

A Comparison of Learner Assessment Use Between
Physical Education and Core Academic Subjects

A Synthesis Project

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ABSTRACT

As advocated by the *National Association for Sport and Physical Education*, physical education demonstrates the same characteristics that define core academic subject areas (NASPE, 2010). This synthesis investigates a critical mass of research that aims to compare and contrast core academic subjects and non-core academic subjects, specifically physical education and their use of learner assessments. Results from the critical mass identified three main themes: (1) skill acquisition through the use of learner assessments, (2) student perceptions of learner assessments and (3) teacher perceptions of learner assessments and their effects on the stakeholders involved in the teaching-learning process. Skill acquisition through the use of learner assessments refers to a student's ability to gain knowledge and develop abilities in a multitude of domains. Perceptions of learner assessments for both students and teachers refer to the way in which researchers recognize and interpret the use of learner assessment data as valuable in the teaching-learning process. This synthesis concludes that if students and teachers perceive learner assessment as important and valuable in the teaching-learning process, then assessment in general becomes more in line with the intent of designating which areas become core academic subjects. This includes content areas that generate important educational outcomes that are vital and meaningful for a child's overall learning experience during school age years.

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CHAPTER 1

INTRODUCTION

This synthesis was designed to examine a critical mass of research to investigate research involving assessments of learners in both physical education and subjects categorized as core academic subjects. The following introduction will provide background information regarding learner assessments in physical education and core academic subjects, a scope of this synthesis and operational definitions.

Background

Recently, all subject areas, physical education included has undergone educational reconstruction where an emphasis has been put on enhancing and demonstrating student learning and achievement through the teaching-learning process (Lund & Shanklin, 2011). In 2001, legislation was passed titled No Child Left Behind, which implemented national requirements that challenged educational standards and assessments in core academic subjects including math, science and english language arts. By demanding highly qualified teachers in every classroom, students were to be held responsible for their performance in these core classes (Hanson, Burton & Guam, 2006). Defining what constitutes core academic subjects falls into the hands of individual states and specific school districts, as the United States Department of Education does not provide a concrete, universal definition. The *National Association for Sport and Physical Education* (NASPE, 2010) concluded that in most instances core academic subjects shared common characteristics including their requirement status in schools, standards-based approach to teaching, student assessment and grading procedures, and the level of professionalism teachers are held to including the teacher preparation program and

certification. NASPE (2010) makes a strong argument for physical education to be included as a core academic subject as it significantly addresses each characteristic found in other core academic subjects and describes how physical education not only meets, but exceeds those subjects' characteristics.

As mandated by No Child Left Behind, standards are set at the local, state and national levels that guide students overall education and in many cases, create a foundation for specific subjects. Standards are in place to provide a framework for writing objectives, planning lessons and tasks, and using assessments. In core academic subjects teachers consistently try to teach to these standards, and traditionally students must meet them through standardized tests that demonstrate their progress in order to continue through grade to grade (Duncan & Buskirk-Cohen, 2011). School curriculums are beginning to mainly reflect educational standards as every teacher makes an effort to demonstrate them in every objective, lesson and assessment. Physical education is grounded by national standards from NASPE and, in some cases supported through state standards, such as the New York State Learning Standards (NYSLs). To enable physical education teachers to provide consistent content and performance standards, NASPE standards provide a solid foundation for students to be held accountable across the nation (James, Griffin, & France, 2005). When considering core academic subjects like math, the *Principles and Standards for School Mathematics* suggests that learners independently select activities that combine their interests and previous experiences to demonstrate how concepts learned fit into their realm of learning. Through this use of mathematical concepts taught, students will be able to build connections through active learning using concrete materials and enhance their ability to problem solve and make

sense of their work (Chung, 2004). Even so, the common core standards have provided guidelines to help teachers teach to a diverse student population covering an array of learning styles (Ediger, 2011). Specifically discussing mathematics, Ediger (2011) stated the importance of teaching to the standards while allowing students to make meaning of the material and reiterate core concepts in their own language.

With this shift in educational priorities stakeholders in education including teachers, parents, administration and students, have come to expect to be graded with a numerical or letter value to be placed on their level of work and effort in a given area (Duncan & Buskirk-Cohen, 2011). While traditionally testing students use to be the primary measure of evaluation, a change in gauging student success has occurred from examination to assessment. This change has not been easy for educators as they are challenged to reevaluate their process of how they demonstrate their students learning (Charvadem, Jahandar, & Khodabandehlou, 2012). As this transformation in education affects the entire teaching-learning process, teachers must focus on implementing instructional alignment to ensure successfully meeting the educational standards that are put in place. Instructional alignment occurs when tasks match teachers' stated objectives and assessments are used in collaboration with those tasks and objectives (Patton & Griffin, 2008). Instructional alignment is demonstrated when the tasks being learned by students are the same concepts that are taught by teachers and evaluated through assessments that all connect back to objectives based on educational standards (Tannehill, 2001.) Assessment must align with and appropriately support the purpose and intentions of what is being taught in physical education and all core academic subjects. The importance of aligning assessment to learning objectives becomes apparent if we want

students to achieve the intended learning objectives (Chan, Hay, & Tinning, 2011; So & Lee, 2011.)

With this educational shift, instructional alignment has become the foundation of the teaching-learning process, therefore teaching approaches role in the use of learner assessments cannot be ignored (James et al., 2005). For many years a teacher-centered approach has been used in both core academic subjects and physical education. This is where the focus was on teachers delivering content to learners as the teacher was the focus of the teaching-learning process and students were simply bystanders of this practice (Duncan & Buskirk-Cohen, 2011). With this teaching style, teachers used traditional and standardized tests to assess their students' knowledge, which largely forced students to rely on memorization and make it difficult to demonstrate meaningful connections to the content (Duncan & Buskirk-Cohen, 2011). By contrast, the constructivist approach, grounded in several cognitive theories, brings a student-centered approach to the forefront of education. This method requires students to be dynamically engaged in the teaching-learning process as they become responsible for their own learning and the teacher merely provides guidance and direction when solicited by the students (Duncan & Buskirk-Cohen, 2011).

Constructivism as a student-centered approach attempts to involve students in the entire process of teaching-learning and assessment while encouraging them to become intrinsically motivated through individual accountability to seek and understand knowledge and display skills (Duncan & Buskirk-Cohen, 2011). With this teaching style, teachers found more value in using performance or authentic learner assessments to help students make meaningful connections to the material as they demonstrate their learning

in their own unique, individual way (Duncan & Buskirk-Cohen, 2011). This teacher-centered approach was acceptable in the past because there was no emphasis on student learning, accountability, or educational standards to guide practice. Today, with students having to achieve in core academic subjects as stated in No Child Left Behind, this student-centered or learner-centered approach has become the focus of teaching because student learning has become the focus of education. Highly qualified teachers understand the importance of a student-centered approach to teaching, and utilize strategies that allow all learners to become engaged in the teaching-learning process (Hanson et al., 2006).

This idea of moving away from a traditional approach to teaching that uses both non traditional teaching styles and assessments that is more in line with student-centered teaching challenges teachers in any education setting, and therefore unfortunately many educators still rely on standardized or traditional testing to evaluate students (Duncan & Buskirk-Cohen, 2011). Traditional assessments make students depend on their memorization ability including recall and recognition to reproduce information on a test or exam, which may encourage teachers to be traditional and “teach to the test” instead of constructively delivering the material in a meaningful way to students. More often than not, after the exam the information disappears and is no longer useful to the student (Charvadem et al., 2012). Memorization is not a tool students should use to become life-long learners, always acquiring information momentarily and not making connections through meaningful, real-world learning. This notion disrupts students from significant learning because they do not make meaning of concepts learned in relation to their own learning needs and experiences (Charvadem et al., 2012). Education focuses on student

growth and development. Teachers must use tactics that engage all learners and their different learning styles to conform to their individual development. Unfortunately, traditional assessments do not show students' progression of knowledge and skills over time. They simply represent students' retention of information at one specific moment in time, which is not helping students achieve meaningful learning (Duncan & Buskirk-Cohen, 2011).

