A Case Study of Virtual Physical Education Teachers' Experiences in and Perspectives of Online Teaching

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A Case Study of Virtual Physical Education Teachers’ Experiences in and
Perspectives of Online Teaching

by

Leslie Williams

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Education
in Interdisciplinary Studies
Department of Physical Education & Exercise Science
College of Education
University of South Florida

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Date of Approval:
October 23, 2013

Keywords: online physical education, virtual PE, distance education, K-12 virtual teaching

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Dedication

This dissertation is dedicated to my husband, Kelly, to my daughter Shelby, to my brother, Jeff, and my parents, Lyle and Gloria, who have not just tolerated this journey with me but have supported me, encouraged me, and cheered me on throughout the process. To my daughter, Brynn, and son, Payden, in hopes that they may see anything is possible with God. Kelly and Shelby, in particular, have experienced first-hand the setbacks, progresses, occasional discouragements and ultimate joys over the past six years.
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Dr. Faucette has been supportive and helpful throughout the years that I have spent on this entire effort. Her kindness has been so appreciated. She not only supported me in this research, she shared and modeled effective practices as an outstanding teacher educator. Dr. Sun has been a tremendous encourager and has provided practical feedback about the writing from the early stages of the proposal and throughout the remaining writing processes. Neither Dr. Faucette nor Dr. Sun ever once asked, “What is taking you so long?!”

Instrumental in helping me understand what it takes to make qualitative writing effective and informative, Dr. Janesick has been a solid support to me over the past few years. Her direct, clear, concise feedback about what was good about the work and what needed to be modified
was so extremely encouraging; every encounter with Dr. Janesick left me with renewed hope that I could complete this task.

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Abstract

The 21st century has brought changes to education - changes that include greater distance learning options for middle and high school students. While distance learning has been around for a century, the progressive ways in which students are able to select and complete virtual courses through the internet in nearly every secondary content area are increasing. Physical education courses at the secondary level are among the courses offered online to students across the United States and Canada. One question that prevails in communities and particularly in physical education circles is, “How do you teach PE online?” In an effort to address that very question, this study sought to describe online secondary physical education instruction through the lived experiences of four teachers who were doing just that. This was a 12-week qualitative case study that included data from two interviews with each of the four online PE teachers, interviews with two distance education administrators, virtual classroom observations, field notes, and the researcher’s reflections. Analysis of the data showed that these online PE teachers had similar pathways to the online setting, they provided individualized instruction to their students, they offered students choices in the online PE classes, they facilitated student success in the online PE classes, and they each implicitly ascribed to constructivist educational theories and practices as online PE teachers. The results of this study support the premise that online secondary-level PE instruction has been a viable option for some teachers in the U.S. and Canada.
Imagine a classroom where the lights are always on, time is not a fixed variable, and students have access to course content and teacher assistance day and night, seven days a week. Trends in 21st century education have moved rapidly in that direction, toward the now prevalent provision of options for high school students to take courses online. Students are able to supplement their traditional brick-and-mortar classes with online courses as needed, take courses online in a virtual learning lab within a brick-and-mortar traditional setting, or take all courses online. Students can accelerate, remediate, or take courses that are not offered at their traditional campus. K-12 online teaching and learning is a relatively new field, but this component of education is approximately a 500 million dollar market, and it is estimated to be growing by 30% each year (iNACOL, 2011). In all fifty states there are students taking online courses, and 82% of K-12 school districts across America are offering online options to their students (Ferdig & Cavanaugh, 2010).

Each year online courses are becoming more and more popular with secondary school students. Forty-five U.S. states have established a virtual school option for their public secondary students (NACOL, 2009). For example, there were well over 100,000 courses taken online during the 2009-2010 school year by students within the state of Florida, and by March, 2011, there were over 213,000 virtual course enrollments for Florida secondary students within the 2010-2011 school year (FLVS, 2011). Michigan has an online course requirement for all high school graduates (Michigan Department of Education, 2006). Minnesota Virtual School offers secondary school students full and part time options for coursework. As the education
field evolves to include many online learning choices for secondary students and opportunities for teachers to teach in the online environment, more research directed toward online teaching is needed (Patrick & Powell, 2009).

Researchers have studied the effectiveness of and student satisfaction in online course at the secondary level (Rovai, 2002; Sidman, Fiala, & D’Abundo, 2011; Smith, Clark, & Blomeyer, 2005). It is important to not only study the effectiveness of online learning, but to examine online teaching and best instructional practices for optimal learning outcomes. In the current educational climate which includes advanced technology options and severe budget cuts simultaneously, it has become necessary to identify best practices in online pedagogy for content delivery and interaction with students (Ferdig et al., 2009; iNACOL, 2010; Smith, 2009).

**Online Physical Education**

Increasingly, high school students have the option to complete some, if not all, of their physical education (PE) requirement online (FLVS, 2011, TVS, 2011). In online PE courses, students study health and fitness-related content and learn how to develop and implement workouts and training programs that meet their individual needs and interests. Students also learn about skill-related fitness components, the benefits of regular exercise, and other key physical education content (Jackson, 2000; Mosier, 2010).

Thousands of students across the nation have completed PE courses online (Beem, 2010; FLVS, 2011). Physical education courses are some of the most popular online choices in Florida, as students can take the Personal Fitness course, Fitness Lifestyle Design, Life Management Skills, and Health Opportunities through Physical Education (HOPE) online (FLVS, 2011). Texas school districts began offering Personal Fitness and Team and Dual Sports
courses online during the 2011-2012 school year (TVS, 2011). Kentucky and Virginia both offer online high school PE courses to their students. An Ohio high school has begun implementing a blended PE program with face-to-face (F2F) meetings at school and most of the coursework by students completed individually and recorded online.

This is becoming part of the new look of 21st century physical education: virtual, individualized progression through the content, one-on-one help from the teacher on the student’s schedule, and students choosing activities for their fitness requirement that they can do at home or within their community during weekends and evenings. Students are able to earn credit for physical activities they are already participating in outside of the brick-and-mortar school day, like team and individual sports (FLVS, 2011). The online PE course can meet a variety of student needs. For example, online PE options benefit students who wish to free up their schedule for additional Advanced Placement (college credit) courses, students who are active in marching band and sports after school and on weekends, and students who prefer not to dress out at school and participate in physical activities around their peers (Kane & Wagner, 2007; Ransdell, Rice, Snelson, & Decola, 2008; Williams, 2010).

Credit is given for competitive and recreational activities students enjoy (FLVS, 2011). Many students participate in active gaming, as families often have Nintendo’s Wii Fit and Xbox 360’s Kinect in their homes (Hansen, 2009). Some students have a treadmill or recumbent bicycle at home; some have workout equipment, free weights, and friends and family members who are willing to assist with their fitness goals and assignments (Kane & Wagner, 2007). In an online PE class, students have access to the teacher anytime on weekdays, in the evenings, and during weekends (FLVS, 2011). Parents and students can call teachers, and teachers communicate with parents and guardians to provide updates on grades and progress. Many
online teachers offer weekly group or individual tutorial sessions for students who need additional assistance.

Because virtual learning is expanding at a rapid rate, there is an increasing demand for high quality online educators (Cavanaugh & Blomeyer, 2007; iNACOL, 2010). The Florida Virtual School, the largest publically funded virtual school in the United States, started with a handful of teachers in 1997 and has grown to an organization with more over 1,000 teachers in 2012; more than 100 of those are PE teachers. A close look at the daily instructional practices and the perspectives online PE teachers hold about virtual PE may be helpful in providing insight about how an online PE class works, and how an online PE teacher can facilitate student learning virtually. There is an assumption in some academic circles that online teachers are not as important as face-to-face, traditional classroom teachers (Watson, 2007). However, with the current emphasis on students acquiring knowledge within various contents through the help of the internet, online courses, and open-source learning resources, the teacher can be a key facilitator and guide for students (Wise, 2010). It has been determined that optimal student learning outcomes are greatly impacted by effective teaching practices (Darling-Hammond, 1999). Studies have shown that students in online classes have performed as well or better than students in traditional, brick-and-mortar classrooms (Barbour & Mulcahy, 2008; Patrick & Powell, 2009). Online teachers must have all the traditional teaching skills and more in order to help students move through the content virtually.

**Rationale for Proposed Study**

Online PE has become a common option for secondary students in the United States. However, this is a relatively new field, and there is not sufficient research that describes and
examines online PE from the teachers’ perspectives (Mosier, 2010). There are a number of research studies that seek to evaluate, explain and support distance education, but more is needed to inform stakeholders of the teaching structure and teaching best practices within an online teaching and learning environment, particularly at the secondary level (Barbour & Reeves, 2009; Ferdig et al., 2009). Existing research provides a strong foundation for teachers in traditional class settings, but there is a scarcity of research on best practices for K-12 online teachers (Ferdig et al., 2009). Researchers have attempted to provide an overview of online PE-related fitness courses and have suggestions for the creation, implementation and assessment of online health and fitness courses within a secondary or post-secondary physical education curriculum, but they have not addressed physical education teaching practices for optimal online instruction (Mosier, 2010; Ransdell, Rice, Snelson, & Decola, 2008). Online high school PE is a significant addition to the physical education field in the 21st century, and more exploratory, descriptive research is needed now to provide information about online teaching within the PE field (Daum & Buschner, 2012).

**Purpose and Significance of the Study**

The purpose of this qualitative case study was to describe selected PE teachers’ experiences and perspectives regarding online PE teaching, and to provide insights into the daily instructional practices of online PE teachers.

This study contributes to the literature and conversations about teaching high school physical education and sets the stage for further research in teaching online physical education. The study assists current and future online PE teachers, as well as teacher educators, in understanding what teachers think about the rewards and challenges of online teaching. In a
special issue of the *Journal of Technology in Teacher Education* related to online teaching, Smith (2009) recommended that future research provide descriptions of K-12 online teachers and their working conditions.

This study collected from teachers their experiences with and perspectives on current online instructional practices. The research leads us toward an understanding of how teachers provide instruction virtually, and gives details about effective online PE teaching practices for current and future teachers and other stakeholders in distance education. The research informs college and university physical education teacher education faculty about the instructional skills necessary for successful online PE teaching in order to construct a comprehensive pre-service preparation program. Teacher educators in physical education can benefit from knowing more about effective online PE teaching at the secondary level in order to better prepare their pre-service teachers for successful online PE instruction that produces positive student learning outcomes.

Many educators have embraced online PE while others are not sure about its viability (NASPE, 2011). The National Association for Sport and Physical Education’s (NAPSE) position on online PE acknowledges the research indicating no significant difference was found in outcomes between online and face-to-face students (McIsaac & Gunawardena, 1996; Russell, 2001), but also reminds stakeholders of the need for more research directly related to online physical education practices (NASPE). Currently, only a few studies have been conducted suggesting online physical education is a valid, beneficial option for secondary students (Kane & Wagner, 2007; Mosier, 2010; Ransdell, Rice, Snelson & Decola, 2008).

While virtual school options for K-12 students in the U.S. continue to expand, secondary online physical education courses are among the most popular. A description of the teaching
practices of online PE teachers is certainly warranted (Archambault, 2009; Rice & Dawley, 2009; Barbour & Reeves, 2009; Ferdig; Davis & Roblyer; Cavanaugh; iNACOL, 2010; Smith, 2009). It is beneficial to seek to identify and understand the knowledge, skill, and disposition requirements for teaching PE online (Smith, 2009). There has been a need for more research in the area of online physical education (Daum & Buschner, 2012; Mosier, 2010; Ransdell, Rice, Snelson, & Decola, 2008).

Just as with educators, some researchers and leaders in physical education suggest online PE is not a valid form of fitness education, while others believe in its efficacy (NASPE, 2011). It is worthwhile to describe online PE teaching to better inform the field.

**Research Questions**

In order to describe PE teachers’ instructional practices and perspectives regarding online PE teaching, the following research questions guided the study:

1. What are the daily instructional practices of participating online high school PE teachers?

2. What educational theories (implicit or explicit) guide these teachers’ online teaching of PE?

3. How do these online PE teachers enhance student learning, physical activity participation, and successful course completion?

4. What student outcomes, in terms of learning and attitudes toward learning, do these teachers perceive or assess as a result of their practices and perspectives about teaching PE online?
Definition of Terms

There have been a variety of terms used to describe online education. Researchers have referred to *distance education* and *distance learning* when explaining correspondence, video, or television courses in which the teacher and student do not meet together. The following terms were used to describe online teaching and learning for this study.

**Distance education** – The primary variable is the separation of teacher and learner in space and/or time (Sherry, 1996).

**Online learning** – Students utilize the computer, computer-mediated, web-based service, to learn and study.

**Virtual education** - Refers to teaching and learning in an environment in which the teacher and student are separated by time or space, or both, and the course content is available to the student via the internet.

**Virtual school (VS)** – A public, private, or charter organization that provides courses through the online environment; a reference to 21st century online educational options for K-12 students

**Health Opportunities through Physical Education (HOPE)** – A high school required full-year course in the southeast that blends Health and PE content, offered online and in the traditional setting

**Personal Fitness (PF)** – A high school half-credit PE course offered in some southern states that covers physical fitness concepts, benefits of exercise, conditioning, managing stress, diet and nutrition, among other topics, offered online and in a traditional setting.

**Physical education (PE)** – Physical education is education of and through human movement where many educational objectives are achieved by means of large muscle activities through sport, games, gymnastics, dance and exercise (Barrow, 1983).
Virtual physical education (VPE) – A term used to describe online physical education classes at the secondary level

21st century literacy – 21st century students should develop proficiency with the tools of technology; build relationships with others to pose and solve problems collaboratively and cross-culturally; design and share information for global communities to meet a variety of purposes; manage, analyze, and synthesize multiple streams of simultaneous information; create, critique, analyze, and evaluate multimedia texts; and, attend to the ethical responsibilities required by these complex environments (NCTE, 2011).

Boundaries of the Study

The limitations of this study are traditional in nature (Patton, 2002). A typical limitation of a case study is that ideas and analyses cannot be generalized to the broader population, and in this study, the analysis, evaluation, and conclusions cannot be generalized to all current or future online PE teachers across the country (Patton; Stake, 2006). However, a qualitative study is not intended to be generalized. This case study was meant to provide a data-rich example of a phenomenon in order to inform stakeholders interested in the phenomenon (Patton; Stake; Yin, 1989).

A potential limitation in this study is the researcher’s background in online teaching, which might be seen as a bias in favor of online teaching and learning. I have taught online high school physical education and health content for over four years. I also have more than 12 years’ experience teaching physical education and other subjects in the traditional secondary setting. It may be an assumption of some that perspectives and experiences have been reported with a bent toward the researcher’s own teaching experiences, or that my opinions influenced the analysis of
data and conclusions; however, that was not the case. It is accurate to assume that another researcher without online teaching experience might reflect and write differently after viewing the same data, but as an experienced classroom and online PE teacher, I had knowledge that enhanced the understanding of data collected. As the primary researcher, I was cognizant of the potential bias and incorporated data collection and analysis protocols that reduced researcher bias.

**Background: Personal Perspective**

I am an experienced public school secondary physical education (PE) instructor with a background in teaching PE and Health as well as Biology, English as a Second Language, and Spanish. I have had sixteen years’ teaching experience at the secondary level, with twelve years in the traditional classroom setting at middle and high schools and over four years’ experience teaching online. While still a certified secondary school teacher in the states of Texas and Florida, I am not currently teaching public school online or in the traditional setting, but rather am teaching undergraduate physical education and exercise science courses at the university level.

I appreciate and understand the options that online courses provide high school students and I see the benefits of both traditional and online schooling. I have successfully completed online courses at the university level in my own graduate studies; therefore, I have firsthand experience understanding the requirements for learning online as well as teaching online. As a researcher, my purpose for this study was to describe and provide general knowledge about online physical education instruction because it is a growing field in need of further research.
My interest in online opportunities for students and teachers in online physical education began in 2006 and has continued to grow over the past seven years. I have seen firsthand the variety of reasons middle and high school students select online PE courses, and I am interested in researching effective online PE teacher practices to further inform the field of physical education. If virtual PE (VPE) is going to continue to be an option, there should be research to guide its growth and development.

**Summary**

In this chapter, background was provided on the growing field of distance education in general and online physical education specifically. The purpose of the study was stated: to describe and explain teachers’ experiences with and perspectives of teaching secondary physical education online. A rationale for and the significance of the study were identified, and the study design was introduced in this chapter. The researcher’s personal background information was disclosed. The next chapter includes a literature review of the following topics that support the study related to online education in general and VPE specifically:

- Growth of online education and virtual schools
- The effectiveness of online teaching and learning, including standards for both
- Online instructional preparation and practices and essential teacher dispositions
- Challenges in education
- Educational framework supporting online teaching and learning

The literature review is followed by a chapter on the methodology for collection and analysis of data, a comprehensive results chapter, and an analysis and concluding chapter with implications for further research.
Chapter Two: Literature Review

Technology is becoming integrated into all aspects of life in the United States. Whether at home or at work, technology and the internet have changed the way people live. Public schools, however, have been slow to make the transformation. Most students in the 21st century are plugged into technology, and would prefer to use their technological tools in the classroom. Current students are considered part of the millennial age, with digital resources used for entertainment and information gathering, and they want their education to include the use of the same, familiar technology (Watson, 2007). However, students are usually told to ‘power down’ when they enter a classroom (Picciano & Seaman, 2010; Wise, 2010). Wise (2010) reported that studies conducted by the Department of Commerce revealed education as the least technology-intensive industry group out of fifty-five groups studied. The move toward virtual education to blend the learning environment for students is beginning to bridge that gap.

