, seeing the students act in autonomous ways informally provided him validation that his students were learning, “The officials are doing much better. One thing that was awesome is the fact that I do not even have to help them with the calls anymore. They know the signals and the calls very well.” (CI) Similarly, Zak discussed a previous Sport Education experience in which informal observation validated him as a teacher, “Yeah you can just see it...like when we did Sport Ed for track and we had the relay race and they nailed it...it was just perfect...if they can do that, it kind of validates what you've been doing.” (F1) This was a common occurrence where the preservice teachers relied on previous field experiences and placed minimal importance on formal assessment. For example, Jae stated, “I didn’t have 50 kids, I was responsible for ten kids. If somebody didn't get it, it was clear, I could see all at the same time... all my students could go back and help one student learn and understand.” (F2)

However, in multiple instances, the preservice teachers came to realize that although they legitimized learning through informal assessment, there may be a need for formal assessment in practice. For example, Jae said, “There was a time probably, mid to early on that I did not know where they were in their learning...I was kind of losing it a little bit” and that some students “were in over their heads; they thought they knew a lot and they didn’t know anything,” (F2) but

without a formal assessment the extent of student knowledge and skill were difficult to ascertain. Similarly, Gabbi suggested that the idea of formal assessment provided a foundation of intentional teaching toward learning, “If you’re not formally assessing, you are just like watching your kids as you are instructing or they are doing something... it just a motion you are constantly going through it.” (F2) To this end, Zak suggested that using both formal and informal assessment provided him with an understanding of where his students’ progress and levels of improvement, “I think I did have a good idea about it with all the assessments I did and really watching individual teams, you know, go through their daily procedures. I definitely saw a lot of growth with a lot of students.” (F2)

The structure of Sport Education was a driving force of formal assessment

The use of the Sport Education model during the field experience afforded many opportunities to utilize formal assessment. In addition, the Sport Education model facilitated opportunities to utilize assessment for learning; however the preservice teachers often valued formal assessment of learning towards evaluative capacities.

Sport Education promoted formal assessment opportunities. Analysis of data in this study suggested that formal assessment was utilized in and driven by the Sport Education model. This was particularly evidenced by the many ways the preservice teachers utilized it in different capacities towards alignment with model outcomes. For example, Zak spoke to many different opportunities he was afforded by the structure of the model to implement assessment, “I think you can use a lot of different assessments. I definitely like the checklist - for the coach, for the officials, and cognitive tests about the rules.” (F1) Similarly, Jae rationalized using assessment based on Sport Education outcomes saying, “psychomotor assessment was a checklist, we're looking at whether or not the students used the ‘how-to’ words that we taught

them, the skills cues that we taught them” and also “the second one was cognitive, we were looking to see if we could let them kind of play and officiate themselves.” (F2)

Additionally, some of the preservice teachers utilized formal assessment to assist with achieving student outcomes relative to Sport Education itself and with different objectives based on phases of the season. Al said that he used different formal assessment in each season phase saying, “Self-assessment was used to help pick the teams, a rules assessment to help initiate the rules into preseason started and as the training camp was going, and officiating probably towards the end of preseason.” (F2) Similarly, Griffin stated that, “For the end of the training camp we want them to know the concept of the court so that they could at least play a little bit in the preseason with student peer observation.” (F2) With this in mind, Gabbi also felt strongly that the assessments helped the students’ progress through the model and provided additional time for her to attend to other tasks, “you can put more emphasis on assessment in [Sport Education] to help you step back... it is easier to bring a few aside because you’re not set on watching every kid doing everything right, you can do other things.” (F2)

Formal assessment for learning was built into Sport Education. Many times over the course of the unit, the preservice teachers utilized assessment for learning to ensure students were meeting outcomes such as playing fairly and officiating well. All Sport Education seasons in this study included fair play points as a part of record keeping procedures and statistician forms included descriptors of fair play behaviors that student-officials observed and awarded fair play points to teams based on their observations. In addition, teams assessed how well they thought the duty team officiated by filling out a separate form. Most preservice teachers however did not recognize these forms as an assessment but instead considered their purpose in promoting accountability. Describing these forms Jae said, “I wouldn’t say, a peer assessment but to see if

they can look at what's happening in the game. Sort of you know, know the rules, the score...”