Scope of Synthesis

It is the scope of this synthesis to examine a critical mass of research and investigate learner assessment variables in two categories of subject areas based on recent educational trends. This includes a comparison of research on learner assessment in physical education compared to core academic subject areas. By examining a critical mass of research in different subject areas, this synthesis aims to report current themes used in learner assessments that may be compared and contrasted between curricular areas found in public schools that are considered "core" versus other subject areas such as physical education. Further, it is believed that teaching styles must also be more student-centered and thus require assessment formats that are aligned with learning outcomes. How this is occurring in core academic subject research is compared to assessment studies in physical education to help identify future research topics for scholars who aim to positively impact learners in physical education settings.

Definition of Terms

Core Academic Subjects. Defined through their ability to display common characteristics including requirement status to be offered in school and students' need to successfully participate in; a foundation in educational standards; an approved

curriculum; supported with instructional material that supports teaching; student assessment and grading procedures; teachers accountability through attendance of an accredited teacher preparation program and proper certification (NASPE, 2010).

Non-Core Academic Subjects. Defined by subjects that lack characteristics of core academic subjects including requirement status; a foundation in educational standards; an approved curriculum; supported with instructional material that supports teaching; student assessment and grading procedures; teachers accountability through attendance of an accredited teacher preparation program and proper certification (NASPE, 2010). For the purpose of this synthesis, physical education is the non-core academic subject that will be addressed.

Traditionalist Approach to Learning. Measured by evaluating a teacher-centered approach that focuses on the teacher's role in the teaching-learning process as they develop and deliver content to students. A traditionalists approach usually is accompanied by traditional or standardized exams to evaluate students' knowledge (Duncan & Buskirk-Cohen, 2011).

Constructivist Approach to Learning. Measured by evaluating a student or learner-centered approach where students are engaged in the content and explore how it relates to their thoughts and experiences to give more meaningful connections to information. Assessments may be performance-based or authentic and are more geared toward demonstrating connections between material and personal experiences to make sense of learning in a way that is unique to each student (Duncan & Buskirk-Cohen, 2011).

Summary

In summary, education has become an ever-changing environment, where all stakeholders need to be aware and open to always putting the learners needs first. Therefore, to best meet the needs of students and provide them with opportunities to maximize their learning, the use of learner assessments need to be investigated in both core subjects and non-core subjects, specifically physical education, to compare and contrast methods that have demonstrated student learning and success in the teaching-learning process.

CHAPTER 2

METHODS

The purpose of this section is to describe how data were collected through a critical mass of literature and analyzed to develop and focus on research involving assessment of learners in physical education and core academic subjects as themes compare and contrast to one another. It concentrates on specific search engines, key words and inclusion criteria used to collect and analyze the literature.

As this synthesis was developed at The College at Brockport, most resources were found through the Drake Memorial Library, either in print or through their online database. Academic Search Complete, Education Research Complete and ERIC were primarily used to find full-text, peer-reviewed articles that fell within a prevalent date range of 2001 and more recent. The first key word searched was *assessment*, which received 212,690 hits. With *assessment* as a key word *physical education* was added and rendered 4,478 hits. By continuing to add *public schools* to the search, 721 hits appeared. In addition, *instructional alignment* was searched which produced 4 hits. Again, with *assessment* as a key word, but also including *core academic subjects* 14 hits were produced. *Accountability* with both *physical education* and *core academic subjects* was searched producing 147 and 10 hits. Article abstracts were read and close attention was paid to keywords including assessment, planning in both a traditional and constructivists approach, instructional alignment and types of learner assessments. In addition, areas of research including physical education and core academic subjects including math, science and english language arts were considered. As the literature was scrutinized to compare and contrast core academic subjects and physical education's use of learner assessments,

mostly qualitative data were found, with records that provided rich, thick descriptions of the topic at hand. Some quantitative studies contributed to the material in this synthesis as well.

Studies were selected for inclusion in the critical mass of this synthesis as they offered data on (1) types of learner assessments in core academic subjects, specifically math, science or english language arts and (2) types of learner assessments in non-core academic subjects, specifically physical education and (3) effects these learner assessments had on the stakeholders involved, including both students and teachers. Studies were only selected if they fit the inclusion criteria and fell in the relevant date range of post-No Child Left Behind legislation, including 2001 and more recent.

CHAPTER 3

RESULTS

This section aims to present results from a critical mass of literature used to compare and contrast practices in learner assessments between core academic subjects and other subject areas. The presentation of results will address core academic subjects and physical education's use of learner assessments including level of learners, types of learner assessments used and thematic findings in the critical mass. Main themes were identified including (1) skill acquisition through the use of learner assessments, (2) student perceptions of learner assessments and (3) teacher perceptions of learner assessments while detailing their effects on the stakeholders involved in the teaching-learning process.

As the critical mass of literature was developed for this synthesis, this topic has been investigated in data based studies examining a variety of learners from different subjects encompassing elementary (Bas, 2012; Chung, 2004; James et al., 2005; Mintah, 2003) and secondary students (James, Griffin, & Dodds, 2009; Lund & Shanklin, 2011; Mintah, 2003; So & Lee, 2011) to students in preservice teaching preparation programs (Charvade et al., 2012; Duncan & Buskirk-Cohen, 2011; Gijbels, Segers, & Struyf, 2008; Karp & Woods, 2008; Sivakumaran, Holland, Heyning, Wishart, & Flowers-Gibson, 2011).

Results and findings have been summarized below in Table 1. Table 1 provides an overview and summary of the critical mass of literature as it lists the studies that met the inclusion criteria, the specific subject areas investigated, type of learner assessment used and emergent themes found.

Table 1

Comparing and Contrasting the Use of Learner Assessments and Their Themes in Core Academic Subjects and Physical Education.

<i>Study</i>	<i>Subject Area</i>	<i>Types of Learner Assessments</i>	<i>Themes</i>
Bas, 2012	Core Academic: Elementary Science	Not Found	Student Perceptions
Charvadem, Jahandar, & Khodabandehlou, 2012	Core Academic: English as a Foreign Language (EFL)	Portfolios	Skill Acquisition
Chung, 2004	Core Academic: Elementary Mathematics	Standardized Tests	Skill Acquisition
Duncan & Buskirk-Cohen, 2011	Core Academic: College Level Language Arts and Adolescent Psychology	Authentic Assessments	Student Perceptions
Gijbels, Segers, & Struyf, 2008	Core Academic: College Level Psychology	Authentic Assessment	Student Perceptions
James, Griffin, & Dodds, 2009	Physical Education: Middle School	Peer Assessments, Checklists and Written Tests	Student and Teacher Perceptions
James, Griffin, & France, 2005	Physical Education: Elementary	Performance Assessment	Student and Teacher Perceptions
Karp & Woods, 2008	Physical Education: Preservice Teachers	Alternative, Authentic & Traditional Assessments	Teacher Perceptions
Lund & Shanklin, 2011	Physical Education: High School Badminton	Performance Assessment and Written Test	Skill Acquisition
Mintah, 2003	Physical Education: Elementary, Middle and High School	Authentic Assessment	Teacher Perceptions
Sivakumaran, Holland, Heyning, Wishart, & Flowers-Gibson, 2011	Core Academic: Preservice Teachers' Pre K-12	Performance Assessment	Skill Acquisition
So & Lee, 2011	Physical Education: High School	Authentic Assessments, Rubrics	Teacher Perceptions

As major themes found in the literature were investigated and discussed comparing core academic subjects and physical education use of learner assessments, results will focus on data that contributes to three major themes including (1) skill acquisition through the use of learner assessments, (2) student perceptions of learner assessments and (3) teacher perceptions of learner assessments and how these themes impact the teaching-learning process for both students and teachers. Table 2 summarizes each article within the critical mass' contribution to a main theme.

Table 2

Examining Themes Demonstrated Through the Use of Learner Assessments in Core Academic Subjects and Physical Education.