The National Education Association (NEA) predicted that most students in America would complete at least one online course within their K-12 education experience (Barbour & Reeves, 2009). The International Association for K-12 Online Learning (iNACOL, 2010) reports there are currently forty-five states that offer online options for K-12 students, and thirty-five of those states have their own public virtual schools. The online high school PE class is an attractive choice for students, and future physical educators should be prepared for online instruction. Many traditional PE teachers are not familiar with how an online, PE-related course can be successfully taught, but those who are open to differentiating instruction for secondary
students and wish to meet individual needs should at least be trained in and familiar with the online PE option.

This chapter is intended to establish a framework for the study by addressing the growth and effectiveness of online education, an overview of online instructional practices and the challenges present in the online teaching and learning environment. In addition, a portion of the literature review addresses teacher preparation for online teaching, both through professional development for in-service teachers and teacher education for pre-service teachers. Also included in this literature review is a synopsis of the traditional physical education challenges teachers face today, along with a final section to describe educational frameworks that support online education.

**Growth of Virtual Schools**

Distance education can be traced back to correspondence courses in the late 1800’s (Lease & Brown, 2009). At that time, courses and materials were delivered via the postal service, and student work was submitted back to the instructor through the mail. Subsequently, colleges and universities offered distance courses to people, and certificates of completion were awarded for those who were able to move through the content successfully without the aid of a teacher. The mail delivery, correspondence courses were soon replaced with radio broadcast as a means for instructional delivery (2009). Televised courses came next, and then audiovisual tools enhanced content delivery and student access to learning opportunities substantially (Lease & Brown, 2009; McIsaac & Gunawardena, 1996). In the 21st century, wide-spread internet access has revolutionized the way teachers, administrators, students and parents view teaching and
learning (Owston, 1997; Patrick & Powell, 2009). As the medium for delivering academic content has evolved, the shift to online education is worth special examination.

Virtual school attendance in the U.S. is accelerating at a rate of approximately thirty percent per year (Beem, 2010; iNACOL, 2010; Young, 2010). The largest state-run virtual school and a significant contributor in the field of online public secondary education, FLVS began in 1996 with seventy students and a few teachers, and recently finished the 2010-2011 school year with nearly 200,000 students successfully completing approximately 235,000 semester credits (FLVS, 2011). The FLVS provides free online courses for all Florida public secondary students, and the school currently offers more than 100 secondary level courses. The organization also has a global services department that provides courses to students and schools across the country and abroad, and elementary curriculum offerings in partnership with Connections Academy (FLVS, 2011).

Nearly all states across the country are getting involved in distance education, providing online courses to meet their students’ needs. For instance, the Minnesota Virtual Academy began in 2002 with a student enrollment of seventy-nine, and currently serves approximately 1500 students each year (Beem, 2010). Now all Minnesota high school students have access to Advanced Placement (AP) classes and other courses that would not normally be available to those in a rural district. The Fairfax County, VA, public school district created their own virtual school program that presently serves 174,000 students, and the Blue Valley school district in the Kansas City area began offering online options in 2008 to their 21,000 students (Beem, 2010).

In Michigan, all students are required to take at least one online course in order to graduate from high school (Ransdell et al., 2008). Florida legislators have recently implemented a similar mandate. The Florida Department of Education recommends FLVS to high school
students as a supplemental resource for meeting their graduation requirements, particularly when AP courses may not be abundant in the student’s school district (FLDOE, 2010; Patrick, 2011).

A student choosing when, where and how long he works on any given course is a trend that will continue to grow in the 21st century (Beem, 2010; Young, 2008). The thirty-five states that have their own public virtual schools offer resident students online options for numerous courses (iNACOL, 2009). The Texas Virtual School (TVS) provides online courses for secondary students as well as for educators. Students can take credits they need, and educators can take online professional development courses via TVS (Texas Virtual School, 2011). The TVS offers core academic courses to students and has just begun to offer online PE-related courses to high school students in the fall of 2011: Personal Fitness, Group Sports, and Individual Sports (Gillis, 2011). As is common practice for many online schools, students pay a tuition fee for each course taken through TVS.

There are three main types of virtual schools at the secondary level: Statewide public virtual schools, district-run virtual schools, and district-run virtual schools through proprietary vendors (Beem, 2010). The statewide schools are those like FLVS and Minnesota Virtual Academy. District-run virtual programs are often franchises purchased from established programs like FLVS (Cavanaugh, Barbour, & Clark, 2009). Sometimes district administrators will purchase individual courses from FLVS for their own programs. National University offers a tuition-based virtual high school program (NUVHS) to students across the country. Researchers have categorized virtual schools even further into seven different types: State-sanctioned, regionally-based, locally-based, virtual charter schools, private virtual schools, university-based, and for-profit providers of curricula, content and support (Beem, 2010;
See Table 1 below for Clark’s (2001) thorough list of virtual school categories.

Table 2.1. Clark’s Seven Categories of Virtual Schools

<table>
<thead>
<tr>
<th>Type of Virtual School</th>
<th>Description of Virtual School</th>
</tr>
</thead>
<tbody>
<tr>
<td>State-sanctioned, state-level</td>
<td>Virtual schools operating on a statewide level, such as the Florida Virtual School</td>
</tr>
<tr>
<td>College and university-based</td>
<td>Independent university high schools or university-sponsored delivery of courses to K-12 students, such as the University of California College Prep Online (UCCP)</td>
</tr>
<tr>
<td>Consortium and regionally-based</td>
<td>Virtual schools operated by a group of schools or school districts, such as the Virtual High School (VHS)</td>
</tr>
<tr>
<td>Local education agency-based</td>
<td>Virtual schools operated by a single school or district, such as the Gwinnett County Online Campus (Georgia)</td>
</tr>
<tr>
<td>Virtual charter schools</td>
<td>Virtual schools created under the charter school legislation in many states, such as Connections Academy, also commonly known as cyber schools</td>
</tr>
<tr>
<td>Private virtual schools</td>
<td>Virtual schools that are operated in the same manner as brick-and-mortar private schools, such as the Christa McAuliffe Academy</td>
</tr>
<tr>
<td>For-profit providers of curricula,</td>
<td>Companies that act as vendors for the delivery of courses of the use of course materials, such as APEX Learning</td>
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<td>content, tools and infrastructure</td>
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The Virtual High School (VHS) is a non-profit organization that was created in 1996 to provide online courses to high school students across the country. Schools and districts can pay to become member of the VHS and can then offer courses for credit through VHS to their students. Currently, thirty-five states utilize the VHS in some form or fashion. The VHS also
offers professional development for educators (VHS, 2010). Connections Academy, K12 Inc., and FLVS are among the top online course providers in the country (iNACOL, 2010). Carone Fitness is a for-profit health and physical education curricula provider in the United States.

States that have their own virtual public school program offer online classes to students from any of their districts (Beem, 2010; iNACOL, 2010). Students in rural areas are often given priority placement in any online course, due to the common problem of a lack of course variety or rigorous Advanced Placement offerings in those districts (Beem, 2010). A statewide public virtual school program is generally created through state legislation, and the program is funded through state funds (Beem, 2010; Young, 2008). Of course, these schools must pass regional accreditation regulations. For example, the FLVS receives its accreditation through the Southern Regional Educational Board (SREB), and the Virtual High School (VHS) receives its accreditation through the Middle States Commission on Secondary Schools (MSCSS). The NUVHS was accredited in 2007 by the Western Association of Schools and Colleges (WASC).

Many administrators in the education field believe public school funding should be based on student performance and student outcomes, not seat time. Tucker (2010) and Young (2007), among other leaders in the field, believe in moving away from funding public schools based on student enrollment. They support the idea that educational providers of online courses are on the right track by accepting public funds strictly based on the number of successful student completions (Beem, 2010; FLVS, 2010).

**Effectiveness of K-12 Online Teaching and Learning**

There are many studies that have attempted to examine the effectiveness of online learning for K-12 students (Cavanaugh, Gillen, Hess & Blomeyer, 2005; Southern Regional
Education Board, 2006; Patrick & Powell, 2009; U.S. Department of Education, 2009). The U.S. Department of Education (2009) spent significant time reviewing 51 studies related to online learning. They found that “on average, students in online learning conditions performed better than those receiving face-to-face instruction”. Cavanaugh, Gillan, Hess and Blomeyer (2005) reported that virtual instruction produced student learning outcomes that were “as good as or better than” traditional instruction in the face-to-face classroom. In their meta-analysis, the U.S. Department of Education also concluded that blended instruction (a combination of online and face-to-face components) provided greater benefit to students than full time online or full time face-to-face instruction (Patrick & Powell, 2009). However, studies that directly compared blended and face-to-face instructional strategies did not report differences in student learning outcomes. One significant conclusion the U.S. Department of Education made was that instructional strategies used in large group settings as found in the face-to-face classroom appeared less successful than instructional strategies used in individual settings found in online environments (Patrick & Powell).

The U.S. Department of Education funded studies over the years of 2003-2006 examining educational technology and online learning through the West Virginia Virtual School’s Spanish I and Spanish II courses (Patrick & Powell, 2009). Students in the online Spanish I class showed learning outcomes equaling those of their traditional class counterparts, and in the Spanish II class, some online students outperformed those in the traditional, face-to-face class.

In 2007, the Florida TaxWatch organization sought to examine the effectiveness and the potential efficiency of the Florida Virtual School, which provides students with online options for middle and high school courses. The tax watch group conducted independent research and concluded that for the 2004-05 and 2005-06 school years, Florida Virtual School students
consistently outperformed their counterparts in Florida’s traditional middle and high schools on measures of Advanced Placement scores and FCAT (Florida Comprehensive Assessment Test) scores (Patrick & Powell, 2009). The group also reported that FLVS is a cost-saving program for the state’s taxpayers. In addition, Florida TaxWatch recognized that FLVS teachers are the only performance-based educators in the state, with their pay being tied to student performance each year (Young, 2007).

According to the National Education Association (2011), educators and administrators who add an online option to their curriculum should be sure the online courses are in line with the institution’s core beliefs and standards. In order to ensure the efficacy of secondary distance education, any given online course should mirror the traditional course in content and learning outcomes. Courses should be student-centric and led by a certified instructor. The online teacher’s regular, daily presence in the class is essential to the successful delivery of the course. As state standards have mandated, students should have an opportunity to collaborate with peers, and in the online class it is no different. The teacher should facilitate students connecting with other students asynchronously and even synchronously at times for small group activities (NEA, 2011).

While students are given a good amount of flexibility to work in an online course, each course should have a framework for pacing (NEA, 2011). Students do not all need to be online at the same time, and students can work at their own pace, accelerating when they feel they can do so, and taking more time with challenging concepts as needed. However, there should be a minimum pace expectation to guide the high school students, just like in any class. The 24/7 accessibility for students is a positive aspect of an online course, but should not cause the students to feel they have unlimited time to “get to it later”.
Online courses present students with opportunities to practice and become proficient in information, communication and technology skills. The online environment is a perfect venue for teaching students 21st century learning and workforce skills (NEA, 2011). Even online communication etiquette (netiquette) can be developed in students taking an online class. Collaboration, teamwork, creativity and critical thinking, all of which are considered necessary 21st century skills, can be reinforced and practiced by students taking online courses (Christensen, 2008; NEA, 2011).

To ensure the efficacy of an online program, the courses should have clear instructions for assignments, clear statements of goals and objectives, and rubrics available for guidance on completing assignments successfully (iNACOL, 2011; SREB, 2010). The design and layout of the courses should be visually appealing, just as in a traditional class setting. If state and national standards are identified and followed throughout the online course content, and students’ individual learning styles are addressed with options for choice of how to demonstrate mastery of content, then the online course can equal or surpass a traditional course in value.

**Solving logistical and financial concerns.** Overcrowded classrooms are a significant problem today, with the class size amendment forcing many school districts to adhere to a lower student-to-teacher ratio or forgo significant funds. In fact, in Florida’s Miami-Dade County, the school district’s administrators have found a solution to the class size amendment by adding Virtual Learning Labs (VLL) in many of their high schools (FLVS, 2010). Miami-Dade School District is currently utilizing the FLVS program and its courses in a unique way: school administrators have set up distance learning labs in order to provide students the extra support and actual class time to take a course through the FLVS during their school day. For instance,
when the English IV classes are full to maximum capacity all throughout the day and a new student arrives needing that course, he is assisted in registering for English IV with the FLVS (honors and AP options also available) and is assigned the VLL for one of his class periods. It happened to be that many courses in Miami-Dade high schools were full to capacity before the 2010 school year started, so the VLL’s were set up immediately to accommodate students (FLVS, 2010). Virtual learning labs in Miami-Dade County are continually being perfected to meet students’ academic needs.

**Meeting students’ individual needs.** Many stakeholders in education believe online education is not only meeting the needs of students in the 21st century, that it is not just a solution for many of the problems public school systems face, but that online learning will bring students forward at a more advanced level. Distance learning not only addresses the needs of students and educators, but can propel students toward greater educational heights. There should be further research on the benefits of online learning at the secondary level to determine whether or not these beliefs are valid (Barbour & Reeves, 2009).

In an online class, the individual learner has the opportunity to engage in the content at his or her own pace, to interact one-on-one with the teacher more frequently, and to develop improved computer skills (Cavanaugh & Blomeyer, 2007; Ransdell, Rice, Snelson & Decola, 2008). Successful online learners also experience autonomy and responsibility with their educational goals. Researchers have established the premise that students who are somewhat introverted in the traditional classroom have more opportunity to communicate and are more comfortable discussing the content or asking questions in an online course (with the teacher and in asynchronous or synchronous online class sessions). Distance education classes also meet
school districts’ needs if there are teacher shortages, limited course offerings, or lack of space to provide necessary classes (Cavanaugh & Blomeyer; Ransdell, Rice, Snelson & Decola; Wise, 2010).

The potential benefits to students taking online courses at the high school level are many, for individual students and entire school systems (Barbour & Reeves, 2009). In their literature review, Barbour and Reeves (2009) cited Kellogg and Politoski (2002), who stated that one of the key benefits to online teaching and learning is the ability a teacher or school has to provide individualized instruction to students who may be working at a pace different from the majority. Addressing individual learning styles is another benefit to online teaching and learning, along with the ability to serve students who are hospital homebound or have physical disabilities (Barbour & Reeves, 2009; FLVS, 2010; Ransdell, Rice, Snelson & Decola, 2008). As previously mentioned, geographical issues can be solved with an online course or program. If a student lives in an area where AP Calculus is not offered at the high school, that student can take the course online if his state has an online system in place. Having more course options is a major benefit of distance education (Picciano & Seaman, 2010; Watson & Gemin, 2008). Access to specialty courses and highly qualified teachers is not an issue when students have online courses as options (Gillis, 2011).

In addition, a virtual school course can offer a student the opportunity to practice using 21st century technology skills. The online course is often more convenient for students, giving them more flexibility in their schedule at school. There has been a shift from having computers in classrooms to having classes on computers outside of the classrooms, and that flexibility is a significant benefit for students (Christensen, 2008). Twenty-first century students prefer to be
mobile with their learning, and online learning certainly offers mobility in course access and numerous opportunities for technology use. As long as the course content is there, and the grading is not related to technology use but to content mastery, tying in technology proficiencies enhances a student’s experience in a class.

**Addressing individual academic needs.** There are more opportunities for one-on-one assistance in the online class, as the student can call the teacher any weekday morning, afternoon or evening, and many times can reach teachers over the weekend as well. Students are able to work at their own pace, to accelerate through content that is easy for them, and to go slower as needed when the content is more difficult (Ransdell et al., 2008). Everything from Physical Education to Spanish to Advanced Placement (AP) English IV is available online with FLVS; Latin, American History, and Physics are also popular high school courses offered (FLVS, 2010). Students who struggle keeping pace in the traditional classroom can receive more help in the online environment. They are able to receive assistance from the online teacher and can ask questions that they may not feel comfortable asking in front of peers.

Credit recovery is now offered in Texas, Florida and New York, along with a number of other states or particularly large cities within states, like Chicago (Picciano & Seaman, 2010; Reyes, 2006). The problems with credit recovery programs are numerous, however. One hour after school twice a week for eight or nine weeks is not sufficient to bring a student to the passing level in a given course. Teachers and administrators are under extreme pressure to pass students along to the next grade, to keep at-risk students in school, to try and meet No Child Left Behind goals (Reyes, 2006; Wise, 2010). Instead of students being offered opportunities to
make up work before and after school, or simply during breaks throughout the school day, online programs can provide a better alternative.

Many times traditional credit recovery involves nothing more than packets of worksheets for the student to complete, and that type of work has not been proven to be effective in knowledge retention (Reyes, 2006). In an online credit recovery course, however, the student will move through content presented in an engaging way, with the undivided, one-on-one assistance of his virtual class teacher as needed. While an online credit recovery course is designed to move at a more rapid pace than a traditional class, it will be much more thorough and helpful for the student than the practices mentioned above. Credit recovery courses are among the most popular courses offered at the secondary level (Picciano & Seaman, 2010). As a result, distance learning options are leading to higher graduation rates for our high school students (iNACOL, 2010; Picciano & Seaman, 2010).

**Solution for social and interpersonal challenges.** One additional benefit of online learning at the secondary level is significant and worth mentioning, although more research in this area may be warranted. High school students come in all shapes and sizes, with all types of unique hairstyles, make-up and clothing. An online teacher has no opportunity to make a predetermination about a student’s ability or behavior in an online class based on outward appearance. In fact, behavior becomes a non-issue altogether in the virtual setting. The online teacher will more than likely never see his students in person, and will, therefore, never be inclined to judge students prematurely.

Students in the traditional setting are sometimes shy and introverted, and do not feel comfortable asking questions out loud in front of the rest of their peers. In fact, there are times
when students have been ridiculed by other students for asking questions that some may say are silly. The online class certainly removes that challenge. Some English language learners are more comfortable in an online course, because the teacher is free to speak with the student one-on-one. Also, the student working asynchronously online can take ample time both in forming questions to the teacher and in responding to other students in discussion groups.