(F2) To this end, Tryston suggested that he used a peer evaluation form, and “it helped students on court have a role and look for different things.” (F2) When asked why he didn’t recognize a fair play form as a form of assessment, he suggested that he thought the form “really help [students] focus on officiating and get really good at it.” (F2) Others suggested that such assessment helped with management issues, “because everyone had something to do when you're playing officiating or observing, so that really helped, because there they were not just sitting on the sideline, they were actively involved.” (F2)

For many preservice teachers, the lack of recognition of assessment for learning was attributed to participants considering such assessment being an integral part of the Sport Education model. For example, Al didn’t consider students using checklist for fair play as an assessment because he just “thought it was an important aspect in Sport Education.” (F2) Similarly, Griffin stated that, “I guess we kind of take it for granted like that's just one of the things [assessment] we did, instead of actually using it as our assessment” and “it is my thing for the Sport Ed unit... So kind of getting into it you kind of lose... you take it for granted.” (F2) Likewise, Gabbi thought of the fair play form as “a little reminder” that is “already built in that they are required to do, they’re an official...they're supposed to do it.” (F2) Thus, assessment for some participants was viewed as having additional procedures to those that have been already embedded within the structure of Sport Education, and alternatively if these procedures were already planned as part of the season, they were not viewed as assessment.

On the other hand, however, one participant recognized the value of using assessment for learning towards meeting the Sport Education outcomes by utilizing it during the unit. For example, Zak thought that assessment,

“Gets them involved...some students might really like that aspect of assessing with the Sport Education model, they like that part of assessing other students but I think ultimately it lets them see... it will help them when they get assessed because they're seeing you know the different steps they have to meet. So when they're assessing somebody then it's their turn to go. They're like OK, I already did this assessment, I know I need to do this, it makes them understand the content more.” (F1)

Additionally, he understand that utilizing it for learning promoted importance with his students, “There was a need for [sportsmanship]...and I thought OK, I really want to make this a formal assessment. I think students take it more serious...like oh, this is something that we need to pay attention to...this is important obviously.” (F2)

Preservice teachers prioritized assessment of learning. Although most of the preservice teachers found value in assessment as learning tools, when asked about what assessment afforded them, they often responded to assessment of learning or as evaluation. This was particularly true when most participants still referred to it as a test. Comments like, “I used a teacher assessment, it was like a test, and I gave them questions to answer” and “we'd spent so much time practicing and learning the physical skills of soccer that I was like, we have to test it, we haven't spent as much time on anything else to test that... we have to test this” were fairly prominent in data. (Jae, F2) Interestingly, the preservice teachers did not use these results of assessment to inform their future instruction but instead used it to validate their teaching as an outcome. “Using the assessment, gives you validation, it is like they [students] are getting this.” (Zak, F1) When asked why he didn't think of fair play as an assessment, he responded with, “It wouldn't have been good feedback for me because I was more interested in, like; do they know what out of bounds is? Do they know who gets the ball if it goes out of bounds?” (Jae, F2)

Although training regarding assessment *for* and *of* learning was provided, when asked how they saw assessment in relation to curriculum, pedagogy, and assessment, there were instances when some preservice teachers discussed assessment as something that happens at the end. For example, Tryston's comment, "I see assessment as evaluation more than learning" was enigmatic of this sentiment. (F2) Further, Al shared that he saw them working together but in a linear pathway of curriculum, then pedagogy, then assessment suggesting, "I definitely see them working together, they definitely clearly go in that order, that exact order... you take your time, you plan everything, go through the lesson, and then you assess." (F2) Griffin, however, had a slightly different view of the triad. For him, the relationship between the three includes models-based practice and it was like a ladder, "I think they fit like a ladder. If you're doing the model, you're going to have to teach it right...the assessment could be the scores after the games or the fair play points." (F1)