	Learner Assessments' Effects
Acquiring Skill Through the Use of Learner Assessment	<p><i>In Core Academic Subjects:</i> *The use of portfolio assessments resulted in significant differences between a control and experimental group's reading comprehension (Charvadem et al., 2012). * Both a traditionalists and constructivist teaching approach lead to student learning in mathematic multiplication skills when students were assessed through standardized assessments (Chung, 2004). *According to university faculty 80% perceived performance assessments used in teacher preparation programs were effective or somewhat effective in helping students learn teaching skills (Sivakumaran et al., 2011).</p> <p><i>In Physical Education:</i> *When students were held accountable through learner assessments, greater improvement in a badminton unit was demonstrated (Lund & Shanklin, 2011).</p>
Student Perceptions of Learner Assessment	<p><i>In Core Academic Subjects:</i> *Students perceived learner assessments brought fun, creativity, and diversity into the classroom (Duncan & Buskirk-Cohen, 2011). *Students perceived academic success in elementary science was positively correlated with students' ability to personally find learner assessments relevant (Bas, 2012). *Student perceptions of learner assessments weighed heavier on their learning as opposed to their approach to learning (Gijbels et al., 2008).</p>

	<p><i>In Physical Education:</i> *Students perceived enhanced learning if they knew expectation of learner assessments before teaching progressed (James et al., 2005). *Students perceived assessment as unclear and did not value it because they were not held accountable for their learning (James et al., 2009).</p>
<p>Teacher Perceptions of Learner Assessment</p>	<p><i>In Core Academic Subjects:</i> *Teachers perceived learner assessments allowed students to apply and demonstrate knowledge (Duncan & Buskirk-Cohen, 2011).</p> <p><i>In Physical Education:</i> *Teachers perceived that authentic learner assessments significantly impacted student self-concept, motivation and skill achievement (Mintah, 2003). *Teachers perceived that aligning content with NASPE content standards enhanced learning through communicating assessment expectations (James et al., 2005). *Teachers did not perceive assessment as valuable because they were not held accountable for demonstrating student learning (James et al., 2009). *Teachers perceived assessments’ purpose was solely for giving a grade (So & Lee, 2011). *Teachers perceptions of learner assessments stem from previous experience and lack of knowledge in proper implementation (Karp & Woods, 2008).</p>

Skill Acquisition Through the Use of Learner Assessments

Learner assessments are used to demonstrate student learning and acquisition of skills and knowledge as a direct result of the teaching-learning process. As a common theme among four studies in the critical mass, including three from core academic subjects and one from physical education, discussed how the use of learner assessments had facilitated skill acquisition and what this implies for student learning. While one study focused on teaching approaches’ effect on skill acquisition demonstrated through learner assessments (Chung, 2004), another study concentrated on skill acquisition as students were held accountable for their learning through learner assessments (Lund & Shanklin, 2011), and two additional studies evaluated skills acquisition through the types

of learner assessments used (Charvadem et al., 2012; Sivakumaran et al., 2011). Table 2 summarizes the studies that supported the theme of skill acquisition through learner assessments.

Chung's (2004) study examined the traditionalists and constructivists approach to teaching and their effectiveness on third-grade elementary students learning mathematic skills that were evaluated on three different standardized tests. Students were divided into two groups and while one class was taught with a traditionalists approach based on assessments that introduced procedures and had students fill out worksheets; the other was taught with a constructivists approach and students were assessed through verbal and visual methods. It was reported that student learning had occurred in both classes with no significant differences in the amount of learning. All students had demonstrated skill acquisition of mathematic multiplication through their results on standardized learner assessments (Chung, 2004). Chung's (2004) study implies that through the use of learner assessments, students will demonstrate learning regardless of the teaching approach used.

Holding students accountable through the use of learner assessments supports skill acquisition. Lund and Shanklin's (2011) study explored the effect of accountability on the quality of student motor responses as they acquire skills during a 10-day physical education badminton unit with female high school students. The treatment group was informed of the assessment criteria in the beginning of the unit and given on-going feedback throughout the unit, while the control group did not. It was stated that both the treatment and control students improved during the unit, but the treatment group showed greater improvement. This indicates that knowing teacher expectations can impact student responses and skill acquisition when learner assessments and the criteria used to

evaluate them are explained near the beginning of the unit (Lund & Shanklin, 2011). Students were assessed through performance assessments and a written test. Through the use of these learner assessments students were held accountable for their own learning (Lund & Shanklin, 2011). Lund and Shanklin's (2011) study implies that the use of learner assessments holds students accountable for demonstrating learning through acquiring skills and knowledge.

When considering different types of learner assessments and how they facilitate students' skill acquisition, teachers may look to performance assessments or authentic assessments to help give students a deeper meaning and connection to the content being taught (Sivakumaran et al., 2011). Performance assessments are used to ask students to produce formal projects that demonstrate their meaning of a specific topic. Some examples may include action research, portfolios and teacher work samples (Sivakumaran et al., 2011). In a study that examined teacher education faculty members of core academic subjects working with students in teacher preparation programs, eighty percent believed that performance assessments were effective or somewhat effective in helping teacher candidates acquire teaching skills (Sivakumaran et al., 2011).

Charvade et al. (2012) investigated the bearing of portfolio assessments on students studying English as a Foreign Language reading comprehension ability. Students were broken into a control and experimental group. While both groups took proficiency exams and read two passages to evaluate their ability to read and comprehend, the experimental group also created a portfolio. The results indicated that students who created a portfolio had achieved more meaningful learning in conjunction with a positive experience with the content being taught. Through the implementation of portfolio

assessments, teachers were able to receive specific feedback on student learning and skill acquisition as the students' demonstrated concepts as they were meaningful to them as individuals (Charvade et al., 2012). Implications from these studies suggest that using a variety of learner assessments in conjunction with each other, as opposed to just one, may aid students in acquiring skills and knowledge (Charvade et al., 2012; Sivakumaran et al., 2011).

Student Perceptions of Learner Assessments

The research within this critical mass demonstrates that the way students perceive learner assessments effect the way they make sense of their learning environment, their overall academic success, and their approach to the teaching-learning process.

Addressing student perceptions of learner assessments was a common theme among five studies in the critical mass, including three from core academic subjects and two from physical education. Three of the five of these studies also addressed teacher perceptions of learner assessments. While one study focused on how student perceptions of learner assessment effected the way they viewed their learning environment (Duncan & Buskirk-Cohen, 2011), another study concentrated on the role student perceptions of learner assessments played in students' overall academic success (Bas, 2012). Three additional studies evaluated student perceptions of learner assessments in regards to students' approach to the teaching-learning process (Gijbels et al., 2008; James et al., 2005; James et al., 2009). Table 2 displays the studies that supported the theme of student perceptions of learner assessments.

Duncan and Buskirk-Cohen (2011) completed a study that investigated student experiences in core-academic subjects with a student-centered approach to learner

assessments. Students were asked to reflect on learner assessments that they had completed and report their beliefs and feelings. Results showcased that students perceived learner assessments brought about many positive changes to the learning environment. Students felt they allotted more time and creative energy to developing their own meaning to class material and that the learning environment was more fun. In addition, students perceived the use of learner assessments brought more diversity and application to content (Duncan & Buskirk-Cohen, 2011). Duncan and Buskirk-Cohen's (2011) study implies that if students perceive learner assessments to have a positive impact on their learning environment, they may be more engaged and willing to put more energy forth when completing learner assessments.

The way students perceive the use of learner assessments can be a critical component in their academic achievement (Bas, 2012). When students perceive learner assessments as an important component of their learning they will invest more time and energy into the content (Bas, 2012). Bas' (2012) study that investigated elementary students' perceptions of learner assessments in the science classroom in relation to their academic achievement. It was reported that there is a positive correlation between student perceptions of how they were assessed and their success in science based on how personally relevant the student found the learner assessments. This implies that students learn most when they perceive the material being learned and assessed to being personal applicable to their overall academic success (Bas, 2012).