**Successful online students.** In order to have a successful teaching and learning environment, there needs to be a contribution on the student’s part. Most of the research addressing distance education, whether at the high school or post-secondary level, seeks to identify students’ perceptions and attitudes toward virtual courses to help determine successful outcomes Oliver, Osborne and Brady (2009). The majority of research in these areas has been conducted with college-level participants, but one can assume there are similarities between post-secondary and high school level students’ perceptions, attitudes, and successful practices when it comes to taking online classes.

Education researchers have been able to identify a correlation between teacher clarity and increased student achievement, and that applies to face-to-face as well as online teaching and learning (Chesebro, 2003). Chesebro indicated **affect** is a large determiner in whether or not a student is successful. In other words, if a student feels good about the subject matter of a particular online course and has pleasant interactions with the online teacher, whether synchronous or asynchronous, the student will be more motivated to complete the course, and will be confident in continuing with virtual learning (Chesebro).

Overall, a successful online high school student will be one who is motivated to excel academically (Barbour & Reeves, 2009; Ransdell, Rice, Snelson & Decola, 2008). Many high
school students want to accelerate their progress in acquiring necessary credit requirements and discover that the online option is suitable to add an extra class during a given semester. Students utilizing distance education for their high school courses are generally self-directed and comfortable on the computer, and have internet access either at home or school (FLVS, 2010; Smith, 2008). The successful student will have a mid-to-high level of proficiency with online media and technology. A student may be successful in an online environment with just the internet access at their public library, but that can potentially lead to a lack of progress in coursework if the student is not able to get to the library on a consistent basis.

There are high school students who have fallen behind in credits by failing a class, by moving from one state to another, or by changing programs of study. Those students will often be highly motivated to complete an online class or two to bring them up to the current grade-level status they want to meet. While the coursework may be challenging, as the content in a course via an accredited virtual school program is guided by state standards, students who reach out to their online teachers will have success. Students who seek additional help in the form of extra phone conversations and live or recorded tutoring sessions can be successful in passing their online course. Students often receive and are required to follow a pace chart, which guides their progress throughout a course (FLVS, 2010).

**Overview of Online Instruction**

Students in the 21st century are considered to be from the millennial generation, and educational researchers refer to the millennial learners as digital natives (National Education Association, 2011). Prensky’s innovative work on “digital immigrants” (veteran teachers) and “digital natives” (millennial students) explains the difference between teachers and students in
the 21st century. He described core subjects to be learned as reading, writing, arithmetic, logical thinking and literary competence (Prensky, 2001). In addition to those key subjects, the skills and content that should be taught today must also include digital and technological proficiency, languages, cultural diversity, social ethics and global issues (Christensen, 2008; Prensky, 2001). Researchers are beginning to understand the importance of ensuring that teachers are prepared to teach to “digital native” students (Horn & Staker, 2011; National Education Association, 2011; Quillen, 2010).

Online teachers have a unique opportunity to teach with technology and to teach technology skills to the students they reach virtually. There are similarities and differences between a traditional teacher and an online teacher. Actually, one teacher can and should be able to teach in both arenas, and that is the direction teacher professional development and teacher preparation is heading (iNACOL, 2011). The role of the teacher in the online classroom and the skills necessary for successful online teaching will be addressed presently.

**Online teacher’s role.** Teaching in an online setting can be more demanding than a traditional teaching job (Archambault, 2010; Young, 2010). In a typical face-to-face (F2F) secondary school setting, the teacher is generally paid to work an eight-hour day for approximately 195 days per year, regardless of how many students are in class and whether or not those students successfully pass the course. In the online setting, however, a teacher is expected to facilitate successful progress and completion of the course for each student; the teacher’s job is partly based on the number of students who successfully complete the course. An unwavering commitment to students’ success is a critical component to the successful online teacher mentality (National Education Association, 2011). To demonstrate that, administrators at
FLVS have established a mission and framework for their program that includes a primary focus on providing for the student: The student is behind every decision made at FLVS (Young, 2007). Successful student learning outcomes are the driving force behind the work at FLVS, and the teachers there are committed to providing excellent customer service not only to their students but to the students’ parents and guardians. The Texas Virtual School also strives to provide quality online instruction for their high school students in order to increase successful learning and achievement outcomes (TVS, 2011). The goal is to ensure that all virtual teachers across the nation at the secondary level are “high quality, well equipped, trained and supported for the many challenges of educating today’s students via online instructional delivery” (National Education Association).

Online instructional practices. There are instructional practices online teachers must focus on that are different from the traditional secondary school teacher’s practices. An online teacher’s role differs from the F2F teacher’s role. While there are teacher characteristics, habits and best practices that apply to both F2F interaction and virtual interaction (Easton, 2003), there are competencies that are unique to online teachers’ practices. For example, often in the traditional setting a teacher receives stacks of students’ written submissions and takes a week or more to return the assignments with a letter grade and little or no specific feedback. In an online class, however, the teacher is required to grade and provide feedback on students’ work typically within 48 hours (FLVS, 2011; TVS, 2011).

Results from one study by Howland and Moore (2002) indicated online students expected immediate feedback on their submissions because they had the perception that the teacher was available anytime due to the online environment (Oliver, Osborne, & Brady, 2009). It actually is
manageable for the teacher to give fairly immediate feedback in the online class because students are working at different paces and on different assignments. With 150 students in a teacher’s online class, the number of assignments that are submitted for grading varies from day to day. Some days there may be 25 assignments submitted for grading, and some days there may be more. The teacher then has time to grade the work and give individual feedback on each assignment (FLVS, 2011).

Another finding from recent research and student self-reports was students in distance courses can feel a sense of social isolation and may, therefore, require more assistance with assignments, more direction and affirmation that they are on the right track with coursework (Oliver, Osborne, & Brady, 2009). Students also expect their online teachers to supplement the course content with one-on-one assistance whenever necessary, and many online schools have teachers that do provide lesson enhancements in the form of live webinar tutorial sessions and phone calls (FLVS, 2010; Oliver, Osborne, & Brady, 2009, VHS, 2010).

Davis and Roblyer (2005) examined teacher preparation practices for online distance education teachers. The U.S. Department of Education approved a model for adding a virtual school component to pre-service teacher training at the university level (Davis & Roblyer). A project was funded in 2004 that included implementing online teaching training at four universities: Iowa State University, University of Florida, University of Virginia, and Graceland University. The Iowa State University College of Education’s program provides pre-service teachers with an online teaching endorsement/certification. Teacher preparation programs across the country are starting to recognize the importance of adding online teaching training for their pre-service teachers across content areas. The University of Central Florida, the University of
Florida, and the University of South Florida have been providing pre-service teachers with virtual internship opportunities through FLVS (Quillen, 2010).

Davis and Roblyer (2005) believe a good classroom teacher is not necessarily a good online teacher. Skill sets needed for virtual teaching are not the same for traditional classroom teaching. The researchers identified specific skills that distance learning educators needed to possess, namely enhanced capabilities in communication (written, video and phone), technology, planning, and organization. Also high on their list was the ability to engage students asynchronously (Davis & Roblyer, 2005; Easton, 2003).

While many instructor best practices are the same for traditional classroom and online teaching, there are some factors to consider in teaching virtually: creative and effective implementation of synchronous meetings is essential; timely communication and feedback to students is important as well. Time management skills are critical because the daily tasks of grading, tracking student progress, making monthly parent calls and receiving student calls are done on the instructor’s own schedule, which can vary. A significant finding in research on post-secondary online courses was that the role of the instructor was more of a creative course designer and subject matter expert at the initial start of the course, but the instructor role shifted to more of a facilitator as the course moved along and students began the work (Easton, 2003).

Research has shown that students are better served when the teacher’s role is that of facilitator rather than dispenser of knowledge (Christensen, Horn, & Johnson, 2008; Easton, 2003; Smith, 2009; Ferguson & Caris, 2009). Of course, a facilitative role is important for the F2F teacher as well as the online teacher. Palloff and Pratt (1999) supported the belief that there are differences between traditional classroom teaching and online teaching, and they warned against a simple delineation between the F2F and virtual teacher.
Teaching without F2F interaction means the virtual teacher is not able to see students’ responses (visual cues) to concepts within the content to determine their immediate understanding or to make adjustments in the content presentation (Easton, 2003). Teachers in an online setting rely heavily on written feedback to students in order to guide, instruct and correct submitted work. Because of the predominantly written form of feedback to students, distance teachers can provide quality instruction through carefully constructed word usage. There is less opportunity for miscommunication between student and teacher in the virtual class setting, as a predominant part of the dialogue (questions, responses, student submissions, feedback) is written. The teacher is able to take time on providing meaningful feedback, as the response is usually not required immediately or synchronously.

In addition to guiding students through work that is completed ‘anytime-anywhere’, online teachers are moving toward providing occasional and/or regular synchronous, live options to enhance students’ learning in a virtual course. There is still opportunity for students and teachers to interact in live sessions, as not all concepts can be covered optimally in the complete absence of real time communication (Finkelstein, 2006).

Oliver, Osborne and Brady (2009) studied students from North Carolina’s new virtual high school and were able to identify key components and teacher habits that create a successful online experience for secondary-level students. This particular survey research study was directed to all North Carolina Virtual School secondary-level students (N = 5226) at the conclusion of the 2007-08 school year, and over half of the students submitted viable survey data for research purposes. Overall, the majority of the North Carolina Virtual School students surveyed believed their online teachers cared about their success and provided ample direction and feedback. Oliver, Osborne and Brady, like others, stressed that there is not enough research
to date on the specific contribution of teacher preparation and teacher quality in distance learning classes. However, the following are a few virtual teaching essential requirements according to Oliver and his colleagues: specific monitoring of student progress, prompt written feedback and frequent telephone communication, time management skills, technology proficiencies and continued professional development in technology, creative efforts to reach students who aren’t working regularly, and careful attention to written feedback to students on their work (2009). In addition, synchronous and asynchronous communication skills are critical for virtual teachers’ success.

Many students are not strong in the area of self-directedness when it comes to learning and studying. Therefore, in order to keep students moving through the course successfully, a teacher’s ability to track and monitor student progress is essential, along with a commitment to provide prompt and specific feedback on students’ work (Oliver, Osborne & Brady, 2009). A committed teacher can help move a student along toward success, and the online environment gives the teacher flexible working time in order to communicate with students on an individual basis. With that flexibility, however, comes the undeniable trade-off: the virtual teacher needs to be available long hours, evenings and weekends included. To illustrate, FLVS teachers are available from 8:00 AM to 8:00 PM every day of the week. Most of the FLVS instructors utilize a phone appointment scheduling service paid for by the school, Flash Appointments, which allows students and parents to set appointments for phone calls. The University of Maryland’s Department of Family Science also uses Flash Appointments for their students to communicate with faculty. The appointment calendar is designed to serve those students and parents who prefer to schedule specific phone appointments. In addition, calls can be made anytime without
an appointment, and students and parents know that if they call without an appointment but do not reach the teacher, the teacher will call back within a 24-hour time period (FLVS, 2011). E-mails are returned within 24 hours as well, and student work is graded and feedback given by the teacher within 48 hours.

**Standards for Online Courses**

Significant progress has been made in online education with regard to identifying standards for online courses, standards for online teachers, and best practices for instruction in the online environment (NEA, 2011; SREB, 2006; NACOL, 2007). The National Education Association (NEA) recommends online courses be instructor-led, student-centered, and collaborative in nature. In their guide to teaching online courses, the NEA states that online coursework should maximize flexibility for students while also providing a framework for pacing (NEA, 2011).

In order for online high school courses to be of upmost quality and rigor for students, the International Association for K-12 Online Learning (iNACOL) has identified national standards for online courses (NACOL, 2007). States, school districts, and online programs across the country are encouraged to adhere to the standards outlined by iNACOL for their online courses. The standards that iNACOL adopted are from the Southern Regional Education Board’s (SREB) identified standards for quality online courses (SREB, 2006). The SREB’s comprehensive guidelines for online courses were already being followed in the southern region’s sixteen states, and after conducting extensive reviews, iNACOL asked for and received permission from SREB to adopt their online course standards for the nation. iNACOL added 21st century skills as one additional component to the national standards for K-12 online courses.
Content. The content in an online class must align with state and national standards for the course. The goals and objectives of the course should be clearly stated and measurable in that what the students will be able to do and know at the conclusion of the course is outlined up front. The course assignments and assessments are to be in line with the state and national course goals and objectives. Online courses must demonstrate sufficient rigor, depth and breadth in order to benefit students and produce improved learning outcomes (iNACOL, 2010). The course should also include a complete syllabus and clear overview for the student and teacher to follow.

Information literacy and communication skills should be taught within the course as a supplement to the content (Christensen, Horn, & Johnson, 2008; iNACOL, 2010). Copyright laws must be followed, and information should be provided to students about how to properly use copyrighted materials. Ideally, a sufficient amount of learning resources should be available within the online course in order to increase students' success in mastering the content. Last, academic integrity and internet etiquette (netiquette) should be addressed at the onset of the course and monitored by the teacher throughout the course.

Instructional design. An online course is designed to address various learning styles. The course should be laid out in separate units, with multiple lessons in each unit of study. There should be an overview for each unit that explains the goals, objectives and assignments within the unit. Each individual lesson should also include an overview and goals listed, along with a clear description of the lesson assignments. The assignments should offer choice for students, so they can select the method of demonstrating mastery that best suits them as individual learners (iNACOL, 2010; Schlechty, 2008). In any online course, the level of work
must be appropriate for the content and the grade level of students taking the course. The course must be designed to allow easy and frequent communication between the student and teacher (FLVS, 2011; iNACOL, 2010).

**Student assessment.** When it comes to evaluating student progress, the assessments within a course should be consistent with the course goals and objectives (iNACOL, 2010). The online course should include formative and summative assessments that are appropriate measures for determining student progress. Teachers should be able to assess and verify each student’s mastery of content in order to permit the progression to subsequent lessons. There should be a variety of tools the teacher can utilize to assess students. Some of those tools include written assignments, oral discussions between the student and teacher, and online quizzes (FLVS, 2011). The grading rubrics should be easy for students to follow and understand.

**Technology.** The course management system should allow for the teacher to add content and activities in order to differentiate instruction as needed. The course includes a pace guide link for students and parents to follow and monitor, to give structure for progress through the course, something that is cohesive to the student’s traditional schedule. The layout of the course is easy for students to understand and master. When students initially register for online courses, the hardware, software and web browser requirements must be clearly identified, so students can determine if they have the necessary tools to take the course. In addition, the minimum level of proficiency with technology skills should be stated, so the student knows what is expected. In any online course, there should be sufficient technological assistance provided to the students, parents, teachers and administrators (FLVS, 2011; iNACOL, 2010). There should be a course orientation for the students and parents offered within the course.
One significant national requirement for online courses is that they meet universal design principles and comply with Section 508 standards and W3C guidelines. Students with disabilities must have the same opportunities for the use of technology in the classroom as non-disabled students (NACOL, 2007; National Council on Disability, 2001). Online textbooks must meet national standards (National Instructional Materials Accessibility Standards) for publishers to provide alternative versions of text (Braille or audio) as needed for students with disabilities.

Synchronous communication and collaboration tools are also part of the technology base that is critical in an online class (Finkelstein, 2006). A quality online course will also have built-in student surveys and evaluations available for students and parents to take in order to provide feedback on the course, and that information helps administrators and curriculum specialists in their evaluation and management of courses.

21st century skills. Online courses should provide students with opportunities to improve in the utilization of information, communication, and technology skills relevant to the 21st century. The courses must be designed to improve students’ interpersonal skills as well (NEA, 2011). The use of technology to study core subjects, improving learning and thinking skills in any content area, developing information and communication technologies (ICT), working collaboratively with peers from diverse cultural backgrounds, and having a sense of global awareness are all considered 21st century skills (Finkelstein, 2006; iNACOL, 2010; NCTE, 2011). The aforementioned can be honed through students’ successful completion of online courses. The US government is realizing that online options for high school credits can help students make the progression more smoothly to college and eventually to the work force (Wise & Rothman, 2010).
Standards for the Online Teacher

There are a growing number of professional development opportunities for in-service teachers to learn how to teach online, and now preparation for pre-service teachers in online instruction is a part of the puzzle that is beginning to be addressed in teacher education programs. A study that includes direct feedback from current online teachers can add to the discussions and inform current and future stakeholders in preparing virtual instructors for effective online teaching practices. First, it is appropriate to address the national standards for online teaching.

The International Association for K-12 Online Learning (iNACOL) has identified national standards for quality online teaching through extensive research, review of current literature, and survey responses from experts in online education. The standards have been established to provide states, districts, online programs and schools with a set of guidelines for online teaching and instructional design (NACOL, 2010). The standards iNACOL chose to endorse and adopt, with modifications, came from the Southern Regional Education Board’s (SREB) Standards for Quality Online Teaching (2006). The SREB originally had eleven standards; iNACOL deleted a few and added two standards taken from the Ohio Department of Education’s Ohio Standards for the Teaching Profession and the Electronic Classroom of Tomorrow’s Teacher Evaluation Rubric (iNACOL, 2010). iNACOL lists the standards for quality online teaching along with score sheets and rating scales, so practitioners can actually rate their own online teaching effectiveness. The following is a summary of the national online teaching standards according to the International Association for K-12 Online Learning (iNACOL, 2010), formerly known as the North American Counsel for Online Learning (NACOL).
Academic preparation and technology skills. According to iNACOL (2010), at the most basic level an online teacher must meet the minimum state professional teaching standards and should have a certification in the field in which he or she is teaching. Naturally, the teacher must have comprehensive knowledge of the content being taught and should be skilled in the delivery of content. The online teacher must be proficient in basic technology skills, like word-processing, presentation and spreadsheet software. The teacher should also be able to effectively use internet browsers, e-mail applications, and synchronous and asynchronous tools (discussion boards, chat tools, whiteboards). The online teacher must also understand and display appropriate netiquette (online etiquette). In addition, the online instructor should be able to troubleshoot basic software and hardware problems, and should demonstrate continuous growth in technology knowledge and skills to stay current with the latest trends (iNACOL).