Although mostly valuing assessment as evaluation, at least one preservice teacher also recognized assessment for learning as being of particular importance. Zak said, "So for assessment, they're kind of internalizing it and really grasping and understanding it. Like, OK, if I do this - it can affect this. Not just for a grade, to get them to think outside the box." (Zak, F2)

High assessment value but low literacy

Preservice teachers stated that they valued assessment as a part of the teaching-learning process but lacked assessment literacy during practice. In addition, although participants utilized assessment in the Sport Education model, they struggled to use it in developmentally appropriate ways and encountered many technical aspects which influenced their view on assessment.

Valuing assessment in the teaching-learning process. The preservice teachers' value of assessment towards learning and instruction in the teaching-learning process was encouraging prior to teaching the unit. For Zak, he believed the field experience would provide him with an opportunity to practice using assessment and understood its value, "I think this is a good opportunity for us to really have a full class to try to get these assessments and just understanding when to assess your time as to how this going to affect our game play or competition." (F1) Likewise, Tryston explained how he saw assessment in the teaching-learning process, "You need to know where your students are before you begin to teach them, assess along the way to see how much they are learning, and then assess once the unit is done to figure out how much they learned." (F1)

To this end, many spoke about how they could use formal assessment and provide rationales to use assessment to inform instruction. For example, Jae felt that formal assessment "afforded the opportunity for us to understand if what you're doing is working or if you need to change" (F2) and he felt that teaching was pointless without it since "you have to assess to make sure you know they're learning what you taught." (F1) Similarly, Al believed that data he receives from assessment would inform his lessons since "what you get from your assessment creates your next objectives and most likely affects the next in the future." (F1)

Further, the preservice teachers discussed formal assessment as important to noticing all students and their learning as "it gives the students that you may pass over during everyday class to see where they're at more opportunities." (Al, F1) Similarly, Griffin stated that assessment is needed because "if there's not assessment...you're never really going to do great" and "if there are little roadblocks ahead then it will be easier for the student to understand and for the teacher

to be able to help with what they need.” (F1) Further, Zak supported this notion by saying that “the role of assessment is great because it lets everyone know where everyone is.” (F2)

Additionally, the degree to which the preservice teachers believed they had the skills necessary to implement formal assessment during their field experience was drawn from previous experiences in an assessment course for physical education. Al suggested that he felt “good about it after the [assessment] course.” (F1) For Gabbi she believed, “now I know what works and doesn’t. What I was doing, the students were like, I don’t want to do this, and some of them wouldn’t even do that....So I think that being stressed out too through that class helped.” (F1) On the other hand, Zak suggested that although previously having the class and now feeling better, “I didn’t quite understand it at the moment but I think we have the tools and we’ve been taught pretty well how to implement these from taking that class and implementing them” and “I think in the past, I really tried to implement just try to get it done. I really just want to focus on the best way, do it right...and how does it really affect the students?” (F1)

Struggling to use assessment in developmentally appropriate ways. It seems however, that although the preservice teachers valued assessment, most struggled to use it in developmentally appropriate ways. For all of the participants, they believed they set the bar too high when determining criteria for the elementary students. Gabbi said, “I think I set it high at first, because for Sport Education I was thinking what it was like in middle school and not like third graders doing it.” (F2) When creating fair play benchmarks, Griffin used criteria from his previous Sport Education experiences at the middle school. Al felt that “not having ever taught elementary students in Sport Education before, our original speculation was for them to seriously take on the responsibility that a middle school student would, however we adapted quickly

realizing that this was not the case.” (WJ) Additionally, Zak suggested that his developmental level for criteria he selected was “definitely too high.” (F2)