Student perceptions' affect the way they approach the teaching-learning process, which ultimately effects their use of learner assessments. In a study that investigated a elementary students' perceptions of learner assessments in physical education, it was

reported that students perceived learning was enhanced when a connection existed between instructional tasks and learner assessments (James et al., 2005). As the teacher communicated expectations of learner assessments through instructional tasks, students became more engaged in the entire teaching-learning process, and therefore understood what they would be held accountable for through learner assessments. In addition, students put forth more effort and performed better because they perceived learner assessments as important. These findings indicated that positive student perceptions of learner assessments improved the teaching-learning process in physical education (James et al., 2005).

James et al. (2009) examined middle school physical education students' perception of learner assessment through an ecological lens in order to investigate how learner assessments influenced students' role in the teaching-learning process. Although learner assessments included peer assessments, checklists and written tests, students were not given a formal grade. It was reported that students did not receive information about a standard of performance or learner assessment expectations from their teacher which resulted in students' perceiving assessment as unimportant because they were not held accountable (James et al., 2009). These results are also supported through James et al. (2005) as that studies found the counterpart to be true. These studies imply that students must perceive learner assessments as important in the teaching-learning process or they may not become engaged in the content.

Student perceptions of learner assessments may also contribute to the time and energy that they invest in the teaching-learning process (Gijbels et al., 2008). Gijbels et al. (2008) examined preservice teacher preparation students preparing to teach core

academic subjects. This study aimed to establish if a relationship exists between the way students perceive learner assessments and their approach to the teaching-learning process. Researchers were interested to see if student perceptions affected their level of involvement in authentic learner assessments in connection with their approach to the teaching-learning process. Results supported that student perceptions did not encourage students to take a deeper approach to the teaching-learning process but, did become more invested in learner assessments that they perceived as essential to their learning (Gijbels et al., 2008). Implications of this study contribute to the idea that attention should be refocused from the teaching-learning process to student perceptions of learner assessments, as this may result in a larger impact on student learning (Gijbels et al., 2008).

Teacher Perceptions of Learner Assessments

A prevalent theme among six articles in the critical mass was how teachers perceive the use of learner assessments. One article focused on core academic subjects and five articles stemmed from research completed in physical education. While one study focused on teacher perceptions and how learner assessments affect student learning (Minath, 2003), another study concentrated on why teachers may have these perceptions of learner assessments (Karp & Woods, 2008). The four additional studies investigated teacher perceptions of learner assessments in regards to the teaching-learning process (Duncan & Buskirk-Cohen, 2011; James et al., 2005; James et al., 2009; So & Lee, 2011). Table 2 displays the studies that supported the theme of teacher perceptions of learner assessments.

The way teachers perceive learner assessments undoubtedly affect which types of learner assessments they will use in their teaching practices. If teachers perceive positive benefits for their students through the use of learner assessments, they will use them (Mintah, 2003). Mintah's (2003) study investigated the extent and type of authentic learner assessments used in public school physical education and teachers' perceptions about those learner assessments' affect on students' self-concept, motivation, and skill achievement. It was described that 75.2% of teachers used authentic assessment and perceived a significant impact on self-concept, motivation, and skill achievement. This signifies that the use of authentic assessment enables students to demonstrate their competence, see positive changes and improve self-concept, motivation, and skill achievement (Mintah, 2003). Implications of this study state that if teachers perceive students to achieve these positive effects, learner assessments will continue to be used as a part of the teaching-learning process.

Teacher perceptions of learner assessments play a large role in how teachers approach the teaching-learning process. James et al. (2005) investigated an elementary physical education teacher's perception of attempting to implement learner assessments that aligned with the NASPE standards. It was reported that teachers perceived learning was enhanced when a connection existed between instructional tasks and learner assessments. In addition, the teacher became more focused on content and learning activities that reflected both the standards and learner assessments. These findings indicated that using learner assessments aligned with the NASPE content standards improved the teaching-learning process in physical education (James et al., 2005). Additionally, James et al. (2009) examined middle school physical education teacher

perceptions of learner assessments through an ecological lens in order to investigate how learner assessments influenced the teacher's agenda in the classroom, it was reported that teachers did not perceive learner assessments as valuable because as teacher, they were not held accountable to demonstrate student learning. Both studies imply that teacher perceptions of learner assessments in physical education, whether they view them as important or unimportant, are essential when determining how they will approach the teaching-learning process (James et al., 2005; James et al., 2009).

Duncan and Buskirk-Cohen (2011) investigated student experiences in core academic subjects with learner assessments also addressed teacher perceptions. While students were asked to reflect on learner assessments in their college-level classes, teachers' perceptions of the learner assessments used were also investigated. Results demonstrated that teachers perceived learner assessments as valuable because they allowed students to apply the knowledge they had learned in a creative way (Duncan & Buskirk-Cohen, 2011). Duncan and Buskirk-Cohen's (2011) study implies that teachers perceive learner assessments as having a positive impact on the teaching-learning process for both teachers and students.

In a study that investigated the influence of the physical education teachers' prior perceptions of the teaching-learning process and their use of rubrics as learner assessments, it was reported that teachers perceived assessment as evaluation driven as they usually used rubrics primarily for marking or scoring (So & Lee, 2011). The use of rubrics as a learner assessment did not change teachers underlying approach to teaching and learning, which indicates that teachers adopt rubrics in a way that aligns with their prior perceptions and the use of rubrics does not necessarily automatically result in

assessment for learning (So & Lee, 2011). Implications of this study indicate that teachers must perceive a purpose of learner assessments as more than just giving a grade, but as a way to demonstrate student learning (So & Lee, 2011). The use of learner assessments should enhance the teaching-learning process primarily for students as they are centered around how they learn, and as teachers use them as a process variable to induce more meaningful learning. If rubrics, and other learner assessments' purpose are to only provide a grade, then they are not being linked to more meaningful learning outcomes. Teachers may be using them to demonstrate a product instead of enriching the learning process, which is not serving the intended purpose of learner assessments and will not contribute to student learning in the teaching-learning process.

Teacher perceptions are vital to the way teachers approach the teaching-learning process, as studied in Karp and Woods (2008) investigation of where preservice physical education teacher perceptions of learner assessments originated. By collecting data from preservice physical education teachers through a survey and interviews, results indicated that teacher perceptions stemmed from their previous experiences with learner assessments and their lack of knowledge as to how to implement learner assessments (Karp & Woods, 2008). This study implies that in order to change teacher perceptions of learner assessments, both their prior experience and knowledge about assessments must be considered (Karp & Woods, 2008). Teachers' prior experience and knowledge in regards to learner assessments can affect the way they approach the teaching-learning process both positively and negatively. Considering what experience teachers have can affect the way they perceive the use of learner assessments and how they use them to evaluate student learning.

Summary

As the use of learner assessments in core academic subjects and physical education were investigated, the results of the critical mass of literature synthesized in this paper are presented as they demonstrated three main themes identified as (1) skill acquisition through the use of learner assessments, (2) student perceptions of learner assessments and (3) teacher perceptions of learner assessments while detailing their effects on the stakeholders involved in the teaching-learning process. Each of the three main themes had sub-emergent ideas that had commonalities and differences among the literature, but all which linked learner assessments to their role in the teaching-learning process.

CHAPTER 4

DISCUSSION

The *National Association for Sport and Physical Education* argues that physical education demonstrates comparable characteristics of core academic subjects (NASPE, 2010). With limited research available in both core academic subjects and physical education addressing their use of learner assessments, this synthesis aims to examine the similarities and differences in learner assessments to best understand the implications this has for physical education as a non-core academic subject. With NASPE (2010) outlining the case that physical education fits and exceeds the characteristics of a core academic subject, this discussion takes the perspective that the findings related to the use of learner assessments can be applied to both core academic subjects and physical education.

The results of this critical mass of literature demonstrated common themes among the use of learner assessments in core academic subjects and physical education including (1) skill acquisition through the use of learner assessments, (2) student perceptions of learner assessments and (3) teacher perceptions of learner assessments as they impact the teaching-learning process. This discussion aims to offer implications, conclusions and future suggestions in investigating the relationship that exists between core academic subjects and physical education's use of learner assessments.