An additional requirement and standard for an online teaching is that the effective instructor should have firsthand experience in online learning from the perspective of a student. The teacher should have taken at least one online course and be able to apply the experiences to his or her own teaching practices in the online environment.

Teaching strategies. Just as in any class setting with the goal of impacting student achievement, the teacher should incorporate strategies that encourage active learning, interaction and collaboration among online students. An effective online teacher will facilitate appropriate synchronous and asynchronous interaction and collaboration among and between students. The online teacher will use strategies to reach limited English language proficient students, and will establish a warm, accepting environment with particular attention to cultural differences among
students. Above all, the effective online teacher will differentiate instruction based on individual students’ needs (iNACOL, 2010).

The online teacher must be creative in providing activities and assignments that are relevant to the students, and should be willing and able to modify those assignments when necessary (iNACOL, 2010; Schlechty, 2008). The assignments should be student-centered and based on real-world applications. The online instructor should realize there are multiple paths for students can take to meet learning objectives and demonstrate understanding and mastery of content, and will possess the ability to accurately assess student knowledge in a variety of ways (iNACOL).

**Online leadership.** A successful online teacher will impact students’ success with clear expectations about assignments and prompt, detailed feedback on their submissions. Timely feedback to students’ assignments and questions is a must. In addition, the online teacher will maintain detailed, thorough documentation of all communication with students and parents, and will make sure that communication and interaction takes place on a frequent and regular basis (FLVS, 2011; iNACOL, 2010). An online teacher must have the ability and disposition to consistently encourage and support students while they move at various paces through the content to successful completion of the course. That encouragement should be kind and should include reminders of course expectations and requirements.

While the online teacher within a virtual school organization may not be the one to create actual online content, a clear and specific course syllabus should be provided – if not through the curriculum already in place, then by the teacher’s own creation. A key component to successful online teaching and leadership is the utilization of data to inform and direct tracking of student
progress. With that, the teacher should be able to address individual students’ needs in modifying pace and providing intervention in order to help previously unsuccessful learners reach their course goals (ultimately content mastery and successful course completion). One thing an online teacher should do, regardless of how the content is created and displayed, is to take the initiative to provide supplemental resources and modified or enhanced activities when needed to increase student achievement levels (iNACOL, 2010).

**Modeling and managing ethical online behavior.** The online instructor will begin by providing and directing students to academic integrity information in order to be sure each student is clear about the course requirements for ethical behavior and authentic submissions in the online environment. The astute online instructor realizes that technology may impact student testing performance and must take steps to prevent any academic dishonesty. It is necessary to inform students about legal and ethical issues about technology use and copyright laws. Acceptable use policies should be provided to students, and course content (while likely not the direct responsibility of the teacher) must comply with intellectual property rights policies and fair use standards (iNACOL, 2010).

Of course, the teacher should model and convey clear expectations for the appropriate use of the internet and written communication in the course. Last, the online teacher is responsible for upholding the students’ rights to privacy (iNACOL, 2010). Ultimately, the teacher’s license is on the line in a virtual teaching and learning environment, and significant care to uphold the highest standards of academic integrity among students is essential.
Online Teacher Preparation

Critics of teacher education are calling for reform in traditional teacher preparation programs in order to increase student achievement across K-12 public education (Everhart & Hogarty, 2009). The recent pressure in teacher education stems from the fact that teacher effectiveness is recognized as the most significant contributor in improving student learning outcomes (Wise & Rothman, 2010). The consensus is that new teachers need to be prepared with a vast armory of tools related to teaching and learning, and must be able to use them in a variety of school settings and contexts, and that includes media and technology-related resources (Christensen, Horn, & Johnson, 2008; Everhart & Hogarty, 2009).

Many new teachers are from the millennial age group, the generation that is considered to have grown up using media and digital technologies for communication, learning and entertainment. Ideally, they would be suited to online teaching, as they are part of the demographic most comfortable with digital and media technology. The majority of America’s teens and young adults have woven the use of advanced technology within most aspects of their lives, but they have not necessarily transferred the use of technology to their school work (National Education Association, 2011). Many college students have gone through high school with teachers who did not incorporate media and technology tools in the classroom. Studies have shown that large numbers of veteran teachers are not utilizing technology in the classroom and most are not knowledgeable about how to use technology in order to blend course work or to teach online (Archambault, 2011).

There are not many university teacher education programs that are preparing teachers for online instruction, and no research exists on physical education teacher education programs that are preparing pre-service physical educators for online teaching. In seeking competence and
quality within online education, Thomas (2008) suggested there are not enough efforts made to teach teachers how to teach online. More quality online teachers are needed to give all students across the country opportunities to take courses online. Thomas suggests that online teacher certificates should be valid across state lines, so students can benefit from teachers in other parts of the country. That would help provide equal educational opportunities for all students.

**Teacher training.** The role of the teacher is changing, due to the incredible shift in the way information is presented. No longer are teachers the sole source of content for students’ learning. The teacher is not simply the imparter of knowledge, but has a role of facilitator, directing and guiding students through the content while teaching them strategies for learning and obtaining new information on their own (Watson, 2007). This is true in the traditional classroom as well as in the online classroom, but the online environment is expanding, and teachers should be prepared to teach millennial-age students with technology and perhaps even to teach virtually.

In the 21st century, the need for teachers to be prepared to instruct online is becoming more prevalent. The millennial generation includes the current group of students who have grown up with an increased proficiency in using media and technology tools for entertainment, daily tasks, and education purposes. This generation is the group that is being taught currently in middle, high, and post-secondary schools around the globe. The millennial generation also includes the new group of young people who are in college learning to be educators (National Education Association, 2011). Researchers in the field of distance education are suggesting that teacher education programs include an online teaching component, either a methods class, a
practicum, or both, in order to prepare new teachers for the online venue (Barbour, Kinsella, & Toker, 2009).

Although the vast majority of pre-service teachers in teacher education programs are of the millennial age themselves, there seems to be an overall aversion to teaching online among those preparing to be teachers (Compton, Davis, & Correia, 2010). Pre-service teachers typically base their desire to teach on their own past learning experiences. Many have not been exposed to online learning, so they are not always ready to accept the online environment as a viable teaching and learning option (Quillen, 2010).

As for teacher training, the U. S. Department of Education supports the idea that teacher education programs should include a broad range of competencies, including distance education experience. According to Davis and Roblyer (2005), even traditional high school counselors who are working to place K-12 students in online courses should be trained in distance education managerial tasks. In fact, FLVS currently has five counselors that serve students from all over the state of Florida; they communicate through phone, e-mail, and school-site visits, and hold live webinar sessions regularly for students and parents in order to address academic requirements, teen concerns and financial aid options for college preparation (FLVS, 2010).

As stated previously, online teachers are required to be certified in the subject areas they are teaching, just like in the traditional setting (Horn & Staker, 2011; NEA, 2011). In addition, virtual schools often provide new educator orientation training, specific to online teaching, which is spread out over the course of few weeks (FLVS, 2010). The Texas Virtual School has a requirement that certified Texas teachers can apply for a part time online teaching position after
completing an online course or two about how to teach online (TVS, 2011). The courses offered through TVS are paid for by the teacher.

Some virtual schools require their teachers to have a minimum of three years traditional teaching experience before being able to apply for an online teaching position. However, more recently there are virtual school administrators who have determined that a certified teacher just coming out of school can become prepared to successfully teach in the online setting through their own extensive, in-house training courses (FLVS, 2010; Quillen, 2010). Florida Virtual School is unique in having created an internship program offering part-time and full-time internship experiences to pre-service teachers in education preparation programs from the University of Central Florida, the University of Florida, and most recently for Physical Education pre-service teachers at the University of South Florida (FLVS, 2010).

In the National Education Association’s (NEA) guide for online teaching, the recommendation is that teacher education programs prepare and equip pre-service teachers to be able to teach online, as the chances are high that new teachers in the 21st century may be asked to teach online, or to at least be able to incorporate online instruction in some form of a blended learning environment (2011). The NEA also suggests that state licensing agencies should begin to include an online instruction endorsement for those seeking certification.

Frederick Hess, director of education policy at the American Enterprise Institute (AEI), and executive editor of Education Next, has taught education and policy at Georgetown, Rice, Harvard, the University of Virginia and the University of Pennsylvania. In an article he wrote for the Journal of Teacher Education, he indicated a strong need for education stakeholders to reevaluate assumptions about teaching in order to make improvements in the field and in student achievement across K-12 levels. The state of teaching and education is much the same as it has
been since the late 19th century. Hess explained that an increase in student population due to mandates for compulsory education in the late 19th century, and continued student population growth in the early 20th century, led to a pool of teachers made up mostly of females willing to work relatively inexpensively (Hess, 2009). By the 1970’s, however, other career options became available to women, and schools could no longer count on the same demographic pool to fill teaching positions. Hess purports that our present teacher education practices were established for another time period, and those preparation programs have not changed significantly to match the needs of students and teachers in the current era.

Advancements in technology and communications and the changes in society have led to the need for modifications in teacher preparation, professional development and retention efforts. Hess maintains that the job of a K-12 public school teacher has remained essentially the same over the years, but should have been shifting with the times. Teacher education programs at the university level seem to uphold the traditional mindset that pre-service teachers are preparing for a lifetime career, when it is actually projected that the average college graduate today will hold approximately 11 jobs, most of those before 30 years of age (Bureau of Labor Statistics, 2008).

Efforts in teacher preparation, teaching development, and teacher retention have not addressed real change. Educating School Teachers (2006) was a study that critiqued teacher preparation, but Hess felt they did not hit the mark with their assessment that future teachers should look largely like past teachers, and that teacher recruitment should be targeted to new college graduates. He questioned whether 22-year olds are the best resources for new teacher recruitment, and whether degree programs in institutes of higher education are the best training venues for new teachers (Hess, 2009). He challenges that older adults entering the teaching profession may be more successful as teachers and may stay in the field longer. In fact, it is easy
to imagine that a 30-40 year-old, just entering the teaching work force, would be committed to twenty years of service to students. New teachers do not need to be recent college graduates.

All this leads to ideas that align with the online teaching and learning options today. For example, teachers entering the field today would like to have options for how they work and how long they work each day (Hess, 2009); online teaching does lend itself to flexibility in the time of day that a teacher works (FLVS, 2011). One might propose that efforts to include technology, online training and actual preparation for online teaching in a pre-service teacher education curriculum could be just the things to breathe some life into the field that Hess and others believe is so in need of change (Christensen, Horn, & Johnson, 2008; Compton, Davis, & Correia, 2010; Hess, 2009; Smith, 2009).

Students preparing to teach usually have a perception about what they expect to become as teachers. Having recently been in school themselves, they have ideas about how teachers should be, what teaching should be about, and preconceptions about what type of teachers they want to become (Compton, Davis, & Correia, 2010). Preparing teachers for virtual school teaching can help to provide them with a well-rounded, thorough experience and knowledge base. The technology-related tools they will become proficient in while participating in an online practicum are transferrable to the traditional classroom as well. Likewise, the practice in asynchronous communication (via written e-mail, for example) will help pre-service teachers script out the feedback they will be providing, online or in a face-to-face setting. After carefully writing appropriate, specific, constructive and positive feedback over and over, the words tend to flow verbally in the same tones.
**In-service teacher professional development for online teaching.** Rice and Dawley (2009) stated there is an unprecedented demand for online teachers in the United States. They sought to identify how teachers are learning to teach online, and how teachers successfully teach online. The North American Council for Online Learning (NACOL, now known as iNACOL) has established national standards for effective online teaching (iNACOL, 2008). Stakeholders in online education have called for empirical research on effective professional development for K-12 online teachers. Currently, educators and policymakers rely on research from online teaching and learning in higher education settings to identify optimal online teaching competencies (Rice & Dawley, 2009). Information gleaned from online teacher trainers, teachers, and administrators have also been transferred to K-12 online structures. Overall, it can be said that online teacher training has been created from traditional teaching professional development practices. Rice and Dawley acknowledged that there is value in understanding effective higher education online teaching strategies and in hearing from experienced online teacher trainers and teachers themselves, but they recommend additional research in effective practices for teaching children in online environments.

Toward that end, *Going Virtual! The Status of Professional Development for K-12 Online Teachers* was the first of a three-phase study involving a national survey to collect descriptive data from stakeholders on best practices, models for professional development, and content related to the training of K-12 online teachers (Rice & Dawley, 2007). In the first phase, the researchers determined that professional development can affect change in teaching practices and can ultimately improve learning outcomes for students.

Most professional development (PD) models are based on cognitive stages teachers move through as they become more proficient educators: novice, advanced beginner, competent,
proficient, and ultimately expert. These stages may differ slightly in name or number, but the various stage models that have been proposed are similar (Dall’Alba & Sandberg, 2006; Rice & Dawley, 2009). One particular criticism of this type of stage model is a failure to address the importance of contextualized training for teachers – training that takes place within the context of the specific content area and teaching environment. Most stage models for PD of teachers simply focus on general skill acquisition and increase in knowledge bases (Rice & Dawley, 2009). Dall’Alba and Sandberg (2006) proposed a step-wise model for PD, where teachers progress horizontally in practical knowledge and skills as well as vertically in their teaching practices as applied in the classroom with students (see Figure 1). Generally the idea is that professional development should be provided within the context and setting of the specific teaching and learning environment as it applies to the individual teacher.

When creating professional development learning opportunities for teachers preparing to teach online, Rice and Dawley (2009) recommend designers consider the school setting, the school philosophy and goals, and applicable state policies. They also suggest modeling teacher development courses after successful PD practices that are being implemented in other K-12 online learning environments throughout the country.

Figure 2.1. Horizontal and vertical PD growth (Dall’Alba & Sandberg, 2006)
Rice and Dawley (2009) surveyed online teachers, administrators, and trainers in an effort to identify successful strategies in the sequencing of online teaching training for instructors. They also asked respondents to explain training models, topics covered in online teaching preparation and training, and the methods of delivery of content. The researchers concluded that effective PD for online teachers should be relevant, just-in-time, and ongoing, in order to serve students and bring about optimal student learning outcomes (Rice & Dawley).

Rice and Dawley (2009) discovered that there is a broad range of PD going on at various virtual schools and programs across the country. Some schools do not appear to offer much in the way of online teacher PD, and others have a plethora of PD opportunities for teachers, administrators, counselors, and other stakeholders. The best PD assists online educators in learning how to communicate effectively synchronously and asynchronously, how to establish positive relationships with student and parents in an online class, how to collaborate with other teachers in the online environment, and how to utilize the latest technologies within the classroom. Courses, seminars, and single learning sessions count for continuing education hours for teachers and other professionals and meet recertification requirements. A variety of delivery methods are used in online teaching PD, including fully online, face-to-face, and hybrid. The national standards established for online teaching recommend teacher training should be predominantly delivered in an online format (NACOL, 2008; NEA, 2006; Rice & Dawley, 2009).

When looking at who provides PD for online teachers, the PD was mostly provided by the virtual school or organization. Rice and Dawley (2009) noted that most universities have not played a part in the training or PD of K-12 online teachers.
Pre-service teacher preparation for online teaching. Data show that in a few years, 10% of all high school courses will be computer-based, and by the year 2019, approximately 50% of courses will be delivered online (Christensen, Horn & Johnson, 2008; Wise, 2010). As virtual teaching and learning opportunities continue to grow, teacher educators across the country are beginning to consider the benefits of adding an online teaching component to their teacher education programs in order to prepare pre-service teachers for online instruction (Archambault & Crippen, 2009; Mosier, 2010; Quillen, 2010). With the charge of preparing secondary teachers to effectively impact student learning and achievement outcomes, the move to include an online instructional component for pre-service teachers makes sense.

Just as in the traditional public school setting, online teachers need to be certified in the subject areas they are teaching. Some virtual schools provide in-house training to prepare teachers for online instruction (Florida Virtual School, 2011). That training takes place after the teacher has passed preliminary tests and is hired for employment. The pre-employment screenings typically include online assessments covering the teacher’s use of technology-based tools, ability to implement instructional practices that meet individual students’ needs, and the propensity to be successful working independently. Virtual schools may ask potential teachers to pay for online teacher training in the form of professional development, to demonstrate proficiency and pass their online teacher training courses before being eligible to apply for a position (Texas Virtual School, 2011). There are some district-based virtual schools that only hire experienced teachers currently employed within their own district to teach virtually (Polk Virtual School, 2011).

A majority of high school students enrolled in online schools are choosing to blend their education with one or more virtual courses while continuing with their brick-and-mortar,
traditional classes (Christensen, 2008; iNACOL, 2010). Therefore, a current movement is underway for educators to deliver high quality, technology-based education that provides the skills and knowledge students need to succeed in the 21st century (Christensen, 2008; iNACOL, 2010; Patrick & Powell, 2009; Young, 2010).

Educators, administrators and researchers are realizing the benefits of providing secondary students with online options for a wide variety of courses and for many reasons; however, questions have been raised about whether or not new teachers are prepared to teach online. Besides examining the online teacher’s role, stakeholders in the field of online education have indicated more studies are needed that examine instructional models and conditions and practices for effective online teaching (Patrick & Powell, 2009). The educational transaction between those who provide knowledge and information and those who receive it is changing (Christensen, Horn & Johnson, 2008; Gold, 2001).