In addition to selecting appropriate criteria to teach and assess, the preservice teachers struggled with developmentally appropriate ways to implement assessment that was aligned with outcomes. Students “have no prior knowledge, so giving them a task sheet like one of our fifth graders to be the coach for a team and what court to go on, it’s not going to happen.” (Griffin, FG) Further, Zak voiced that he expected the students to be able to know and perform duty and team roles noting, “I think I expected them to understand what a warm up leader was. Instead, you need to probably show them what leaders do this.” (F2) Additionally, Al realized that he needed to approach his assessments differently since elementary students “are just tough, you have to go slow” and “considering the students were only in third grade, I should have walked through the self-assessment with them one question at a time.” (FG) Others however, just felt that assessment tools weren’t appropriate for elementary students. Griffin noted, “I don’t think a formal cognitive assessment is a good tool to gauge students’ knowledge until middle school. All the kids knew yet when we gave them a few questions to write, they had no idea.” (WJ)

Navigating technical aspects of using assessment. The degree to which the preservice teachers were able to implement formal assessment in the schools was largely based on technical aspects which signified a lack of assessment literacy. Technical aspects and concerns of using assessment included large number of students, lack of time during lessons, and managing the assessment implementation. At times the preservice teachers did not feel it was realistic to assess with large numbers and had limited teachers to observe. Jae felt that assessment was difficult to use in Sport Education because “I think it's kind of a constraint with gameplay, it's hard to do that I feel like in Sport Education, with one teacher with both officiating and teamwork.” (F1)

Similarly, Al felt that “between knowing what you had to get done and a certain amount of lessons and time for class...maybe if you have two teachers...definitely one teacher assesses, one teacher teaches.” (F2) Zak, however, felt confident in his ability to make adjustments and utilize assessment in practical ways even with large number of students in class noting, “It’s like how do I get 60 kids assessed? Well, you can just have 30 other kids assess 30 other kids.” (F1)

For most finding a time to use assessment where it was practical and didn’t take up time was difficult. Gabbi suggested allocating a specific time for assessment within the lesson was difficult to “make sure that I put the time within the lesson to do the assessment.” (F1) Jae rationalized using assessment at a time of convenience as students “come into the gym and sit in their lines... So we just had them take it [tests] when they were there.” (F1) Furthermore, he lamented the lack of available time for assessment saying that “it was probably more of a reflective thing; because by the time we had given the assessments or taught the lesson, it was kind of time to either go in or it's too late to change.” (F2)

Tryston also believed that he didn’t have enough time to use assessment the way he wanted to, stating that, “I am not sure I had enough time to complete the assessment and get the data I would like to have.” (WJ) He also suggested that he wasn’t getting the results he wanted because it was rushed, “The kids aren't learning the material because it's so rushed, so the assessments are just another thing for them to do...they're not reflecting on them...they don't have the comprehension to reflect on their assessment.” (FG) Similarly, Gabbi suggested she didn’t use the data to inform instruction due to time, “after we did the assessment, we haven't even given anything back on that assessment because there is not time...we can do informal assessment all day and I know where my kids are at.” (FG) Al also believed that “we can’t take a lesson out of 12 to assess” and “we only have about five minutes” to do the assessment, so “they

aren't as good as they could be." (FG) In one case however, Zak reflected on the value of working through an assessment during class to explain an assessment. "I feel like I would try to rush through it because of time, so maybe just it's okay to take time to assess. Even if it cuts into game play and takes more time." (F2)

In addition, several preservice teachers explained the concerns of navigating the use of assessment in the school. "Having access to printing copies for everybody...Just like little things like that...those are just real life. You know, having each kid with a pencil and a pencil when they come in." (Jae, F1) Gabbi suggested that in using formal assessment she would do it differently next time because "we would always be short on a pencil or there would ever be enough. It's like four kids would take the pens. I started with 32 pencils and I have 12 now...it's hard." (F2)

Discussion

The purpose of this study was to explore how preservice teachers understand and enact the message system (assessment, pedagogy, and curriculum) while employing the Sport Education model in an early field experience. In this case, particular interest was placed on how preservice teachers made instructional decisions related to models-based practice, how and to what degree assessment practices were driven by the model, and how their understanding and beliefs of assessment correspond with their practices. The theoretical framework for this discussion is based on the assessment literacy framework presented by Hay and Penney (2013) consisting of four interrelated components of assessment including comprehension, application, interpretation, and critical engagement. While the discussion addresses each component independently, there is an inevitable interchange due to the dynamic relationship between the components.