Skill Acquisition Through the Use of Learner Assessments

The literature demonstrates that use of learner assessments in both core academic subjects and physical education have had an effect on skill acquisition through the teaching-learning process (Charvadem et al., 2012; Chung, 2004; Lund & Shanklin, 2011; Sivakumaran et al., 2011). While four studies from the critical mass discussed skill acquisition through the use of learner assessments, each study brought a different a sub-

theme. Chung (2004) focused on teaching approaches' effect on skill acquisition demonstrated through learner assessments, Lund and Shanklin (2011) concentrated on skill acquisition as students were held accountable for their learning through learner assessments. Charvadem et al. (2012) and Sivakumaran et al. (2011) evaluated skill acquisition through the types of learner assessments used in the teaching-learning process.

When differences in teaching approaches, through a traditional versus a constructivists approach, were explored to understand how they affected learner assessments' impact on skill acquisition, results indicated that students involved in both teaching approaches demonstrated learning (Chung, 2004). Through standardized assessments, students had confirmed their acquisition of mathematic skills and knowledge despite the learning environment they were a part of (Chung, 2004). Implications of Chung's (2004) study solidifies the importance of using learner assessments to hold students accountable for their learning, but teaching approaches may not have the impact on learning that was originally suspected. As long as teachers feel comfortable in whatever teaching approach they use in the classroom to be most effective in the teaching-learning process and use learner assessments to hold students accountable, learning will take place. However, in both core academic subjects and physical education, effective teachers will still recognize that no one approach will meet the needs of all their students and may use a variety of teaching styles to help students perform on learner assessments.

Similar implications from Lund and Shanklin's (2011) physical education study surfaced as well. They had investigated the effect of accountability on the quality of

student motor responses as they acquired skills. Students were assessed through several learner assessments including performance assessments and a written test. Results indicated that all students acquired skills and knowledge during the unit. Through the use of these learner assessments students were held accountable for their individual learning (Lund & Shanklin, 2011). The use of learner assessments, in a variety of forms, holds students accountable for demonstrating learning through acquiring skills and knowledge (Chung, 2004; Lund & Shanklin, 2011). In addition, if a teacher can communicate the expectation of learner assessments in the beginning and throughout the unit being taught, students may learn more through the use of learner assessments and take more responsibility for their learning because teachers are holding them accountable. In both core academic subjects, like math, and physical education, the literature recognizes the importance of communicating expectations for learning and learner assessments as well as holding students accountable for meeting those expectations. If students are not aware of expectations or are not held accountable for meeting them, the teaching-learning process can suffer.

The types of learner assessments used in the teaching-learning process may affect skill acquisition. While Chung (2004), Lund and Shanklin's (2011) results both demonstrated students had learned because they were held accountable, each study used different types of learner assessments. Performance assessments or authentic assessments may allow students to achieve more meaningful learning as they can become more connected to the content being taught as it relates to them as individuals (Sivakumaran et al., 2011). Sivakumaran et al. (2011) found that eighty percent of teacher education faculty members of core academic subjects believed that performance assessments were

effective or somewhat effective in helping teacher candidates acquire teaching skills.

When investigating the impact of portfolio assessments on English as Foreign Language learners, Charvade et al. (2012) found that students who created a portfolio had achieved more meaningful learning in conjunction with a positive experience with the content being taught. When considering different types of learner assessments like standardized tests or written tests compared to performance or authentic assessments, the literature supports the ideas that many considerations come into play. This may include the subject being taught, the level of learners, differing learning styles among students and elements of the learning environment. This implies that using a variety of learner assessments to hold students accountable for their learning, may contribute to students' skill and knowledge acquisition (Charvade et al., 2012; Chung, 2004; Lund & Shanklin, 2011; Sivakumaran et al., 2011). There is no one learner assessment that is best to use in the teaching-learning process, but students should be able to demonstrate learning and acquire skill in both core academic subjects and physical education as they are held accountable through learner assessments. Accountability is an essential component of student learning, as it holds the students and teachers responsible for making meaningful connections to the material. Core academic subjects have been held accountable for their students' learning through the No Child Left Behind legislation (Hanson et al., 2006), but physical education has never been required to demonstrate this accountability. If physical education wants to become a core academic subject, holding students and teachers accountable for learning needs to become part of physical education's learning culture. If learner assessments are used in conjunction with others, reaching a variety of learner styles, more meaningful learning may be possible.

Student Perceptions of Learner Assessments

Research shows that five studies found in the critical mass, three with core academic subjects and two with physical education, addressed student perceptions of learner assessments as they are highly connected to students' role in the teaching-learning process. Duncan and Buskirk-Cohen (2011) examined how student perceptions of learner assessments were linked to their understanding of the learning environment. Bas (2012) focused on how student perceptions of learner assessments were connected to their overall academic success. Gijbels et al. (2008), James et al. (2005) and James et al. (2009) looked at student perceptions of learner assessments' role in their approach to the teaching-learning process.

Student experiences with learner assessments in core-academic subjects were taken into account when Duncan and Buskirk-Cohen (2011) investigated student beliefs in regards to the learner assessments they had completed. Results indicated that students had positive perceptions of learner assessments as they contributed to a productive learning environment because students felt more engaged as they put forth more time and energy in developing their own meaning to content (Duncan and Buskirk-Cohen, 2011). With research on student perceptions of learner assessments effecting their learning environment only being completed in core academic subjects, this may imply that a physical education environment could reap similar benefits, resulting in a supportive, fun environment where students are engaged in content and put forth effort to learn. Core academic subjects have taken into account the affects a learning environment may have on student learning, which implies that physical education needs to do the same. A positive learning environment in any subject is essential to allow students to feel comfortable, engage in the material and make meaningful connections through the use of

learner assessments. As physical education also consistently addresses the social domain through the set-up of their unique learning environment, this aspect may be even more important in physical education than it is in core academic subjects. Physical education teachers should address steps they are taking to facilitate a open and supportive learning environment in all their classes.

Bas (2012) completed another study on the subject of science that supports Duncan and Buskirk-Cohen's (2011) study, but also takes it a step further linking the connections between student perceptions of learner assessments as they not only effect how they understand the learning environment, but also how that effects their overall academic success. As Bas (2012) examined student perceptions of learner assessments in science, it was reported that there is a positive correlation between student perceptions of how they were assessed and their success in science based on how personally relevant the student found the learner assessments. Bas' (2012) research implies that students learn most when they perceive the content being learned and assessed to being personally applicable to their overall academic success and as they become more invested, they contributed more time and energy into the teaching-learning process (Bas, 2012; Duncan & Buskirk-Cohen, 2011). Although both of these studies focus on core academic subjects, the same implications are still relevant to physical education. If students in physical education perceive the content and learner assessments as personally meaningful, they will be more engaged and allocate more time and energy to the teaching-learning process. It is difficult to say where physical education currently stands when considering the level students are engaged in content and find it personally applicable because a lack of research exists addressing this topic in physical education.

But, as physical education makes strides to become a core academic subject, teachers' focus should consider how students find the content personally relevant and investigate ways to enrich the relationship between student learning and the material being taught through the use of learner assessments.

Research that has been completed on student perceptions of learner assessments in physical education focused on how they affected their approach to the teaching-learning process and using learner assessments. James et al. (2005) reported that students perceived learning was enhanced because they were more engaged in the content when the teacher communicated expectations and a connection existed between instructional tasks and learner assessments. In addition, students put forth more effort and performed better because they perceived their learning as important as they were held accountable through learner assessments (James et al., 2005). This study supports the idea that teaching approaches and learner assessments should be in alignment with learning outcomes as these outcomes are communicated with students throughout the teaching-learning process. The use of learner assessments holds both teachers and students accountable to demonstrate their learning as a direct result of what has been taught. James et al. (2009) study also supported this data as it found the counterpart to be true and reported that when students were not given expectations of learner assessments, students perceived learner assessments as unimportant because they were not held accountable. When students are not given expectations for learning or assessments, it is difficult for them to find the value in what is being taught. Teachers in both core academic subjects and physical education cannot expect students to put forth time and effort in class if expectations are not communicate as to why it is essential for them to be

invested in the material and then follow through by holding students accountable for demonstrating learning.