As the distance education field is growing, a few teacher education programs across the nation are beginning to include pre-service teacher training about distance education and how to teach online (Compton, Davis, & Correia, 2010; Quillen, 2010). Preparing pre-service teachers to teach virtually is now a necessity if teacher education is going to stay current with the times. In fact, with the country’s education system in crisis (Wise, 2010), online courses may be a large part of the solution for many of the problems facing public schooling today. If that is the case, it is more important than ever to prepare pre-service teachers to be effective instructors online as well as in the classroom.

The teacher education program at Iowa State University (ISU) was the first to offer online teaching training for pre-service teachers through seminars and small scale internships (Barbour, 2011; Davis & Roblyer, 2006). Pre-service teachers from The University of Florida
(UF) participated in a study with Iowa State researchers, the Teacher Education Goes into Virtual Schooling (TEGIS) program and long-term study created at by Davis and her team at ISU included UF, the University of Virginia, Graceland University, and ISU, in partnership with Iowa Virtual School (Barbour, 2011; Davis, etc.) Currently, UF has a three-course graduate certificate in online teaching and learning (Barbour, 2011; UF, 2011). Boise State University and Wayne State University also offer a graduate certificate in online teaching, and two Georgia universities, Georgia State and Valdosta State, offer classes that fulfill an online teaching endorsement (Barbour, 2011).

**Teacher Dispositions**

Much of the discussion about teacher quality has been focused on teachers’ content knowledge and skill in the classroom, but not enough has been said about teacher dispositions (Smith, 2009; Thornton, 2006). Terms associated with and used to describe dispositions are tendencies, behaviors, values, habits of mind, and attitudes. Dewey (1933) discussed the importance of a teacher’s habit of mind as a variable that would determine teacher effectiveness. Thornton explained Katz’s (1993) definition of dispositions as behavior that is exhibited frequently, intentionally, and without coercion. Maylone (2002) made note of the minor semantic difference between the words *dispositions* and *disposition*: teachers have multiple dispositions, but the sum of those dispositions is known as one’s *disposition*.

The National Board for Professional Teaching Standards (NBPTS) and the National Council for the Accreditation of Teacher Education (NCATE), along with other groups and organizations, stress the importance of knowledge, skills, and essential dispositions critical to effective teaching. In 2000, NCATE determined that the development of professional
dispositions should be an obligation of teacher educators when preparing new teachers (Borko, Liston, & Whitcomb, 2007). However, dispositions have not been a significant topic when stakeholders examine teacher quality during teacher preparation or professional development. Thornton (2006) suggested that the No Child Left Behind Act (2000) and other state and national legislation places the focus on teachers’ content knowledge and pedagogical skill, but do not take into account the dispositions necessary for successful teaching. Most colleges of education tend to focus on pre-service teacher dispositions that can be evaluated through the use of checklists and rubrics (Thornton, 2006). NCATE (2000) has a model in place for teacher educators to follow when addressing teacher dispositions and performance. NCATE does not provide a specific list of teacher dispositions, but states:

*Dispositions are guided by beliefs and attitudes related to values such as caring, fairness, honesty, responsibility, and social justice. For example, they might include a belief that all students can learn a vision of high and challenging standards, or a commitment to a safe and supportive learning environment (NCATE, 2002).*

The list of essential teacher dispositions varies according to different organizations and schools, but can include the following: ability to assess students, communication skills, continuous professional self-improvement, critical and creative thinking abilities, embracing diversity among students and colleagues, a high level of ethics and professionalism, consideration of human development and learning processes, proficient presentation of subject matter, provision of a healthy learning environment, proper planning and preparation, knowledge of his or her role as teacher, and the incorporation of technology in lessons (University of South Florida, 2011).
Some researchers and policy makers in teacher education believe dispositions and characteristics that make great teachers are inborn and cannot be learned. Others, however, are of the mindset that dispositions can be taught and learned, and that teacher educators should make every effort to incorporate opportunities to improve dispositions throughout the teacher education program (Borko, Liston, & Whitcomb, 2007; NCATE, 2000). Many university teacher educators evaluate dispositions upon entry to the program, and then reassess their pre-service teachers’ dispositions periodically throughout the program of study. A final assessment of dispositions is then given in order for the student to successfully exit the program and move forward as a qualified teacher.

While all colleges of education should assess the knowledge, skills and dispositions of future educators, Maylone (2002) pointed out that a list of dispositions to be checked off on may discourage diversity among individuals. With room for flexibility, however, no one can argue the need for some broad guidelines to ensure optimal teachers are entering the workforce. There has not been enough research addressing dispositions for the online instructor; however, studies have shown that teacher dispositions are important and do have an impact on student achievement (Taylor & Wasicsko, 2000).

**Potential Challenges in the Online Classroom**

Horn and Staker (2011) stress the need for radical change in the way school systems in the U.S. operate. They believe blended learning environments are the future of education. Transformation in teaching and learning can take place, student outcomes can be greatly improved, if technology is used properly to blend students’ education with some face-to-face and some online courses throughout secondary public school programs of study. A blended learning
experience is one in which a student takes classes and learns in a traditional, brick and mortar school, and also takes some part of her coursework via an online environment where she has some control or flexibility in the time she works and the pace she works through the course (Horn & Staker). Whether examining blended learning or full time online learning, there are some challenges that have to be considered in K-12 virtual schools.

**Authentic student work.** One of the primary concerns in an online class is the authenticity of student work. Researchers and supporters of distance education acknowledge that some students may try to cheat, and some students may get away with cheating by submitting work that is not their own. However, Watson (2007) reports that it is somewhat difficult to cheat in an online class because the teacher is working so closely with students; the teacher is in regular communication with the parent or guardian to confirm student work. Virtual schools have measures in place to monitor student submissions and to check for plagiarism and other forms of cheating. For instance, FLVS utilizes Turnitin, the online international originality checking and plagiarism prevention service. A Turnitin report is automatically generated for many of the assignments to give specific data about any copied, shared, or plagiarized work.

Many virtual programs offer physical education-related courses. Ransdell, Rice, Snelson & Decola (2008) believe an online health and physical education course should be provided as a supplement only, but students in Florida, Utah, and other states do have the option of taking all their required physical education courses online. The potential problem is that students in an online PE course could feasibly log and document fitness hours without actually participating in the physical activity. However, to help hold students accountable, the PE teachers must communicate with students, parents and guardians on a regular basis in order to ask questions
about and confirm the student’s fitness work. By asking questions and communicating with parents and students regularly about physical fitness activity, the online teacher will have a good idea if the student has actually been doing the work.

**Equity in educational opportunity.** Another potential drawback to online education is the requirement for students to have a computer and internet access. In the U.S., approximately 54% of households had internet access by the year 2002, and that number has gone up to over 70% of homes with access to the internet (Oliver et al., 2009). While the majority of houses in America are connected to the World Wide Web, many families still do not have computers or internet access. If there is a requirement for functioning technology and internet access in order to participate in an online course, some would say that presents an uneven playing field for the students; there are those stakeholders who feel virtual learning may be causing a disconnect between those that have the funds for technology and those that do not have the means to invest in technology tools (Oliver et al., 2009; Picciano & Seaman, 2010).

One more concern that can be considered a challenge within the online environment is the belief that even when a student has all the technological resources necessary to participate in an online course, if he is not highly motivated or skilled in academics, he may not succeed in a virtual class (Barbour & Reeves, 2009). The charge for online teachers and administrators in the 21st century is to be ready and able to support all types of students no matter what their level of academic ability, to adapt instruction according to students’ needs (National Education Association, 2011). With an effective online teacher’s assistance, a student who struggles with reading and writing can be successful in the online environment. Online teachers should be
trained to differentiate instruction, to provide a variety of ways in which students can demonstrate mastery of the content.

All in all, the potential is there to provide high-quality education and instructional services to all students, regardless of their geographical or socio-economic position, cultural background or disability (NASBE). Schools can provide students equipment, software, and reliable and fast internet connections for online opportunities. Unique courses and superior teachers can be made available to students without regard for geographical constraints (Garrison, 2000).

**Teaching challenges.** In a recent survey of over 600 K-12 online teachers, results showed that the teachers appreciate the flexibility that teaching virtually provides; however, online teachers reported that teaching online is much more time consuming than the traditional teaching schedule (Archambault, 2010). The online teachers in Archambault’s study identified the increased time commitment as a significant challenge to teaching online, and they also named a lack of control over course content as another challenge. Many virtual schools use course materials and content that is developed and created by an outside provider or an in-house curriculum specialist, and the teachers do not have authority to change or modify the curriculum and assignments as easily as they would in their own classroom in a traditional setting. Typically there are steps to follow in order to get curriculum errors fixed or modifications to assignments made, and virtual schools should be sure to have the protocol for submitting requests for changes clearly defined (Archambault). Teachers can and should be a part of any curriculum adjustments, as they are generally experts in their field and have knowledge and experience about how to meet students’ individual needs.
Additional challenges that need to be tackled in order to create meaningful change through online learning are as follows: eliminating class size restrictions and student-teacher ratio requirements, and change the traditional per-pupil funding models so that funds follow students down to an individual course, not just to the full time school or program (Horn & Staker, 2011). The United States spends more money per student on education than nearly all other countries in the world. That dollar amount has doubled over the past forty years, but no discernible improvement in student outcomes has been documented to warrant such spending. With budget cuts that are becoming more significant, the online options are becoming more attractive (Horn & Staker).

**Physical Education in Brick-and-Mortar School Settings**

Physical education has been a part of public school curriculum since the mid-19th century. Universities were offering PE courses in the early 1800’s in America, and in 1866, California was the first state to have a mandate for PE in its public schools; other states quickly followed suit. World War I brought a particular focus on military physical fitness, and calisthenics and gymnastics became more and more a part of the educational content. America’s public schools have, for the most part, incorporated a fitness component into the school day since then. Skill development and sport activity were the trends for the latter half of the 20th century (Mosston & Ashworth, 2002; Rink, 1998; Siedentop, 1991).

Today, secondary physical educators have been charged with creating and implementing programs that address the current obesity epidemic plaguing our youth (Cawley, Meyerhoefer, & Newhouse, 2006; NASPE, 2011; Pangrazi, Beighle, & Pangrazi, 2009). In addition to obesity, there are other health-related problems on the rise among young people in the 21st century:
diabetes, high blood pressure, high cholesterol and cardiovascular diseases, including fat accumulation in the blood, which clogs arteries (Center for Disease Control and Prevention, 2006; Thunfors, Collins & Hanlon, 2009). Sedentary lifestyles, fatty foods, and a relatively newfound propensity for lounging in front of the latest technology, communication, and gaming devices have been largely responsible for the decline in adolescents’ health (Hansen, 2009).

According to business news reports, there were over $21 billion in sales of video game systems, video games, other software and accessories for video game play in 2008 and video game revenues surpassed $41 billion in 2009. While PE teachers work to provide opportunities for students to be physically active and to improve their skills in a variety of sports, adolescents are largely unaffected by the knowledge that a sedentary lifestyle can lead to disease and that physical activity is critical for good health (Briggs, 1994). Even promises for increased energy, greater work capacity and a longer life do not seem to make an impact on the majority of secondary students’ choices outside of school; therefore, researchers and specialists are currently suggesting that physical educators promote participation in fitness and sport activities for pleasure and enjoyment’s sake (Briggs, 1994; Centers for Disease Control & Prevention, 2010; Kretchmar, 2008; Pangrazi, Beighle, & Pangrazi, 2009).

Physical education has been a part of the secondary curriculum for generations, and stakeholders in the field would agree that physical fitness education is an essential component in the effort to produce well-rounded individuals. The United States government supports that premise, and is attempting to address the unhealthy student population with new mandates about the minimum number of physical activity (PA) minutes students should have each day or week. The National Association for Sport and Physical Education (NASPE) and the American Heart
Association recommend 45 minutes per day, or 225 minutes per week, for secondary level students (NASPE, 2011). Most secondary PE teachers are making the effort to provide physically challenging, engaging activities in order to improve students’ skill-related and health-related fitness levels and to empower those adolescents with the knowledge and ability needed to participate in fitness activities safely and effectively throughout their lives. However, there is still a discrepancy between the message and the result (Trout & Graber, 2008).

As we move well into the 21st century, with adolescent obesity the primary concern, physical educators are being held accountable for making significant changes in students’ health and overall wellness. Currently, physical education is the focus of controversy as supporters and naysayers argue whether or not PE classes help students become or stay fit and healthy. Traditional PE classes have a place in every school in America, but there are some concerns with PE in secondary schools that have been researched. The following topics deserve mention, as online PE classes have the potential to resolve some of the issues addressed in physical education research today.

**Health-related fitness.** It has been noted that adolescents in a traditional high school PE setting often do not experience personal growth in health-related fitness areas (Trout & Graber, 2008; Ransdell, Rice, Snelson & Decola, 2008). The argument can be made that during a typical high school physical education class students spend more time changing clothes than participating in moderate-to-vigorous physical activity (MVPA). Once students are changed and ready for physical activity, there are numerous managerial tasks that must be addressed by the teacher, including, but not limited to, taking attendance, forming groups or teams, and giving directions for the day’s lessons.
Even when students are dressed out and ready to participate, there is often not enough time or equipment for the teacher to provide ample play and participation for all students (Cawley, Meyerhoefer, & Newhouse, 2006). For example, a typical middle school PE class in a southeastern U.S. county or district is fifty minutes most days. The students are permitted ten minutes at the beginning of class to dress out and prepare for physical activity; they are given 7-8 minutes at the end of the period to change and get cleaned up for their next class. If the teacher is properly prepared, attendance can be taken and instruction can be provided in a timely manner. On an ideal day when a minimal amount of instructional time is needed, the students may have 25-30 minutes to participate in the activity. However, some students do not participate in the activity to their fullest ability, and some activities within the county curriculum are not moderately vigorous in nature. In addition, one day per week the classes within this county are all cut short by ten minutes in order to provide an early release day for teachers to have more planning and preparation time (Hillsborough County Public Schools, 2011).

While observing secondary PE classes, teacher educators often see veteran high school teachers who are not offering their students enough health-related fitness opportunities. Hannon, (2008), examined overweight and non-overweight students’ activity levels during PE class and the results were interesting. He collected measurements on the physical activity levels of overweight and non-overweight high school students (N=198) in traditional PE classes as they participated in various sport activities. There was no significant difference in steps per minute between the two groups during all types of game play. Hannon discovered males accumulated more steps (pedometer recordings) than females, however. The researcher did not examine heart rate during the study, just step count, which did not indicate the intensity level of exercise among the students. Due to the fact that the step counts were similar among overweight and non-
overweight students, a conclusion might be made that the students were participating in physical activity that was not challenging for the overweight students. There likely was not enough cardiovascular physical activity for the non-overweight students. The results of this study provide one example of how a high school PE teacher may not be effectively providing students with sufficient physical activity. Many times high school students have an equal or better chance of obtaining essential physical activity on their own time outside of school participating in activities they prefer (Kane & Wagner, 2007).

Practitioners in the physical education field know the numerous benefits of regular participation in health-related fitness activities in a person’s life. For instance, being able to counteract the negative effects of stress on the body and mind is one significant benefit of regular cardiovascular and flexibility activities (Payne & Isaacs, 2008). According to researchers, however, freshmen college students consistently arrive on campus ill-prepared for meeting the challenges they face and subsequently seek out mental health services provided by the universities for eating disorders, substance abuse and addictions, and other mental disorders (Turner & Berry, 2000; Trela, 2008). It would seem that some students are not exiting high school with the knowledge and skills necessary for managing stress and leading a healthy life. Trela indicated there is a serious mental health crisis on college campuses across our country, and that many students are entering college already taking prescription medications for depression and anxiety.

According to Gallagher (2006), there are not enough counselors and mental health services available on college campuses to meet the tremendous number of requests for help from incoming students. If high school students were taught optimal strategies for managing stress through regular exercise, and given the opportunities to apply the strategies while taking a PE
class, there may be less need for mental health services among young people just graduating from high school. Online PE classes address mental health topics, the benefits of regular physical activity on the mind and body, and stress management techniques. The added benefit of an online class is that students can read about and apply those strategies and techniques within the comfort of their own homes (FLVS, 2011; Kane & Wagner, 2007; Mosier, 2010).

**Perceived barriers to physical activity.** Secondary students in America today have many concerns that can interfere in their effort to participate in PE and general physical fitness activity. A study conducted early in the 21st century identified barriers to physical inactivity and the subsequent, potential interventions and counseling options for students (Robbins, Pender, & Kazanis, 2003). Seventy-seven females from two mid-western middle school populations were invited to participate in the study. The girls were from 6th-8th grade, and made up an ethnically diverse population. Robbins and her colleagues were able to identify various themes in examining the perceived barriers to physical activity according to the girls. The top barrier to physical activity, affecting more than 50% of the respondents was, “I am self-conscious about my looks when I exercise.” *No motivation* was the second most significant barrier. Also high in the number of respondents affected: *No one to participate with, too busy, too lazy, physical activity is hard work, and the weather is poor* (Robbins, Pender, & Kazanis). Adolescent girls carry those and similar attitudes with them to high school and experience the same challenges when it comes to participating in physical activity, whether in PE class or outside of class. The online option for completing the PE requirement for these students can give them authentic physical opportunities and teach them how to be physically active for life within their own home or community environment (Ransdell et al. 2008).
Dwyer et al. (2006) teamed up with Toronto nurses and went into local high schools to present information about the health benefits of regular physical activity. Seventy-three high school females from a range of ethnic, social and racial backgrounds participated in the study that consisted primarily of small focus groups. The main questions that structured the interviews were as follows: Why do you participate in physical activity, even if it is not very often? What are the factors that prohibit you from participating in physical activity? Last, what should be done in the community to make it easier for you and others to participate in physical activity?