Comprehension

Stemming from the research questions of (a) how preservice teachers make instructional decisions related to models based practice, (b) how and to what degree assessment practices are driven by the model, the preservice teachers' comprehension of assessment is largely explained by their understanding of assessment in the teaching-learning process. Assessment comprehension is described as understanding of what assessment means, the purposes of assessment, assessment tools, and how it contributes to student learning (DinanThompson & Penney, 2015). Prior to the field experience, the preservice teachers in this study demonstrated adequate knowledge of assessment (Lorente-Catalán & Kirk, 2016) and placed a high value towards utilizing it for evaluation, learning, accountability, and for documentation. Furthermore, the preservice teachers' comprehension of Sport Education features and outcomes served as a driving force to promote alignment between curriculum, pedagogy, and assessment. This finding is promising as the preservice teachers understood the outcomes of the model and were able to rationalize the type of formal assessment employed within the model. Similar to previous research (Curtner-Smith & Sofo, 2004), the preservice teachers' prior and repetitive experiences practicing the Sport Education model throughout their PETE program may have contributed to their ability to engage in the teaching-learning process productively. However, although participants' comprehension of model outcomes and its alignment with assessment were evident, there were a few concerns of their understanding of assessment once carried out in practice.

First, despite employing formal assessment tools, most of the participants in this study prioritized assessments use as an evaluative measure. Additionally, and of a particular concern, was this study's finding that preservice teachers failed to analyze the data, provide feedback to students or use data to inform instruction. This finding demonstrated limited levels of

comprehension by participants regarding the potential of assessment and provided legitimate concerns about critical engagement of some participants with such assessment. The limited nature of data interpretation and lack of analysis of conducted assessment was largely attributed by participants to a lack of class time, large class sizes, and the need to get through the model. Out of these barriers, a lack of class time has been previously identified as a constraint to quality assessment (Goc Karp & Woods, 2008; Lund & Veal).

The finding of this study empirically supports previously theorized notion that Sport Education can provide a foundation and structure which can facilitate and promote the use of assessment practices (Siedentop, 2009; Starck, 2017). Specifically, in this study the preservice teachers predominately utilized and discussed assessment for evaluative purposes. Interestingly, however, participants employed assessment for learning during Sport Education season, but most failed to recognize it as such. This brings up an interesting conception of their understanding of assessment and its neat alignment with the Sport Education model. To this end, given preservice teachers' lack of recognition of using assessment for learning and its natural embeddedness in the model, the discussions between the teachers and the students was limited during practice. Moreover, similar to inservice teachers' assessment literacy (DinanThompson & Penney, 2015) preservice teachers' comprehension of assessment did not always allude to assessment practices or application during the implementation of Sport Education.

Application

The research question of how preservice teachers' understanding and beliefs of assessment corresponded with their practices was explored upon their application and interpretation of assessment while employing the Sport Education model. Application is described as the "exploration of teachers' enactment of assessment to identify practices,

processes, and contributions to student learning provided contextual richness to the data” (DinanThompson & Penney, 2015, p. 492). While the preservice teachers were able to align assessment with their curriculum and pedagogical practices during the unit, their application of how the assessment tools were used were impacted by their comprehension of assessment and the contextual realities of the school.

Similar to findings of previous research that pointed challenges of the teacher candidates in identifying criteria to assess on (Goc Karp & Woods, 2008; Lund & Veal, 2008), the preservice teachers in this study struggled to use assessment in developmentally appropriate ways despite feeling confident in their ability to employ assessment. Notably, preservice teachers experienced particular difficulties when selecting criteria levels to assess on and when employing an age appropriate assessment. Furthermore, since the preservice teacher’s comprehension of assessment in alignment with the message system was limited, the application of assessment for some preservice teachers was superficial. In addition, many preservice teachers attributed their limited use of assessment to inform future instruction was attributed to the need to get through the model. However, this finding is in contrast with a tenet of Sport Education of allowing extended time for instruction in order to achieve its objectives (Siedentop et al., 2011). Perhaps, a recommendation of the appropriateness of a 12-lesson season in elementary schools may need to be revisited.