When comparing James et al. (2005) and James et al. (2009) to one that focused on core academic subjects, Gijbels et al. (2008) investigated student perceptions of learner assessments and how they affected their level of involvement in authentic assessments in relation to their approach in the teaching-learning process. Results from Gijbels's et al. (2008) study indicated that student perceptions did not persuade students to take a deeper approach to the teaching-learning process, but did become more engaged in learner assessments as they perceived them as vital to their learning when they were held accountable. The findings of these three studies (Gijbels et al., 2008; James et al., 2005; James et al., 2009) imply that when students perceive learner assessments to be important because they are held accountable, then they perceive their role in their teaching-learning process as important too, which leads to increased student engagement in the subject content being learned. Students having positive perceptions of learner assessments will facilitate learning in both core academic subjects and physical education because they can connect with the content and feel engaged in the learning environment.

Teacher Perceptions of Learner Assessments

Six articles in the critical mass demonstrated a main theme as to how teachers perceive the use of learner assessments and what effects that may have on the use of learner assessments, with one article on core academic subjects and five articles related to physical education. Mintah (2003) concentrated on teachers perceptions' of how learner assessment effect student learning and Karp and Woods (2008) focused on where these teacher perceptions of learner assessments may have developed. The four additional studies investigated teacher perceptions of learner assessments having to do with the

teaching-learning process (Duncan & Buskirk-Cohen, 2011; James et al., 2005; James et al., 2009; So & Lee, 2011).

This theme takes on the perspective that teachers need to perceive learner assessments as important and relevant to student learning in order for them to use them in the teaching-learning process (Mintah, 2003). Mintah's (2003) study explored the extent and type of authentic learner assessments used in physical education and teachers' perceptions about those learner assessments' affect on students' self-concept, motivation, and skill achievement. Results indicated that 75.2% of teachers used authentic assessment and perceived a noteworthy influence on those student qualities because students were able to demonstrate their capability and see improvements in themselves (Mintah, 2003). This study (Mintah, 2003) implies that if teachers perceive learner assessments to provide students with the opportunity to see these benefits, then they will use learner assessments consistently to enhance student learning and the teaching-learning process. Teachers in core academic subjects and physical education desire to equip their students with skills and knowledge that will be beneficial to them in the future. If learner assessments can demonstrate that their teaching has provided skills in a variety of domains, teachers will be more apt to continue to use learner assessments.

As James et al. (2005) studied one elementary physical education teacher's perception of attempting to implement learner assessments that aligned with the NASPE standards, it was reported that teachers perceived student learning improved when instructional tasks are linked to learner assessments. In another physical education study that examined teacher perceptions of learner assessments, it was stated that teachers were not held accountable for teaching and therefore did not perceive learner assessments as an

important aspect of the teaching-learning process (James et al., 2009). James et al. (2005) and James et al. (2009) imply that teacher perceptions of learner assessments in physical education will only change if the way they are held accountable changes. Teachers that are held accountable for their teaching will continue to use learner assessments to demonstrate learning, but if teachers are not held accountable they will not perceive learner assessments as important. Teacher perceptions of learner assessments in physical education may not be as consistent as those in core academic subjects because unlike teachers in core academic subjects, physical education teachers aren't always held accountable for their students' learning. In addition, physical education teachers' perceptions may not change if they are not required to demonstrate this learning because they are not held accountable like a core academic subject (James et al., 2009).

Duncan and Buskirk-Cohen (2011) was the only core academic study that addressed teacher perceptions of learner assessments, and even so, this study's main focus was still on how students perceive learner assessments. Teachers perceived learner assessments in this study to be beneficial because they allowed students to directly apply knowledge they had learned in a unique manner (Duncan & Buskirk-Cohen, 2011). Duncan and Buskirk-Cohen's (2011) study has the same implications for both students and teachers in that if they perceive learner assessments as having a positive impact on the teaching-learning process they will be more engaged in the teaching-learning process and the learner assessments being used. These implications align with physical education as well in saying that learner assessments that have a positive impact on the teaching-learning process will be seen as valuable to both students and teachers. When considering why this lack of research exists in core academic subjects, but is so prevalent in physical

education sets the stage for understanding that physical education, at this point in time, needs to be concerned with how teachers' perceive learner assessments because that may determine how they use them. In core academic subjects, this concern does not exist because teachers are held accountable through the No Child Left Behind legislation (Hanson et al., 2006).

Physical education teachers' prior perceptions of rubrics as learner assessments and their effect on the teaching-learning process were investigated by So and Lee (2011). Findings indicated that teachers perceived assessment as that the purpose of using rubrics was to solely provide students with a numeric grade. Indications of this study display that teachers use rubrics in a way that aligns with their prior perceptions which doesn't always mean students are learning (So & Lee, 2011). Implications of So and Lee's (2011) study suggest that teacher perceptions play an important role in that they not only determine what learner assessments they will use but also how they will use them to facilitate and enhance student learning. In core academic subjects, learner assessments' role is clearly defined for teachers, but in physical education, many times it is decided by the teacher what assessments they will use and the role those assessments will play in the teaching-learning process. If learner assessments are used improperly, like in So and Lee's (2011) study, it may not only negatively effect teacher perceptions, but also student perceptions of learner assessments and physical education's argument to become a core academic subject.

Karp and Woods (2008) were interested to understand where teacher perceptions of learner assessments develop in a physical education setting. Results of this study displayed that teacher perceptions came from their previous experiences with learner

assessments and their lack of knowledge and experience when implementing them (Karp & Woods, 2008). This study (Karp & Woods, 2008), also supported by So and Lee (2011), implies that teachers' prior experience and knowledge in regards to learner assessments can effect the way they approach the teaching-learning process both positively and negatively. Considering what experience teachers have can affect the way they perceive the use of learner assessments and how they use them to evaluate student learning. Further, if these experience negatively effect how teachers perceive learner assessments, researchers may find value in understanding if at all possible, could these perceptions change.

Future Implications

For scholars who aspire to positively impact learners in the physical education settings, there is much to be learned from comparing physical education to core academic subjects. As this critical mass of literature was obtained, themes emerged in both core academic subjects and physical education including skills acquisition through the use of learner assessments (Bas, 2012; Charvadem et al., 2012; Chung, 2004; Lund & Shanklin, 2011; Sivakumaran et al., 2011), student perceptions of learner assessments (Bas, 2012; Duncan & Buskirk-Cohen, 2011; Gijbels et al., 2008; James et al., 2005; James et al., 2009; Mintah, 2003) and teacher perceptions of learner assessments (Bas, 2012; Charvadem et al., 2012; Mintah, 2003; Sivakumaran et al., 2011).

Students acquiring skill and knowledge are an essential aspect of the teaching-learning process. Different types of learner assessments may be appropriate when considering the subject being taught, the level of learners, differing learner styles and the learning environment. However, by first holding students accountable for their learning through learner assessments, teachers can communicate expectations and create a culture

around assessment in both core academic subjects and physical education. The next step in trying to produce more meaningful learning with students is to consider using a variety of learner assessments that demonstrate skill acquisition (Charvade et al., 2012; Chung, 2004; Lund & Shanklin, 2011; Sivakumaran et al., 2011). Future research should address the implications of holding students accountable through the use of learner assessments as well as the quality of learning taking place in relation to the type of learner assessments being used. If our goal as teaching professionals is to maximize student learning, research should focus on what students are taking away from their experiences with learner assessments.