The researchers were able to identify a number of perceived barriers to physical activity among adolescent girls. Lack of time was one of the most significant barriers to participation in physical activity. Homework responsibilities were high on the list of things that took up the students’ free time. Part time jobs also took precedence over fitness activity participation. Students expressed the need to work at jobs in order to help with family needs, contributing support to parents and siblings. Time on the internet and other technology-related activities also interfered in some students’ physical activity. Peer pressure played a role in some adolescents’ activity choices, and parents, unfortunately, were oftentimes the ones telling their girls there was no time for fitness activity because other responsibilities took precedence.

Safety was a valid concern, as parks and recreation facilities in urban areas may be gathering places for gangs, and location (lack of facilities nearby) was a potential barrier. Cost of using facilities and participating in programs was also mentioned by the participants as a deterrent to physical activity. The adolescent females expressed that PE courses were harder to come by at the high school, courses were sometimes only offered one semester, PE was not been mandatory after the ninth grade, the high academic high school routes do not provide room for PE, and the equipment at some schools was old and insufficient (Dwyer et al. 2006).
Bibik, Goodwin, and Orseg-Smith (2007) studied 223 high school students’ attitudes in PE classes in order to determine their level of knowledge and interest in lifetime fitness activities. The researchers believed that even if PE standards and objectives were being met, it was important to determine whether or not students found physical education valuable for the long term. The students completed a 31-question survey administered by their own physical education teacher during PE class. Only 43% of the students surveyed indicated PE was important to their education. Previous PE standards in Delaware had been focused on sport skills, and now, like other states across the country, they are implementing new content standards that include a predominantly fitness-based curriculum. In examining students’ attitudes and perceptions about PE, Bibik, Goodwin, and Orseg-Smith found that 31% of the student participants enjoyed sport activities the most, while over 18% of the participants enjoyed running the least. Fifty-five percent of the participants indicated more choice and more fitness opportunities would be preferred. Overall, however, only 7% of the students surveyed requested more opportunities to learn about personal fitness, and 2.5% of the students surveyed found nothing enjoyable about their PE class. The researchers concluded that teachers must provide lessons that teach students how to enjoy being physically active. Online learning programs have the potential to meet these students’ needs with individualized instruction and a more significant focus on the health-related components of fitness. Virtual classes bring the PE content into the students’ homes, and that helps students and families apply the fitness component in a real world setting.

Trout and Graber (2009) studied overweight students’ perceptions and experiences in high school physical education classes. The qualitative study exposed overweight students’ negative experiences in high school PE classes. Interview data were provided to reveal specific,
detailed information about what these overweight students dealt with during their PE classes. Overall, teachers and students were not sensitive to the overweight students’ needs or feelings. The researchers were able to identify a pervasive sense of learned helplessness among the students (effort does not equal progress, therefore students give up). The students (7 female and 5 male) reported negative experiences and had mixed thoughts about the importance of physical education.

One student shared that while he wanted to participate in the game on the field, the teacher told him he had better sit out because it would be too vigorous for him. Another student recalled that others called her names during PE activities because of her size. Overweight students are oftentimes not getting their needs met in secondary PE classes (Trout & Graber, 2009). Students can be self-conscious and uncomfortable in front of peers for a variety of reasons; an online PE class might be the answer for these students’ success in learning physical education content and in participating more fully on their own, within their home environment.

The conclusions in each of these studies lend support for the promotion of more online PE classes at the secondary level. Students can fulfill their academic goals while still participating in structured PE courses online. The fitness component is completed in the comfort of their own home, and often, the student becomes an advocate for fitness and health within their own family due to the work they are doing online at home (Kane & Wagner, 2007; Williams, 2010).

**Online Physical Education**

High school students are being given opportunities to learn any time and place, and at any pace that best meets their individual learning needs, even in the traditionally face-to-face, hands
on physical education setting. Online high school PE classes are becoming popular for a variety of reasons. Whether veteran or novice, any physical educator looking into the virtual teaching world will undoubtedly discover teaching PE online is different than teaching PE face-to-face (F2F). Providing more information about online teaching and learning strategies and technology use within the PE field can help teachers, teacher educators, and students in their educational efforts (Goc Karp & Woods, 2003).

There is very little research in the field of online physical education (Mosier, 2010). In a recent literature review of online PE, Mosier (2010) discovered three research articles (Goc Karp & Woods, 2003; Kane, 2004; and Ransdell, Rice, Snelson, & Decola, 2008), three dissertations (Futrell, 2009; Ware, 2005; Jackson, 2000;), two theses (Daum; 2008; Taylor, 2007), and one book chapter by Kane & Wagner (2007). Jackson (2000) completed her studies at Florida State University and helped in the creation and pilot testing of the Florida Virtual School’s first Personal Fitness course. Mosier (2010) conducted a research study examining high school students’ success rates and preferences in an online PE course. A current web-based, Education Full Text search with keywords “online” and “physical education” revealed an additional editorial by Rhea (2011) about virtual PE in the K-12 setting, and a research article about exercise motivation in college level online physical activity courses (Sidman, Fiala, & D’Abundo, 2011). Rhea’s article in the Journal of Physical Education, Recreation and Dance touched on the need for and growth of online PE in the K-12 setting, with the only viable references from education technology and general online education resources. The overarching focus in Sidman, Fiala and D’Abundo’s article was on how teachers could begin to incorporate technology into a fitness or health class.
Most physical educators have universal goals and objectives to promote lifetime physical activity, and goals to provide students with well-rounded experiences that include physical, mental and social development (Mosston & Ashworth, 2002; NASPE, 2011). In order to accomplish these goals within a traditional high school PE class, teachers typically prepare a variety of unit and lesson plans and implement those plans with daily set inductions, directions and guidance on specific tasks and activities with extensions and refinements, and then close with thorough content reviews. Teachers provide feedback to students, assess skill and fitness levels, analyze student performances, and redirect instruction as needed (Mitchell, Oslin & Griffin, 2006; Rink, 2006).

In the online high school PE class setting, however, teachers are virtual facilitators and guides as the students study health and fitness-related content and learn about the importance of being active and fit for life. Students are presented with information about how to apply the health and fitness concepts to their own lives, and choose physical activities that they prefer to participate in within the comfort of their own homes and communities (Kane & Wagner, 2007). The online PE teacher is a motivator, an encourager, and assists students in creating workout plans to improve their overall fitness levels. An online PE teacher needs to be just as knowledgeable about health-related and skill-related fitness components, but does not directly teach skills to students (Kane & Wagner). In addition, the online PE teacher must be proficient with technology and ready to assist students as they maneuver through the online units, chapters, and lessons. Some students may have difficulty reading the material online and can benefit from the teacher’s individual guidance as they become accustomed to the structure of the online course (Sidman, Fiala, & D’Abundo, 2011).
One of the National Association for Sport and Physical Education’s standards for physical education teacher preparation programs related to instructional delivery and management is that teachers learn to use effective communication skills and pedagogical strategies in order to further enhance student learning outcomes (NASPE, 2009). This teaching standard applies to the online PE setting as well, as the virtual PE classroom is an ideal place for new and veteran teachers to improve communication skills and instructional strategies. In a study of high school students enrolled in a required wellness class with online physical fitness and nutrition components, most participants felt that the online environment was beneficial for working independently at home, for meeting various learning styles, and for focusing their learning better (Goc Karp & Woods, 2003). With the help of a caring and responsible teacher, one who is available to students through e-mail or phone and who works to ensure participation, increased student achievement can be accomplished within an online PE class (FLVS, 2011).

The National Association for Sport and Physical Education (NASPE) hosted a forum during the spring of 2011 for researchers and educators in the field to collaborate and discuss the future of PE in the United States. The following four themes were determined to be important in the future of PE and are prevalent within an online PE course: 1) curriculum relevant to students, 2) individualized choice for students, 3) content that connects with family, and 4) lessons that engage students in establishing long-term, positive lifestyle behaviors. Students in an online PE class practice self-directed learning behaviors while completing assignments and working out in their own environment; they often become health advocates within their own home as well (Kane & Wagner, 2007).

Online physical education for secondary students involves individualized work through the content, one-on-one help from the teacher, students choosing activities that they prefer for
their fitness work, activities they can do at home or within their community setting, and choice to work on the class during the weekends and evenings (Kane & Wagner, 2007). Students can get credit for physical activities they are already participating in, like team and individual sports (Kane & Wagner; Mosier, 2010; Rhea, 2011). The online PE teacher is responsible for confirming student participation with parents or guardians and with the students themselves, through regular phone communications and discussion-based assignments. As of March, 2011, FLVS reported over 18,000 PE-related successful course completions during the 2010-2011 school year. Online PE is becoming a more popular trend in part due to district and state budget cuts and the pressures administrators face to continually bring up academic test scores. There are often not sufficient funds to hire PE specialists; meanwhile, schools are forced to offer more academic courses, ranging from remedial to Advanced Placement classes, leaving little time in students’ schedules for health and fitness-related content (Andell, 2008; Rhea, 2011).

The Health Opportunities through Physical Education (HOPE) high school course (offered online and face-to-face) in the southeast provides students with content that is relevant to their lives, addressing health-related topics like cardiovascular fitness, and muscular strength and endurance, along with information about how to manage stress successfully and how to be a savvy consumer (FLVS, 2011). Additional topics covered in the HOPE course are nutrition, body composition healthy and weight management techniques, mental and emotional health, and community wellness issues like disease prevention (FLVS; Mosier, 2010). Students also learn about good sportsmanship behaviors and successful life management strategies. Individualized choice is provided to students throughout the online HOPE course.

Sidman, Fiala, and D’Abundo (2011) discovered that college students taking a physical activity and wellness course online performed similarly to students taking the course face-to-
face. Their research revealed that the students did not typically choose an online PE course just to get out of participating in the physical activity component of the course. Rather, the students were interested in the online PE-related course because they were trying to balance work and school and other responsibilities, and needed more flexibility within their schedules (Sidman, Fiala, & D’Abundo). While this study focused on college-level students, the findings can be applied to high school students as well (Randsell, Rice, Snelson, & Decola, 2008). More studies certainly are warranted in the field of secondary online physical education.

**Theoretical Framework Supporting Online Teaching and Learning**

According to the National Center for Educational Statistics (2005), online learning is becoming a more prevalent educational option for America’s students at both secondary and post-secondary levels. Because of that, it is important to identify a strong theoretical framework upon which online learning is based. Unfortunately, Andrews and Haythornthwaite (2007) believe there is not an absolute theoretical base that supports online learning. They have stated, along with other education scholars, that more research is needed to move toward an all-encompassing theoretical framework for distance education. Some researchers believe online education is simply a compilation of different ideas taken from traditional education settings, and that there is no difference in the two learning environments, except for the distance between learner and teacher (Garrison, 1990; Hayes, 1990). No harm comes in viewing traditional education and distance education as similar, as they both serve to educate students and improve learning outcomes. However, there is a call for more and new theories to be presented as viable frameworks for the online education phenomenon (Andrews & Haythornthwaite, 2007; Garrison & Anderson, 2003; Gorsky & Caspi, 2005).
Garrison (2000) explained that 20th century theories in distance education were largely focused on the geographical and distance limitations and the organizational strategies that solved those problems like mass production and delivery of various distance learning packages. He referred to that time as the industrial era of distance education. Current theories in distance education have shifted to the teaching and learning transactions that occur in effective online education, including communication and the various modes of communications technologies that support sustained communication. Garrison purported that 21st century distance education “represents the postindustrial era where transactional distance issues, (i.e., teaching and learning) will predominate over structural constraints, i.e., geographical distance” (Garrison, 2000, pg. 2). However, Moore (1993) had already been defining distance education in terms of transactional distance.

**Transactional distance.** A theory worth mentioning that has been ascribed to online learning and teaching is the theory of transactional distance. According to Moore (1993), transactional distance is present in all educational relationships. Transactional distance refers to the amount of dialogue between student and teacher, and the amount of structure within a course (Moore, 1993; Rovai, 2002). The greater the structure within the course and the less the dialogue necessary between student and teacher indicates a greater amount of transactional distance. In fact, greater course structure naturally leads to less dialogue between teacher and student, and subsequently equals a greater transactional distance. The less structure in the course, the greater amount of dialogue needed between student and teacher, and consequently a lesser transactional distance is present. Transactional distance can be applied to face-to-face courses as well as online courses (Mosier, 2010). This does help to describe a theory about
distance learning, but transactional distance is not a framework that supports the continued move toward online education. A theoretical foundation and framework for education should reflect basic values and beliefs about how to provide optimal educational experiences for students (Garrison & Anderson, 2003). One such framework that has been a viable support for online teaching and learning is constructivism (Gold, 2001).

**Constructivism.** Constructivism is the paradigm, or world view, that framed this research study (Creswell, 2007). Constructivism was not only a framework for the structure of this study, however, but is applicable as an education theory that supports online teaching and learning and the overall integration of technology in education (Goc Karp & Woods, 2003).

Piaget is considered the founder of constructivism, a very broad epistemology for teaching and learning (Sjoberg, 2010). He established early in his research that students obtain knowledge and actively make meaning of learning concepts by interacting with the content along with the help of their own experiences and ideas (Gallini & Barron, 2002; Murphy, 1997; Sjoberg). Students build on prior knowledge to assimilate new meaning.

The educational theory of constructivism states that learners are unique individuals who come to the learning environment with their individual background knowledge and cultural inputs. Students are responsible for their own learning and have to be motivated to seek out knowledge. The instructor is not the sole imparter of knowledge, but rather the student benefits from having an instructor as a facilitator and guide while learning new material (Murphy, 1997). Constructivism in a class setting is learner-centered (student-centric), with the objective of giving the student a rich body of content in a socially meaningful learning environment (Gallini & Barron, 2001-2002; Gold, 2001; Sjoberg, 2010). The facilitator assists the learner in creating
authentic tasks that have meaning across integrated content areas (Gold). Student reflection is also a component of constructivism. The teacher builds schemata for the student, engaging and building upon the student’s prior knowledge in a particular topic area.

Garrison and Anderson (2003) believe there is a collaborative constructivist component to online teaching and learning. There is a relationship between the student’s ability to make meaning of content and the social influence that shapes his views (Garrison & Anderson, 2003; Gold, 2001). In fact, many components of constructivism can be seen in an online class. Within the framework of a constructivist educational theory, Azzarito and Ennis (2003) described the classroom as a community of learners interacting with one another and with the teacher as they experience authentic learning situations. Students do interact with the teacher and with one another in an online class setting (FLVS, 2011).

Constructivist theories support the idea that the teacher is a guide, not the direct deliverer of knowledge (Azzarito & Ennis, 2003; Garrison & Anderson, 2003; Gold, 2001; Sjoberg, 2010). In the virtual setting, students have access to their teacher one-on-one anytime they need additional instruction while working to make meaning and relevance of the content, and students do communicate with one another within an online course environment through discussion boards and collaborative assignments in synchronous and asynchronous settings.

Interaction among peers is alive and well in an online high school class. As previously mentioned, 21st century students are different than those from the 20th century. The social networking that takes place through Facebook, Twitter, Microsoft Instant Messenger, and texting is a new way of interacting, but there is no question students are interacting with one another even if they are not physically together. Smith, Ferguson and Caris (2000) stated that like-minded students can come together through computer-mediated communication even though
they are geographically distant. Quality online courses have a collaboration component built into their curricula (FLVS, 2011; NACOL, 2010). Students learning asynchronously are still required to interact and collaborate with one another to some degree a few times throughout an online class. Online courses that adhere to the national standards for quality have specific collaboration assignments, live webinar interactive lectures, and discussion board assignments (FLVS, 2010; TVS, 2011; NACOL, 2010). The International Association for K-12 Online Learning has listed collaboration among students and between students and teachers as part of the national standards for quality online courses (NACOL, 2010). Constructivist learning theorists believe successful learning can take place if students are given opportunities to construct their own ideas and make meaning of content while interacting socially and collaborating with peers from similar and differing cultures (Slagter van Tryon & Bishop, 2009).

**Differentiated instruction.** With characteristics true to constructivism, an educational foundation that describes the very essence of online teaching and learning is the differentiated instruction theory. Differentiated instruction incorporates constructivist learning theories, individual learning styles, brain development research, and learner readiness (Vygotsky) in lesson creation and implementation (Anderson, 2007). Differentiated instruction has been a framework for education since the middle of the 20th century (Cavanaugh & Blomeyer, 2007). The concept was developed in order to meet the needs of exceptional learners during a time when teachers taught class as if every student was basically at the same level. The change in teaching practice became necessary as the student population became more heterogeneous in the mid-seventies (Nunley, 2006). Now, teachers who follow this instructional theory differentiate according to students’ readiness, interests, authentic experiences and learning preferences (Tomlinson, 2000). It is clearly an educational framework that lends support to online teaching.
and learning today. Differentiated instruction is simply the teacher’s effort to address every
student individually, to provide options for teaching and learning according to the various
learning styles and diversity among students (Cavanaugh & Blomeyer, 2007; Tomlinson, 2000).

The online education effort to provide learning opportunities for students any time and
any place reveals the overarching goal of asynchronous but personalized (differentiated)
instruction for all students (Picciano & Seaman, 2010). Students in an online class do not have
to move at a traditional pace through the course, but can take more time to read, review, and
receive additional instruction, or they can accelerate through the course when the content and
assignments are met with ease (Picciano & Seaman).

There may be an assumption that all teachers in every classroom in America naturally
differentiate instruction, and that rather than a framework, differentiation is just a normal
component of education. However, there are teachers that continue to deliver content in the
same format year after year, without providing students opportunities to receive content in ways
that are most suitable to meet their various learning styles (Picciano & Seaman, 2010). A teacher
who sets up his class with the goals of reaching individuals and meeting a wide range of learning
styles among the diverse student population is grounding his instruction and educational
objectives in differentiated instruction (Tomlinson, 2000).