Scholars have argued that assessment is critical to models which are student centered (Biggs, 1999; Brown & Glasner, 1999), however the lack of comprehension and application of student centered assessment approaches may be explained through their persisted comprehension of assessment in traditional ways (Lund & Kirk, 2010). This notion is supported by current study whereby results indicate a high priority placed by preservice teachers on getting through the

model as planned versus adjusting and promoting student learning based on assessment data. Additionally, some preservice teachers lacked comprehension towards alternative assessment embedded in the structure of Sport Education and were not able to identify it during teaching, which is also emblematic of traditional teaching during which some preservice teachers are not always able to identify assessment for learning during a unit (Lorente-Catalán & Kirk, 2016). Furthermore, findings of this study supported previous research (Penney et al., 2009), and demonstrated that most preservice teachers regard assessment as something “extra” within models-based practice and view it as an isolated event. Moreover, although assessment was embedded into instruction, most preservice teachers did not interpret the data to engage in its potential and did not see assessment as ongoing, and integrated with instruction, where “we cannot tell where instruction ends and assessment begins” (Lambert, 1999, p. 12).

Interpretation

Given preservice teachers’ knowledge of Sport Education outcomes and application of a number of formal assessment tools during the unit, all but one participant did not interpret the data after application. Interpretation of assessment included understanding how teachers make decisions regarding standards set based on assessment tools (DinanThompson & Penney, 2015). The results of the study demonstrated that most preservice teachers did not analyze data, provide student feedback, or make instructional decisions toward alignment of the message system (Penney et al., 2009). Although some progress has been seemingly made toward utilization of alternative assessment practice, preservice teachers’ approach toward assessment was not regular, integral, widespread, and educationally productive (López-Pastor et al., 2013). This critical finding demonstrates most preservice teachers’ inability to engage with assessment as a part of the teaching-learning process, to utilize assessment to provide feedback to students, and

to embed assessment to improve learning and to inform future instruction. Such a finding lends credence to Goc Karp and Woods' (2008) argument for creating intentional and authentic assessment opportunities in teacher preparation programs, if changes in teachers' beliefs and understanding are to be made (Starck, Richards, & O'Neil, 2018).

Promisingly however, the preservice teachers seemed to make instructional decisions aligned with their objectives by providing feedback based on informal observation. However, the scope to which their instruction was modified was limited toward understanding student learning and equity among each child. Furthermore, the preservice teachers felt validated when they believed their students were learning, a finding that has been previously reported in models-based research (Sinelnikov, 2009), but often didn't know what each child was learning. These results might be partially explained by the added layer of complexity and multi-dimensionality that model-based practice provides (Lund & Veal, 2008; Sinelnikov, 2015) in which preservice teachers need to learn to assess effectively based on all instructional goals. Such complexity and multi-dimensionality of student centered models-based practice plays a role in preservice teachers' difficulties in comprehension, application, and interpretation of assessment in Sport Education. Given the preservice teachers extended experiences with Sport Education in this study and the embeddedness of formal assessment, attention should be drawn to the uses of assessment, its role in promoting student learning, and engagement with students.

Critical Engagement

Given the value that is placed on information which is assessed (Hay & Penney, 2013), a discussion and engagement with students and assessment is necessary. Critical engagement includes asking questions about what assessment is communicating, to whom it is communicated and what the value is toward both student learning and promoting accountability

(DinanThompson & Penney, 2015). Results of this study revealed that often preservice teachers employed assessment tools and did not provide feedback or engage in discussions with students about what it meant. Specifically in Sport Education, this may present a particular concern given the importance placed on formal competition and record keeping (Siedentop et al., 2011). For example, if a form of assessment is used for record keeping (i.e., officials assessing players' fair play), there must be a public discussion and critical engagement with the results of such assessment. A teacher would need to clearly delineate assessment's purpose and criteria as well as use developmentally and age appropriate assessments to ensure educative nature of assessment for learning in addition to evaluation of learning.