When it comes to using learner assessments in the classroom, two stakeholders are important, the teacher and the student. If either of those is not invested at in the task at hand, learning suffers. Student perceptions of learner assessments are a vital component of the teaching-learning process in both core academic subjects and physical education. The literature supports that student perceptions affect their view of the learning environment, their overall academic success and their role in the teaching-learning process. Positive student perceptions and content that becomes personally relevant (Bas, 2012) can lead to students feeling apart of a more engaged and fun environment in which they perceive they will be successful in (Bas, 2012; Duncan & Buskirk-Cohen, 2011) if they are held accountable for their learning through the teaching-learning process and use of learner assessments (Gijbels et al., 2008; James et al., 2005; James et al., 2009). At this time, a lack of research has been conducted on physical education's learning environment and students' perception of their overall academic success in relation to the use of learner

assessments. With positive feedback in core academic subjects, physical education researchers should consider investigating this topic further.

Teacher perceptions of learner assessments were a main theme among articles in physical education, but lacked research in core academic subjects. Implications exist that support the idea that if teachers perceive learner assessments as beneficial to not only student learning but also their growth and development as individuals, teachers will use learner assessments in the approach to the teaching-learning process. However, if teachers are not held accountable for demonstrating student learning, they will not perceive the use of learner assessments as important (James et al., 2009). Since teachers in core academic subjects have been held accountable through the No Child Left Behind legislation in 2001 (Hanson et al., 2006), teacher perceptions may not be an area of concern in core academic subjects, resulting in a lack of research in this area. In physical education, teachers are not always held accountable for student learning which causes their perceptions of learner assessments to be an area of concern and research is needed to understand this topic better. In addition to knowing what they perceive about learner assessments, it is imperative to understand why they feel this way in order to address any negative impacts this may have for physical education as a non-core academic subject. Prior experiences effect not only if teachers perceive learner assessments as important but also how they use them, which can both positively or negatively affect their approach to the teaching-learning process. Researchers should be encouraged to study teachers' prior experience and knowledge in regards to learner assessments and if those perceptions can change with continuing education, professional development and positive experiences when using learner assessments in the teaching-learning process. In addition, researchers

may what to investigate how teachers perceptions can change and what this may imply for physical education as a core academic subject.

Summary

The findings of the critical mass has implications for both core academic subjects and physical education as they meet the same criteria in being considered “core” according to NASPE (2010). Through a variety of learner assessments students should be able to demonstrate learning and skill acquisition in both core academic subjects and physical education as they are taught with any teaching approach because they are held accountable. In addition, if students perceive learner assessment as important and personally meaningful, they will become more engaged in the learning environment and their overall academic success. With positive student perceptions, students take on an active role in the teaching-learning process, as they are held accountable through learner assessments. Teachers however, need to perceive the use of learner assessments as valuable to student learning and be held accountable for demonstrating student learning in order to use them in their teaching methods.

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APPENDIX

Bas, G. (2012). Investigating the correlation between students' perceptions on the constructivist learning environment and their academic success in science courses with path analysis. *Journal of Baltic Science Education*, 11(4), 367-378.

Problem Statement	Subjects	Instruments	Procedures	Findings
Investigate the correlation between elementary students' perceptions on the constructivist learning environment and their academic success in science	Elementary students in Turkey Grades 6-8 195 students from six different public elementary schools	"The Constructivist Learning Environment Survey"	Survey was given to students on a voluntary, anonymous and confidential basis Parent permission was received Students were told the purpose of the study before taking the survey Data Analyzed with LISRE: 8.51	A correlation does exist between students' perceptions on the constructivist learning environment and their academic success Based on five variables effecting student success including control, negotiation, relevance, uncertainty and critical learning

Charvadem, K. R., Jahandar, S., & Khodabandehlou, M. (2012). The impact of portfolio assessment on EFL learners' reading comprehension ability. *Canadian Center of Science and Education* 5(7), 129-139.

Problem Statement	Subjects	Instruments	Procedures	Findings
<p>Investigate the effect of portfolio assessment on EFL (English as a foreign language) learner's reading comprehension ability</p> <p>1. Is there any significant difference between the impact of traditional testing methods and portfolios assessment on EFL learners' reading comprehension ability?</p> <p>2. Do portfolio assessments have a positive effect on learners' reading comprehension ability?</p>	<p>50 female students</p> <p>Ages 17-22</p> <p>In Iran</p> <p>Intermediate level EFL students</p> <p>Randomly assigned</p>	<p>Proficiency test was given to students</p> <p>Two reading comprehension tests as pretest and posttest were given</p>	<p>Students were broken into 2 groups experimental and control</p> <p>Proficiency test and analyzed with a Nelson 300 D</p> <p>Two reading comprehension tests as pretest and posttest and steps books were used</p> <p>Data analyzed with descriptive statistics, independent t-tests and matched t-tests</p>	<p>There is a significant difference between the means of the impact of traditional and portfolio assessment on EFL learners reading comprehensions ability</p> <p>Portfolio assessments had a positive effect on the experimental group's progress in their reading comprehension ability</p>

Chung, I. (2004). A comparative assessment of constructivist and traditionalist approaches to establishing mathematical connections in learning multiplication. *Education 125(2)*, 271-278.

Problem Statement	Subjects	Instruments	Procedures	Findings
Investigated which instructional method, traditionalists versus a constructivist, would be more effective in teaching students mathematic multiplication and having them acquiring basic skills	71 3 rd grade students Ages 8-10 2 Public Schools 4 Classes	Three tests administered to students Survey that contained interview questions asking the students to demonstrate their knowledge	Students were given three tests and in a pretest and posttest method with 10 lessons in between tests; and a survey with interview-like questions Data Analysis: Repeated Measures ANOVA Interview questions were analyzed based on a researcher made scoring guide	Students from both approaches improved their multiplication skills Constructivists approach lead to difficulty managing the learning environment Teachers that were not comfortable with the constructivist approach were less effective teachers

Duncan, T., & Buskirk-Cohen, A. A. (2011). Exploring learner-centered assessment: A cross-disciplinary approach. *International Journal of teaching and Learning in Higher Education*, 23(2), 246-259.

Problem Statement	Subjects	Instruments	Procedures	Findings
Investigated student experiences in core academic subjects with a student-centered constructivist approach and learner assessments	Students of two University professors in an Introduction to Language Arts with 20 students and an Adolescent Psychology class with 23 students	Interviews and class discussions that focused on reflecting on assessments given in class	<p>In each class, professors first taught in a traditional manner and gave students a traditional assessment</p> <p>Following this, students were taught in a constructivist approach and given authentic assessments</p> <p>Assessments were compared and contrasted with student success as the main area of interest</p>	<p>Strengths of learner assessments: brought fun into the classroom; students were a part of the process rather than the product; projects demonstrated student diversity; students could apply knowledge in a creative way</p> <p>Challenges: with large class sizes, grading may be difficult and time consuming; students may be reluctant to share work with one another</p>

Gijbels, D., Segers, M., & Struyf, E. (2008). Constructivist learning environments and the (im)possibility to change students' perceptions of assessment demands and approaches to learning. *Instructional Science*, 36, 431-443.

Problem Statement	Subjects	Instruments	Procedures	Findings
Investigate how change in learning approaches is related to students' initial approach to learning, their perceptions of assessment demands as they enter a psychology course, and their perceptions of the assessment demands when confronted with new modes of assessment implemented in the course	Teacher preparation students in an education and psychology course at the University of Antwerp, Flanders, Belgium	Revised version of R-SPQ-2F (study-process-questionnaire) Assessment Demands Questionnaire	Revised version of R-SPQ-2F (study-process-questionnaire) was given at the first and final lesson to measure initial and actual approaches to learning Assessment Demands Questionnaire was given at the first and second lessons because the teacher had explained the method of assessment Data Analysis: Reliability, descriptive statistics, correlation, stepwise multiple regression	Students did change their perceptions of assessment demands toward more deep level of assessment but did not change their approach to learning More students expected an assessment that assess less surface levels, the more they changed their learning to a more surface approach

James, A. R., Griffin, L. L., & Dodds, P. (2009). Perceptions of middle school assessments: An ecological view. *Physical Education and Sport Pedagogy*, 323-334.