Virtual schools are uniquely positioned to meet the needs of a student population that is
diverse and full of varying learning styles. Many online teachers are trained to provide
differentiated instruction right from the start during their in-house training, and they are offered
professional development opportunities throughout each school year in order to grow in the area
of differentiated instruction (Schlechty, 2008; Young, 2007; TVS, 2011). The Virtual High
School, the Texas Virtual School, and the Florida Virtual School provide teacher training in differentiated instructional strategies as well (FLVS, 2010; VHS, 2010; TVS, 2011).

There are students who struggle with the content in a given course while some excel at a rapid pace, and within that mix are the remaining students who fall somewhere in between (Picciano & Seaman, 2010; Tomlinson, 2000). According to Tomlinson (2000), there are four classroom elements that can be differentiated in order to provide effective instruction and successful student outcomes: Content, process, products and learning environment.

Content differentiation includes making adjustments to how the information is presented to students (Cavanaugh & Bromeyer, 2007; Tomlinson, 2000). Process differentiation, according to Tomlinson (2000), refers to the varying options students have in the activities they complete in order to learn the content. Logically, product differentiation includes the choice students have in how they present their mastery of the content, and the learning environment differentiation is exemplified in the online venue. Many virtual schools are differentiating those elements of instruction based on students’ varying needs, and the FLVS is certainly a leader in the effort to provide an innovative, engaging teaching and learning environment for all secondary students (Cavanaugh & Blomeyer, 2007; FLVS, 2010; Tucker, 2007).

With regard to differentiating content, FLVS courses have lessons that are presented in multiple ways. For instance, in addition to reading text online, students are given content in the form of video presentations, games and real life, authentic vignettes in order to ensure students can learn the material in a way that makes the most sense according to their learning styles. Concepts and content are presented in written, visual and auditory form. The process students go through in order to master the material will vary; FLVS teachers are trained in and committed to providing levels of support in the form of e-mail instruction, phone calls, and live webinar
tutoring sessions to promote comprehension of subjects (FLVS, 2010; LeTellier, 2006; Schlechty, 2008).

Online courses are designed to offer students choice in what type of product they will create; they select the type of project-based assignment they will submit to demonstrate mastery (FLVS, 2010; Schlechty, 2008). The choice could be a video presentation, a written document, an oral report or an animated graphic presentation with a Web 2.0 tool, to name a few (FLVS, 2010). Naturally, the online learning environment is differentiated in that students are able to work on a course whenever and wherever they can get online.

A good example of an online high school course that embraces constructivist teaching and learning theories and applies differentiated instruction is the Health Opportunities through Physical Education (HOPE) course. Constructivist theory posits the classroom should be authentic and should give students opportunities and activities that align with real life experiences (Azzarito & Ennis, 2003).

The HOPE curriculum is designed to teach health and fitness content to students while engaging them in physical activity (FLVS, 2010). The educational content is relevant to the students, as they are learning about how to stay healthy and fit for life. The educational setting is authentic, as the students work on project-based assignments of their choice and the physical fitness activities they prefer, all within the home environment. Often parents and siblings engage in the course content and physical activities with the students, so students become advocates for health and wellness within their own families. The students are encouraged to work at a pace that gives them the most opportunity to master the content, to choose how they wish to present their mastery of the content, and to work in an environment that is comfortable to them.
In most educational environments there is a connection between the student, the teacher and the learning task. In addition, researchers (Picciano & Seaman, 2010; Prentsky, 2001) have identified the following critical components and interactions within an effective educational setting: learner-content, learner-teacher, learner-learner, and learner-interface (See Figure 2). This is particularly significant in the online environment; it helps when students feel connected in order to successfully complete a given course (Picciano & Seaman).

![Figure 2. Four types of learning connections (Picciano & Seaman, 2010)](image)

*Figure 2.2. Four types of learning connections (Picciano & Seaman, 2010)*

Students need to understand and connect with the content; the teacher must help students feel comfortable with the content and assist in creating a connection with each student and between students. With 21st century technology in the classroom, the students should be able to access the content through comfortable and confident connections with the interface (medium) that holds the course content.
Case Study Research Design

As a research strategy, the case study is appropriate when “why” and “how” questions are presented, when the researcher has very little control over the events being studied, and when the focus is on a contemporary phenomenon in a real-life setting (Yin, 2003). The phenomenon to be studied is teaching secondary physical education online, and the cases are the four online PE teachers (Patton, 2002; Stake, 2006; Yin, 2003). The teachers will be able to describe their daily instructional practices and experiences, and can explain their perspectives about the phenomenon of teaching PE virtually, about why online PE is offered to secondary students and how teaching PE online is accomplished. Qualitative case study research is holistic in nature, and one purpose of a case study is to seek to identify relationships within a social context, system or subculture. Creswell (2007) explained that a case study delves into the personal interactions within a setting. This type of study requires equal time for data collection and data analysis, includes a thorough description of the researcher’s role within the study, relies on the researcher as a research instrument, and addresses ethical issues within the study (Janesick, 2004). Case study research involves the study of an issue explored through one or more cases within a bounded system (a setting) or within a context, like the Pinellas County Virtual School, and their online high school physical education courses (Creswell). Stake, Creswell, Yin, Merriam, Denzin and Lincoln all view case study as a valid research methodology (Creswell).

Yin (2003) identified case studies as explanatory, exploratory, or descriptive. He has defined a case study as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident” (p. 13). A descriptive case study design is used often in dissertation research within the social sciences (Yin). The case study can be helpful in providing knowledge
of and insight into an organizational process or social phenomenon (Yin). Merriam (1998) believes in a general, qualitative approach to educational case study research. Stake (1995; 2005) has determined there are specific procedures for case study research and analysis, and along with input from Yin, Creswell, Merriam, and Janesick, his methods will help guide the design and structure of this study.

Creswell (2007) explained that the type of qualitative case study is determined by the size of the bounded case. In this study, there will be four individuals making up the cases, representing a program. In a multi-case study, one issue or concern is addressed (teaching PE online) and the researcher selects multiple cases (teachers) to illustrate the issue or concern. The selection of the four teacher participants in this study will be determined based on their expertise and success in teaching PE virtually in order to study successful models and to get the most out of the report (Stake, 2005). The goal is not to seek out a true representative sample of virtual PE teaching across the nation, but to provide information about online PE and online PE teaching within an established program that has a track record of yielding positive student learning outcomes (Stake, 1995).

A constructivist, phenomenological paradigm will shape the case study research – “the goal of the research is to rely as much as possible on the participants’ views of the situation” (Creswell, 2007). In addition, a constructivist tradition in qualitative inquiry focuses on how the participants in the study have constructed reality, on what their perspectives are, what explanations they have and what beliefs they hold (Patton, 2002). Constructivist teaching and learning theories will provide the framework and context for the proposed study as well.
Conclusion

Overall, the literature review will help support the study by providing information about the growth of K-12 virtual schools in the United States, the effectiveness of online teaching and learning, and an overview of the national standards for online courses and teachers. Literature covering the current practices in professional development as well as pre-service preparation relating to online instruction is pertinent, as the study results can provide direction about what additional training should be provided in future online teacher preparation, particularly in physical education. Along with knowledge and skills needed for effective online teaching, specific teacher dispositions related to online PE teaching are important to keep in mind. Of course, an applicable theoretical framework that supports online teaching and learning was critical to review and reference throughout the study.
Chapter Three: Methodology

This chapter outlines the research methods that were used to collect data in order to describe the instructional practices, experiences and perspectives of four online PE teachers. Guiding the methodology, the theoretical frameworks of phenomenology and case study are explained in this chapter. The role of the researcher, data collection methods, the setting and the participants are all described fully in this chapter.

Introduction/Rationale

The purpose of this study was to describe the practices, experiences and perspectives of online secondary PE teachers with regard to online PE teaching. According to Merriam-Webster, the definition of perspective is “a way of looking at or thinking about something”; related words are interpretation and perception. The online PE teachers were in a position of authority, based on their lived experiences, to describe instructional practices, experiences, and perspectives about online high school physical education teaching and learning.

With these data, the goal was to provide a detailed description of secondary online physical education teaching, primarily through the lived experiences of four online PE teachers working at virtual schools within North America. As basic research, the underlying purpose of the study was to contribute to the literature and conversations about 21st century physical education. The intention was to inform the fields of physical education and distance education about secondary online physical education through detailed descriptions of the practices and experiences of online high school PE teachers. The rationale was that by providing rich data
about online PE through the teachers’ daily tasks, experiences, and perspectives, researchers and other stakeholders in physical education may come away with a better idea of what effective online PE instruction looks like.

Researchers in distance education have suggested further studies are needed to describe the online teachers’ jobs (Barbour, 2010; Smith, 2009). There are not enough research studies that provide details about online teaching and give perspectives from the online teachers (Ferdig et al., 2009; Smith). Qualitative, phenomenological case study methods were used to get to the heart of the perspectives and practices of online PE teachers, including multiple interview sessions with the study participants, course observations, and reflective journals from the researcher.

Research Techniques for the Study

The study was qualitative in nature. Specifically, this was a case study designed to explain the phenomenon of online PE teaching as described by four online secondary PE teachers who comprise the particular cases (Patton, 2002; Stake, 2006). By conducting this research I expected to expand the knowledge base about online PE and provide descriptions of the intricacies of what is involved in teaching PE online. To meet these goals effectively, qualitative case study methods were determined to be most appropriate. A qualitative case study can capture the participants’ authentic experiences and can provide vivid descriptions of the teachers as they really are (Creswell, 2007; Merriam, 2002). Janesick (2004) states that qualitative research attempts to understand the holistic view of the social context under study, and in this case, the social context is teaching PE online. Meaning is constructed by individuals as they interact with their world (Merriam); in this study, the world is the virtual school setting.
Qualitative work examines relationships within a system (virtual school) or subculture (online PE teachers) according to Janesick (2004). Qualitative research methods were effective for examining the social phenomenon of online teaching within the context of the teachers’ experiences and perspectives (Merriam, 2002). A descriptive case study has as its purpose the goal of “telling it like it is,” (Yin, 1989). Within a descriptive case study, Yin (1989) indicates “little theory is said to be needed, causal links do not have to be made, and analysis is minimal.”

The objective of this study was to provide insight into the phenomenon of secondary online PE teaching through these cases and to further extend the dialogue within the research field about the potential effectiveness and challenges of secondary online PE teaching. In describing qualitative inquiry, Patton (2002) explained that “the purpose of basic research is knowledge for the sake of knowledge” (p. 214). The basic researcher’s purpose is to explain and provide understanding (Phillips & Pugh, 2005). A case study describes and explains a phenomenon, and when viewed by appropriate stakeholders, can provide insight and support with regard to legislation and policies for new programs (Stake, 2006).

**Research Questions**

In order to describe and explain the PE teachers’ instructional practices, experiences, and perspectives regarding online high school PE courses and teaching, the following research questions guided the study:

1. What are the daily instructional practices of participating online high school PE teachers?

2. What educational theories (implicit or explicit) guide these teachers’ online teaching of PE?
3. How do these online PE teachers enhance student learning, physical activity participation, and successful course completion?

4. What student outcomes, in terms of learning and attitudes toward learning, do these teachers perceive or assess as a result of their practices and perspectives about teaching PE online?

**The Role of the Researcher**

When conducting qualitative case study research, the researcher’s presence as a factor in the study is acceptable and expected. There is a fluid relationship between the participants and the researcher in qualitative research (Janesick, 2004; Kvale & Brinkmann, 2009). As the sole researcher in this study, I conveyed a neutral viewpoint while interviewing the participants. I realized my presence within the research and data collection process was a significant component of the study (Janesick, 2004; Kvale & Brinkmann, 2009). It is understood that meaning is derived through the interaction of the researcher and the participants; meaning is made between the interviewer and those being interviewed (Kvale & Brinkmann; Richards and Miller, 2005). As Richards and Miller stated:

*Because of the qualitative nature of teacher research, which situates the researcher in the classroom experience while investigating teaching and learning, any efforts to maintain an objective distance from the question, the students, and the experience would, in fact, be somewhat dishonest. Consequently, narrative is encouraged (Richards & Miller, 2005).*

In addition to interviewing the teachers and talking with two virtual school administrators, I was able to situate myself in the online PE setting through observations in the
teachers’ virtual courses. I observed the classroom atmosphere in two courses as the students see them via the course homepage, layout, content and assignments. I read teacher feedback on students’ work, and I attended three live, online tutorial sessions during the data collection period.

My experiential knowledge in the field of PE teaching, both traditionally and online, may have, in years past, been considered something that should be removed as a bias, but not so today (Creswell, 2007; Janesick, 2004; Silverman, 2005). As the researcher, my lived experiences in online teaching enhanced the study and proved to be a source for insight and validity checks (Creswell, 2007; Maxwell, 1998). As a former online PE teacher, my role as the primary researcher was considered significant as an instrument and resource for the study (Janesick, 2004; Moustakas, 1994). Patton (2002) referenced Howard S. Becker, a leading qualitative researcher, in stating that the researcher’s direct participation in and observation of the phenomenon can be one of the most significant and comprehensive types of research strategies.

Participants

A group of four experienced online secondary PE teachers from three different virtual school organizations made up the participants for this study. Pseudonyms have been used throughout the writing to protect their identity.

After receiving approval from the dissertation committee to pursue this study, I submitted a research request to the University of South Florida’s Institutional Review Board (IRB). The eIRB application (online application) was complete and submitted in June, 2012. The IRB approved the study plan, and I promptly submitted a research application to the Florida Virtual School (FLVS), my first choice for seeking participants for this study. The Florida Virtual
School has been uniformly identified as the largest state-run, public virtual school in the United States, and as such, their exemplary model for online teaching and learning would have been optimal to study for this initial research regarding online physical education instruction at the K-12 level (Stake, 2006). Unfortunately, FLVS denied the research request and a search for other online PE teachers ensued in July of 2012. That effort led to more growth on my part as a researcher, as I expanded my inquiry and research applications to many districts and diligently sought participatory online schools and teachers.

Ultimately, the participants in this study were four certified physical education teachers from central Florida, northwest United States, southwest United States, and Alberta, Canada. In selecting the participants for the study, a purposive criterion sampling method was employed (Creswell, 2007; Merriam, 2002). The PE teachers met the following criteria: a) hold a current, valid state teaching certificate, b) be certified to teach physical education, c) have a minimum of two years’ teaching experience in the traditional PE setting, d) have a minimum of two years’ experience in the online high school PE setting, and e) received two or more years’ successful teacher evaluations while teaching online. According to those parameters, the PE teachers were selected, in part with the assistance of a distance education expert in the northern part of the U.S. After my contact to districts, virtual schools, and administrators, the teachers’ administrators made initial contact to the participants through e-mail with an explanation of the planned study and an invitation from the researcher to participate in the study. Appendix A holds a copy of the letter sent via e-mail, and Appendix B is the Informed Consent Document attached to the e-mail inquiry and request with the IRB case number. After speaking with the administrators for the virtual schools, I submitted an amendment to the IRB application in order to include information from the administrators in the data collection, analysis and summary, and that was approved. All
three administrators signed an Informed Consent Document at the onset of the data collection, and two of the three ended up sharing information about their organizations.

Having met the criteria specified above, the teacher participants were chosen based on their level of expressed interest in and openness to sharing about their online PE teaching experiences. Once the teachers were identified as meeting the criteria and agreed to participate in the study, the individual interview sessions were be scheduled. Each participant signed a consent form at the onset of the study (see Appendix B).

Creswell (2007) explained that a phenomenon can best be described by those who have gone through the phenomenon. Therefore, a multiple case study that includes interviews with PE teachers who have been successfully teaching online for at least two years is ideal for explaining and describing the phenomenon thoroughly. A detailed description of each of the teacher participants will be provided at the beginning of the analysis chapter as part of the case analysis process.

Setting

The study was set within online physical education courses at two virtual schools in the United States, and one in Canada. More and more, high school students have the option to complete all or part of their physical education course requirements online. The nation’s mission is to offer high quality, technology-based education that provides the skills and knowledge students need for success (iNACOL, 2011). In online PE-related courses, students study health and fitness-related content and learn how to develop and implement a workout and training program that meets their individual needs and interests. The setting was actually online high
school PE classes, with PE teachers who were successfully working in the online PE environment.

Examples of the online courses that high school PE instructors teach in the southeast are Personal Fitness (see Appendix C) and Health Opportunities through Physical Education (HOPE). Personal Fitness is a semester course and HOPE is a full year, one-credit high school course, a combination of Personal Fitness and Life Management Skills (a Health semester course). Both courses cover a comprehensive list of PE and fitness-related topics: components of physical fitness, physiological and biomechanical principles of exercise, fitness program design, safety in participating in fitness activities, benefits of physical activity, self-monitoring of fitness progress, nutrition and other consumer issues, to name a few. The organizations represented in this study strive to provide educational options that are not just equal to, but better than many traditional high school PE classes, and the study was conducted within the context of courses that meet national standards and with teachers who have been successful in facilitating positive student learning outcomes.

**Data Collection Methods**

Data collection methods for this case study included 1) interviews with online secondary PE teachers, 2) virtual classroom observations and field notes, 3) an interview with one administrator, 4) a live webinar presentation from one administrator about her online physical education curriculum and organization, 6) e-mail communications between the researcher and the participants, and 7) the researcher’s own reflective journaling (Patton, 2002; Stake, 2006; Yin, 2003).
Interviews. I interviewed four online PE teachers over the course of twelve weeks. It was confirmed from the beginning of data collection that pseudonyms would be used to represent the participants, in order to protect their identities. Each of the teachers participated in a semi-structured interview on two different occasions. The first visit included time for introductions and informal communication along with an approximate 45-minute interview session. The subsequent interview included approximately 60 minutes for a formal, semi-structured interview. I was prepared to include more interview time as needed to achieve saturation of the topics, and did continue to communicate with the participants through e-mail as follow-ups to interviews. There were more than eight hours of interview data that were transcribed after all interviews with the participants, and I pulled out and identified the common themes as they emerged. The interviews took place through Skype’s phone communication, in each participant’s work environment. The initial visit included enough time to allow each participant to meet and to become comfortable with the researcher. Initial e-mail communications and phone calls to set up additional formal interviews aided in increasing the comfort level of the participants. The questions were semi-structured to provide a framework for the interviews and to get specific answers to the research questions, and open-ended to allow room for flexibility when needed in the conversations (Kvale & Brinkmann, 2009; Patton, 2002).