Implications

The significance of this study is in the necessity to engage students in realistic experiences where assessment is a part of the teaching-learning process when first entering a PETE program (Curtner-Smith & Sofo, 2004). Further, given the benefit that Sport Education model provides for students to be engaged in their own learning (Siedentop et al., 2011), this model provides a structure which generally promotes the use of assessment as an authentic part of the teaching-learning process. However, given the lack of experience and understanding of assessment, preservice teachers needed opportunities to explore the components of Sport Education and utilize them to interpret and inform future instructions with critical engagement (Starck et al., 2018). One way to do this might be through experiencing the model first hand prior to teaching it (Curtner-Smith, Hastie, & Kinchin, 2008; Snelnikov, 2009).

Although the findings of this study demonstrated instances of appropriate use of assessment in Sport Education by preservice teachers, the barriers to assessment included limited time allotted for the season in field experiences. Although minimal recommended season length

of Sport Education model in elementary school is 10-12 lessons (Siedentop et al., 2011) the results of the study support the recommendation to extend the length of the season in the elementary school for preservice teachers, especially if quality assessment is desired. This recommendation is especially relevant considering previous research indicating preservice teachers' tendency to prioritize model structure over priority of the model over student learning in models-based practice (Griffin, Mitchell, & Oslin, 1997; McNeill, Fry, Wright, Tan, Tan, & Schempp, 2004; Vollmer & Curtner-Smith, 2016).

The study findings suggested that although the preservice teachers had experiences with assessment in physical education and instruction, they still reverted to traditional mindset (Lund & Kirk, 2010) where assessment was not prioritized. Results also support Goc Karp and Wood's (2008) call for preservice teachers to have longer interventions in which they are able to experiment with new ideas and practice along with discourse and theory to bring about change (Doolittle, Dodds, & Placek, 1993) towards understanding of assessment as a necessary part of teaching. Furthermore, since traditional views of instruction and assessment include teacher control, preservice teachers need to have carefully structured and intentionally designed experiences where they are able to utilize assessment effectively in student center models (Calandra, Gurvitch, & Lund, 2008; Starck et al., 2018) and to practice using assessment with the intention of focusing on student learning versus teacher concerns (Hogan, Rabinowitz, & Craven III, 2003).

While this is the first study that investigated preservice teachers' use of assessment within Sport Education during field experiences, future research avenues include exploring the use of assessment across spectrum of models-based practice and how assessment is understood and practiced by preservice teachers across a teacher education program. To this end, further

understanding how preservice teachers understand the teaching-learning process in different pedagogical models needs to be examined. Finally, future research should aim to explore what happens to well intention practices once the preservice teachers leave the university setting and enter into teaching field.

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Table 3.1

Sport Education Season Outline

Lesson	Content	Teacher's role	Students' roles
1	Introduction Rules to the games Beginning skills assessment	Class leader	Participant
2	Skill testing Team Announcement	Present team lists	Determine team roles Decide on team name
3-4	Whole class skill instruction Players learn duty team roles	Discuss roles Discuss fair play	Participant, coach, player, learn duty team roles
5-7	Preseason scrimmage Players practice duty team roles	Referee advisor	Coaches, players, continue learning duty team roles
8-11	Formal Competition	Program Manager	Coaches, players, duty team roles
12	Championship games Culminating Event	Program Manager Master of ceremonies	Coaches, players, duty team roles