Problem Statement	Subjects	Instruments	Procedures	Findings
Examine middle school students' and their teacher's perception of assessment through an ecological lens in order to investigate how assessment influenced both the teacher's and the students' agenda in the classroom	Intact 7 th grade class of 36 students Their teacher	Videotaped each lesson Field notes Formal interviews Document collection	Observed over 4-months Observed two lessons, fitness and volleyball; and assessments Field notes were descriptive and reflective, and organized into task systems Pre and post interviews with teacher and 10 students Inductive analysis with constant comparison Triangulation with field notes, teacher interviews and student interviews; regular engagement; examined data	Connection between task systems and assessment (a) Ambiguity and risk in assessment: students did not receive information about a standard of performance, low risk (b) Assessment tasks and accountability: not viewed as important because of a lack of accountability (c) Assessment and the student social system: some assessment task were supported others were not

James, A. R., Griffin, L. L., & France, T. (2005). Perceptions of assessment in elementary physical education: A case study. *The Physical Educator*, 85-95.

Problem Statement	Subjects	Instruments	Procedures	Findings
<p>(a) Examine a teacher's perceptions of attempting to implement assessments aligned with the NASPE standards</p> <p>(b) Examine students' perceptions of assessment in P.E.</p>	<p>46, 4th grade students</p> <p>Their teacher</p>	<p>Questionnaire</p> <p>Formal and informal interviews</p> <p>Electronic journal kept by teacher</p> <p>Document collection</p>	<p>Questionnaire and interviews conducted at end of 3 months,</p> <p>Analysis of Questionnaires: descriptive statistics using frequencies, means, and percentages</p> <p>Electronic journal kept throughout 3 months,</p> <p>Analysis of journals and interviews: constant comparison</p> <p>Documents selected as sample assessments and the local curriculum were collected</p> <p>Triangulation: peer examination and discussion</p>	<p>Connection between instructional tasks and assessments, enhanced learning</p> <p>Students knew what was expected and focused on content</p> <p>(a) Assessment and the teaching-learning process</p> <p>Perceived that assessment improved the teaching learning process, became more reflective</p> <p>(b) Factors impacting assessment</p> <p>Marginalization, time spent in P.E., not as rigorous</p>

Karp, G. G., & Woods, M. L. (2008). Preservice teachers' perception about assessment and its implementation. *Journal of Teaching in Physical Education*, 27, 327-346.

Problem Statement	Subjects	Instruments	Procedures	Findings
<p>1. Based on their K-12 PE assessment, what perceptions and beliefs about assessment do PTs bring to their PETE programs?</p> <p>2. What are PTs' perceptions and beliefs about assessment and learning for a high school unit they teach?</p> <p>2a. In relation to its role in student learning?</p> <p>2b. In relation to its role in instruction?</p> <p>3. How are assessment strategies for a high school unit implemented?</p>	<p>12 m, 5 f, Pts=17</p> <p>Senior PETE PTs</p>	<p>Open-ended surveys at beginning; look at K-12 assessment experience</p> <p>Survey questions and focus group interviews at beginning and end about perceptions and beliefs about assessment</p> <p>Focus group during and post unit plan,</p> <p>Likert-scale survey at end of course to look at use and strategies</p>	<p>Course Content: Complete needs assessment, select appropriate learning outcomes, plan instruction and assessment</p> <p>Data Collection: open-ended surveys, focus group interviews, and Likert-scale</p> <p>Data Analysis: Inductively, common themes, frequencies and percentages</p> <p>Trustworthiness: triangulation</p>	<p>For teachers assessments: facilitate increased student learning, show achievement of standards, evaluate teacher effectiveness, determine where students are with skill and knowledge</p> <p>For students assessment: shows them where they are in relation to goals or standards, motivates</p> <p>Time constraints, preassessments, type, how to</p>

Lund, J., & Shanklin, J. (2011). The impact of accountability on student performance in a secondary physical education badminton unit. *The Physical Educator*, 210-219.

Problem Statement	Subjects	Instruments	Procedures	Findings
Examine the effect of accountability on the quality of student motor responses during a 10-day badminton unit with female high school students enrolled in a required physical education class	<p>2 intact female PE classes</p> <p>Teacher with 20 years experience</p> <p>Met daily 50 min, 10-day badminton unit</p> <p>Targeted students: 2 students from each ability level (less, average, more)</p>	<p>Observational coding system</p> <p>CS: correct successful</p> <p>CU: correct unsuccessful</p> <p>IS: incorrect successful</p> <p>IU: incorrect unsuccessful</p>	<p>For each targeted student, the researcher recorded total # of skills attempted</p> <p>On day 3, treatment group were informed of grading criteria, control group did not receive this information</p> <p>Descriptive statistics, percentages of total responses and daily responses were calculated</p> <p>ANOVA</p>	<p>Knowing teacher expectations can impact student responses when assessments and the criteria used to evaluate them are explained near the beginning of the unit</p> <p>Both treatment and control students show improvement during the unit, the treatment group showed greater improvement</p>

Mintah, J. (2003). Authentic assessment in physical education: Prevalence of use and perceived impact on students' self-concept, motivation, and skill achievement. *Measurement in Physical Education and Exercise Science*, 7(3), 161-174.

Problem Statement	Subjects	Instruments	Procedures	Findings
(a) Describe and analyze the extent and type authentic assessment use in public school P.E.	210 public school P.E. teachers 38.1% Elem 33.3% M.S.	Mintah P.E. Authentic Assessment Inventory (MPEAAI): Teacher observation, self-observation, checklists, peer observation, even tasks; portfolio, essay	-MPEAAI, pilot tested twice -Cover letter, teacher demographic questionnaire, MPEAAI questionnaire, and self-addressed prepaid envelope were mailed to P.E. teachers from the state department of education	75.2% used A.A. 44.9% in Elem 29.7% in M.S. 25.3% H.S.
(b) Investigate P.E. teachers' perceptions about the impact of authentic assessment on students' self-concept, motivation, and skill achievement	28.6% H.S. Experience 1-34 years	Rate the extent of use and perceptions about impact		24.8% did not use A.A. because of time constraints, lack of teachers, large class size Teachers perceived a significant impact on self-concept, motivation, skill achievement

Sivakumaran, T., Holland, G., Heyning, K., Wishart, W. & Flowers-Gibson, B. (2011).

Impact of performance assessment on P-12 learners. *National Teacher Education Journal*, 4(2), 57-60.

Problem Statement	Subjects	Instruments	Procedures	Findings
Investigated how performance assessment has been implemented based on types of performance assessments, how performance assessments were implemented, and how effective they were	Teacher preparation candidates with pre-k through 12 learners at three different universities 31 faculty members participated	Survey addressing questions regarding performance assessment and its effectiveness	A survey monkey was used to address all types of performance assessments used to impact teaching and learning was administrated at the three universities Quantitative data were analyzed using descriptive statistics Qualitative data were categorized through themes	55% of faculty members that completed the survey did use performance assessments while 45% did not Performance assessments used included action research, portfolios, pre and post assignments, and teacher work sample 40% said they were effective and another 40% said they were somewhat effective

So, W. W. M., & Lee T. T. H. (2011). Influences of teachers' perceptions of teaching and learning on the implementation of assessment for learning in inquiry study.

Assessment in Education: Principles, Policy & Practice, 18(4), 417-432. doi:

org/10.1080/96594X.2011.577409.

Problem Statement	Subjects	Instruments	Procedures	Findings
The influence of teachers' prior perceptions of teaching and learning on the use of rubrics as a tool to achieve assessment for learning	36 teachers 400 students 10 secondary school in Hong Kong	Pre and post semi-structured interviews Video-taped lesson observations Teacher handouts Student's work	Teachers were interviewed at beginning and end to understand their attitudes and perceptions of assessment for learning 82 lessons of 19 teachers were observed to collect first-hand information on how rubrics were applied Data coded into incidents of how rubrics were used, then compared with each other to identify patterns Triangulation	50% used rubrics for a mark 2/3 thought rubrics would help students understand and keep focused Rubrics enabled alternative assessments Rubrics helped teachers to define the content of teaching