Table 3.2

Sport Education Fidelity Check

The Benchmark Element		T		Jae		Zak		Al		Gr		Ga	
		P	A	P	A	P	A	P	A	P	A	P	A
The teacher plans the unit around the principle of a “season”	Management/organizational phase	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Team selection phase	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Pre-season scrimmage phase	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Regular season phase	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	End of season event	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
The teacher promotes the ‘affiliation’ concept	Students involved in the process of team selection	✓	X	✓	✓	✓	✓	✓	✓	✓	X	✓	✓
	Persisting teams for duration of the unit	✓	✓	✓	X	✓	✓	✓	✓	✓	✓	✓	✓
Teacher promotes students taking ‘responsibility’	Incorporates student duty roles within lessons	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Establishes contract and/or accountability for student performance in roles	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Teacher holds students accountable	✓	✓	✓	X	✓	✓	✓	✓	✓	✓	✓	✓
	Teacher provides training for referees	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Teacher utilizes task to train students on effective verbal communication and feedback	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Teacher adopts a facilitator approach during interactions with student groups	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Teacher encourages students to resolve conflict within groups	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Teacher uses ‘formal competition’ within unit plan	A formal schedule of competition is established	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Fair play and sportsman awards utilized	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Teacher utilizes a form of ‘record keeping’ within the unit	Teacher provides rubric for scorekeeper	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Incorporates peer assessment as part of record keeping process	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Teacher uses ‘culminating event’ near the end of the season	Culminating event is festive in nature	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Teams are easily identifiable (team names, team colors, team t-shirts)	✓	✓	✓	X	✓	✓	✓	✓	✓	✓	✓	✓
Teacher creates ‘festivity’ within the unit	Regular posting of team/individual performances	✓	✓	✓	X	✓	✓	✓	✓	✓	✓	✓	✓
	Teacher emphasizes the celebration of fair play	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Percent fidelity in the model		95%		82%		100%		100%		95%		100%	

Note: P = planned, A = actual; T= Tryston, GR = Griffin, Ga = Gabbi; Sinelnikov, 2009.

APPENDIX A

THE UNIVERSITY OF
ALABAMA®

Office of the Vice President for
Research & Economic Development
Office for Research Compliance

July 17, 2017

Jenna Starck
Dept. of Kinesiology
College of Education
Box 870312

Re: IRB#: 17-OR-230 "Understanding Physical Educators' Perceptions of Assessment"

Dear Ms. Starck:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. You have also been granted the requested waiver of written documentation of informed consent. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies

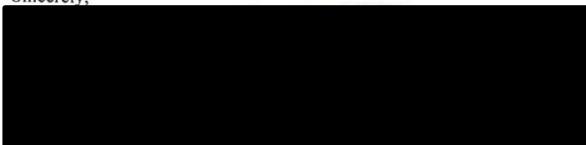
Your application will expire on July 16, 2018. If your research will continue beyond this date, complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, complete the appropriate portions of the IRB Request for Study Closure Form.

Please use reproductions of the IRB approved stamped consent form to obtain consent from your participants.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,



358 Rose Administration Building | Box 870127 | Tuscaloosa, AL 35487-0127
205-348-8461 | Fax 205-348-7189 | Toll Free 1-877-820-3066

APPENDIX B

THE UNIVERSITY OF
ALABAMA[®] | Office of the Vice President for
Research & Economic Development
Office for Research Compliance

August 18, 2017

Jenna Starck
Dept. of Kinesiology
College of Education
Box 870312

Re: IRB # 17-OR-279, "Assessment practices of pre-service teachers within models based instruction"

Dear Ms. Starck:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

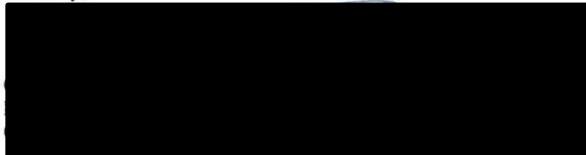
Your application will expire on August 16, 2018. If your research will continue beyond this date, please complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, please complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, please complete the Request for Study Closure Form.

Please use reproductions of the IRB approved stamped consent forms to obtain consent from your participants.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,

A large black rectangular redaction box covering the signature and name of the sender.

358 Rose Administration Building | Box 870127 | Tuscaloosa, AL 35487-0127
205-348-8461 | Fax 205-348-7189 | Toll Free 1-877-820-3066