Rubin and Rubin (1995) identified five components that should guide the researcher interested in conducting successful interviews. First, the researcher must set out to obtain authentic descriptions of the participants’ experiences and their understanding of the phenomenon being explained. Second, it is acceptable to acknowledge that the researcher’s own personality, beliefs and writing style are variables that are woven into the story; the relationship between the interviewer and the interviewee is valid and should be recognized. Third, the
researcher must value that relationship and keep the confidences of the interviewee. The researcher has a significant obligation to uphold and protect the participants throughout the study. Private information must never be revealed (Creswell, 2007). Fourth, the interviewer should never impose her views and beliefs onto those being interviewed. General and broad interview questions can help to ensure participants answer authentically. Finally, the interviewer should be flexible. The researcher can add to and modify questions to enhance further interview sessions after hearing responses from the participants. The interviewer may need to change interview protocol and direction based on responses from the participants.

Kvale and Brinkman (2009) used the term interview society to describe our current social practice of interviewing each other and sharing stories with one another in formal and informal settings. In other words, the practice of conducting interviews and sharing the information is a common and normal part of life. Many researchers believe that interviews provide a very ethical, valid, and reliable form of information and knowledge, and that the information collected from the interviewee is often accurate and authentic (Creswell, 2007; Janesick, 2004; Stake, 2006; Yin, 2003). Kvale and Brinkmann believe there is an equal power and responsibility between the interviewee and the interviewer to present an accurate portrayal of the phenomenon or experience.

Protocols A and B (Appendix D) were created for the purpose of collecting data from current online physical education teachers, but these questions can be modified and used for interviewing any virtual teacher to better understand online teaching perspectives and practices. The majority of these questions were used by the researcher in a pilot study with one online PE teacher during the 2009 spring semester. These questions were intended to be semi-structured (some flexibility in order and words used) with the purpose of revealing specific information
about online PE teaching (Rubin & Rubin, 1995). Kvale and Brinkmann (2009) explain semi-structured interviews as those that allow room for clarifying and probing questions as follow-up to the initial protocol questions. The participants felt comfortable in sharing and expounded on other points they believed were pertinent as well. Within a semi-structured format, the questions did not have to be asked in exactly this order. Probing questions and statements followed participants’ responses when necessary for clarification and expansion (Kvale & Brinkmann). Protocols A and B were not modified after listening to audio recordings and transcribing initial interviews, but the researcher had more direction and focus about what needed to be asked and addressed most thoroughly by the second round of interview sessions. Appendix E holds a list of additional interview questions that were utilized during interviews surrounding another study with other online teachers (Smith, 2009). The questions were categorized and grouped to structure the interview sessions into meaningful themes of inquiry.

Media technology tools were incorporated into the data collection process. The use of e-mail for quick communication and Skype for recorded phone interview sessions and live instructional sessions were effective. Any questions that may not have been asked during the interview sessions due to time constraints were addressed through the more informal setting of e-mail. A few unique aspects of e-mail are that this form of communication is asynchronous, informal and fast, and it allows the user to copy and save the dialogue in a word document as a complete transcription. With e-mail communication, the informal interview sessions were automatically transcribed and saved as a Microsoft Word document on a personal computer and were backed up onto a portable flash drive; that makes e-mail an attractive supplemental and informal data source. Call Graph was used to record the Skype audio interview sessions.
Express Scribe was used initially to transcribe, but ultimately, the services of Civi.com and their Transcription Wing were utilized as the preferred method of transcription.

During the interview sessions I used Skype and Call Graph in order to record all conversations. The interviews were saved on a laptop and on a flash drive, and were backed up in e-mail files on a personal computer as well. I had each interview transcribed promptly upon completing the interview and played back the audio while waiting for the transcription to be completed, in order to recall the participant’s demeanor and expressions. The ten transcriptions were always sent to me within three days of my submission to Transcription Wing. In addition, I added to my journal notes as I listened to each audio-recording. I wrote down thoughts that came to mind about the interviews in general, the guiding research questions, and the participants’ responses while listening to the audio in order to remember details as accurately as possible. The audio files and transcriptions were saved in word document format on a personal computer, on a personal laptop, and were also backed up on a portable flash drive.

**Classroom observations and field notes.** In addition to interviews with the teachers, I visited each teacher’s online class for 30 minutes on three different occasions during the 12-week study. With four participants, that added up to 360 minutes (6 hours) of virtual classroom observation. While observing each online PE classroom, I took field notes on the course design, the course information, the specific course content, the layout of the content, the ease of access to the content for students, the graphics, the various assignments, the audio and video supplemental material within lessons, any quizzes, and written feedback from the teachers to students through e-mail and graded work. I intended to observe and record field notes during live online tutorial sessions as they were offered by the teacher participants for their students. I utilized a two-column approach to field notes within composition books. Two-column field
notes simply include *Notes to Self* in the left column and *Observations* in the right column of the page (Janesick, 2004). I rewrote my field notes into Word documents and saved the documents on both a personal computer and a flash drive.

**Researcher’s reflective journal.** I created my own reflective journal and record my efforts, findings and perceptions of the teachers and their experiences as I collected and analyzed data (Janesick, 2004; Kvale & Brinkman, 2009; Richards & Miller, 2005; Stake, 2006). I utilized Microsoft Word and a simple composition book for my e-journaling reflections. After interview sessions I summarized my thoughts about the audio-recorded interviews, field notes and observations in this reflective e-journal.

Janesick (2004) explained that the journal writing process deepens a researcher’s understanding of the data and improves self-awareness, which will be helpful in communicating effectively. Following each one-hour interview, I will take time to add to my reflective field notes, will immediately listen to the recorded interview to allow the data to become ingrained as much as possible, and will then document my own reflections and perceptions in my e-journal blog. Janesick (2004) indicated the researcher’s reflective journal is a useful part of data collection in that it aids in study focus, provides groundwork for subsequent analysis and interpretation of data, is a helpful tool to reference when revisiting notes and transcripts, works to improve imagination, and is a written document of thoughts, feelings, and facts (pg. 149). Table 3.1 provides a list of the schedule of data collection events for this study.
Table 3.1. Schedule of data collection events.

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<tbody>
<tr>
<td>1.</td>
<td>Initial introductory visit with each teacher, observation of work environment, informal dialogue</td>
<td>30-minute introduction and initial observations of courses/classes; total of 2 hours of observation; 30- minute interview with one administrator</td>
</tr>
<tr>
<td>2.</td>
<td>Classroom observation</td>
<td>30 minutes observing the virtual sites, total of 2 hours for 2nd round of virtual classroom visits; 30- minute interview with second administrator</td>
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<tr>
<td>3.</td>
<td>Formal interview</td>
<td>1 hour interview per teacher for a total of 4 hours of interviews, with field notes</td>
</tr>
<tr>
<td>4.</td>
<td>Classroom observation, including live tutorial session observation</td>
<td>30 minutes in each classroom again, for a total of 2 hours of classroom observations, second round; attended presentation and tutorial session</td>
</tr>
<tr>
<td>5.</td>
<td>Second formal, structured interview</td>
<td>1-hr. interview per teacher, a total of 4 hours of interviews, with field notes</td>
</tr>
<tr>
<td>6.</td>
<td>Classroom observation, including live tutorial session</td>
<td>30 minutes in each teacher’s classroom for a total of 2 hours of class observation</td>
</tr>
<tr>
<td>7.</td>
<td>Researcher’s reflective journaling</td>
<td>15 minutes, two times per week throughout data collection, total of 6 hours of researcher’s reflections</td>
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**Total amount of data collected and total time frame**

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<tr>
<td>10 hours recorded interview data; 6 hours of observations (with field notes); 6 hrs. reflection</td>
<td>12 weeks (completed January, 2013)</td>
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</table>
Analysis Plan

The study attempted to describe online secondary PE teachers’ perspectives about teaching in the virtual environment. As stated by Stake (1995), there is not a set time when the analysis of data begins. First impressions of data should be recorded as soon as the first portion of data is collected. Analysis should not be a separate time on the calendar after data collection is complete (Stake, 1995). There is a period of time when the researcher focuses on analysis more than anything else, but the reflective e-journal will be the place to start recording analyses as data collection is ongoing. Identification of categories and coding of themes within data will be ongoing from the beginning of data collection through the final interpretations (Stake). In any qualitative study, analysis takes at least as much time as the data collection, if not more (Janesick, 2004; Stake, 2006).

The analysis of data includes examining, categorizing and arranging the evidence collected in order to address and answer the research questions that make up the foundation of the study (Yin, 1989). Recorded interview data along with classroom observations and my own reflections on the study participants’ work compiled the data used to identify themes related to the teachers’ perspectives of and daily instructional practices in teaching online secondary physical education. The goal of the study was to describe in detail teachers’ perspectives of online PE. Interpretations were made based on the categorization and analysis of collected data about the perspectives and experiences of these four online PE teachers. The cases are described in detail at the beginning of the analysis chapter. While each teacher-participant is covered in detail as separate cases, cross-case analysis was conducted to identify common relationships and themes among the data (Stake, 2006).
During the initial phases of individual and cross-case analyses, I anticipated seeing various themes emerge among the data collected. The transcription, organizing of themes and analysis began during the data collection period (Stake, 2006). It is important not to attempt to force data into pre-conceived themes, and I was careful not to box data into my own perceptions of the topics. The approach I took when analyzing data is from Miles and Huberman (1984), which includes placing information into different arrangements or categories, creating a matrix of those categories and distributing data into the appropriate categories, and then creating data displays that make it easier to examine the data (Yin, 1989). Data was coded according to the overarching major and minor themes that develop (Janesick, 2004). I identified themes that emerged within the transcriptions and observations using NVivo to group and sort themes and categories. I used a NVivo as the graphic organizer tool to organize the analysis (Stake, 2006). After coding and sorting data collected through interviews, observations and reflections, I developed a comprehensive and cohesive interpretation of that data.

Table 3.2 holds an example of categories and codes based on interviews, observations, and journal entries from another study (Janesick, 2004) to illustrate the method and format for coding that was used to categorize emerging themes within the data.

**Triangulation**

Triangulation is a research technique that assists the researcher in validating data through cross-checking with more than two sources. The data collection methods listed above (multiple participant interviews, classroom observations and field notes, and the researcher’s e-journal reflections) formed the basis of the study, and provided empirical data to describe and explain the online PE teaching experiences (daily instructional practices) and the teachers’ perspectives.
on virtual PE teaching. The various components of data collection provided triangulation for the data, which is necessary when trying to authentically describe a phenomenon (Creswell, 2007; Janesick, 2004; Stake, 2006).

Patton (2002) confirms that collecting data from multiple sources provides a type of triangulation, and the triangulation of qualitative data sources is meant to compare and cross-check the consistency of information collected through varying means. Simply collecting interview data from multiple participants is considered a type of triangulation and can stand on its own (Patton; Thornton, 2006). However, collecting data from classroom observations and the researcher field notes taken during those observations in addition to the interviews provided a form of data triangulation.

Table 3.2. Coding Themes Format Example.

<table>
<thead>
<tr>
<th>Motivation (mot)</th>
<th>Technology Use (techuse)</th>
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</thead>
<tbody>
<tr>
<td>Mot.stu (students)</td>
<td>Techuse.qual (quality)</td>
</tr>
<tr>
<td>Mot.fac (faculty)</td>
<td>Techuse.typ (types)</td>
</tr>
<tr>
<td>Mot.stf (staff)</td>
<td>Techuse.chal (challenges)</td>
</tr>
</tbody>
</table>

(Janesick, 2004, p. 244)

**Member check.** After transcribing the interviews, before analyzing and interpreting data, I used member checking strategies to confirm the information I had transcribed was an accurate restating of the thoughts, perceptions and beliefs of each of the four online PE teachers. The purpose of member checking is to triangulate the interpretation of data (Janesick, 2004). I submitted my findings to the participants for their review and confirmation after I received the
transcriptions from each interview. Thus, each teacher participant received a minimum of two transcription member check requests throughout the study. Translating from the verbal form of communication to a written form provides potential for a change in meaning, and member checking is a fine resource for ensuring authenticity within the analysis (Kvale & Brinkmann, 2009).

**Validity and Reliability**

Lincoln and Guba (1985) believe that normal-use language and definitions of validity and reliability can be used when describing qualitative research efforts. A portion of the interview protocol has been validated through what can be considered an initial pilot study for the protocol, and the remaining questions have been validated by a panel of distance education experts (Smith, 2009). The interview questions will measure what I am attempting to describe about online PE teachers’ perspectives and experiences.

Kvale and Brinkmann (2009) suggest seven stages for confirming the validation of a study, and refer to the stages as quality control throughout a study: 1) thematizing, 2) designing, 3) interviewing, 4) transcribing, 5) analyzing, 6) validating, and 7) reporting. First, sound theoretical assumptions of a study form the start of validation of a study; the theme of the study is determined to fit into a theoretical framework. Second, a sufficient study design created to produce “knowledge beneficial to the human situation while minimizing harmful consequences” (Kvale & Brinkmann, 2009, pg. 249) assists in validating the knowledge produced within a study. Third, the trustworthiness of the interviewees’ reports and the interviewer’s careful confirmation of the meaning of what is said are critical for supporting a study’s validity. Fourth,
careful, valid transcription from oral to written data and the choice of linguistic style in transcription lend support to the validity of a study.

Fifth, in analyzing data, it is important to be confident that sound interpretations are made, and a way to do that is to check and recheck for falsehoods within findings. They state, “The stronger the falsification attempts a knowledge proposition has survived, the stronger and more valid is the knowledge” (Kvale & Brinkmann, p. 249). Sixth, simply stated, the researcher’s reflective judgment about what forms of validation are important within a study assist in the validation of the study. Last, when reporting the study results, the researcher should provide valid descriptions of the main findings of a study, and member checking helps in confirming those valid, authentic descriptions.

In order for a test to be reliable, it should yield consistent results. The instrumentation was reliable, as any educational researcher would be able to ask the same questions and receive similar answers from the participants. The member check protocol confirmed reliability as well. Triangulation methods helped to ensure validity and reliability, with multiple participants and data sources to confirm the interpretations and themes that emerged in the data. The research that I conducted may very well be repeated by other researchers with the same participants and the results should be similar.

**Ethics**

Before the interview work or data collection of any kind, I followed all research procedures to ensure that I met the Institutional Review Board (IRB) requirements for research with human participants.
The fact that I have worked in an online PE setting may present a concern about conducting an ethical study. However, the knowledge that I have about online teaching in general and online teaching of PE courses can be considered a positive component to the research (Janesick, 2004; Kvale & Brinkmann, 2009). I have the experience in the online PE environment and was able to relate to the participants.

I attempted to ensure that my interview and survey questions were not leading in any way. One way I did that was to ask for feedback on the questions from an external researcher, someone who was not involved in the study. A significant requirement and expectation for ethical research is that interviews were transcribed exactly as said; I did not veer from that collected data in any way. If I received personal information from a participant, I kept it completely confidential (Kvale and Brinkmann, 2009). I worked to make sure the participants were comfortable during the interview sessions and that they felt they could honestly answer all questions without fear of negative consequence. All participants were given pseudonyms in the transcription, writing, and sharing of data.

Conclusion

To summarize, the data collection portion of this qualitative research study was conducted over the course of 12 weeks during the fall 2012 semester. Data came primarily from participant interviews, with supplemental virtual classroom observations and field notes, and the researcher’s reflective journals. The participants in the study were teaching HOPE or other PE-related courses at an accredited virtual school. As stated, the HOPE class offered through the online venue in the southeast region of the U.S. is a full-credit, two semester high school course that provides teens the content and individual experiences needed in order to develop into
lifelong physically active and healthy adults. Personal Fitness is a similar half-credit, one semester course without the additional health component. The teachers in the study were teaching HOPE, Personal Fitness, or other similar content online.

I had a protocol for the semi-structured, open-ended interview questions for each interview conducted. I transcribed the interviews and disseminated the data. I cross-referenced data from the four teachers’ interview sessions, class observations and field notes, and my own reflective journaling to structure the analysis of data collected and to provide triangulation. Themes emerged and I categorized data into those themes on graphic organizers and with coding methods through the NVivo program as I work to examine the data objectively and provide analysis, interpretations and conclusions with careful insight.

Authors Kvale and Brinkmann (2009) describe components of qualitative research interviews and they indicate life world as the “everyday lived world of the interviewee and his or her relation to it,” (p. 28). Kvale and Brinkmann stress the importance of getting to the heart of one’s everyday life experiences, and that is what I attempted to accomplish by interviewing experienced online PE teachers. These teachers had an inside view (perspective) of what is involved in teaching secondary PE online, and I sought to convey that in the description of their perspectives on and experiences within this teaching venue. The next chapter provides insight into the participants’ lived experiences and their perspectives on being a virtual physical education teacher.
Chapter Four: Presentation of the Data

The purpose of this study was to describe the practices, experiences and perspectives of online secondary PE teachers with regard to online PE teaching. The National Association for Sport and Physical Education (NAPSE) recognizes research that reports no significant difference in learning outcomes between traditional and online secondary PE students (McIsaac & Gunawardena, 1996; Russell, 2001), but directly states that more studies are needed to examine online PE education practices (NASPE, 2011). The research questions that guided the study were the following:

1. What are the daily instructional practices of participating online high school PE teachers?

2. What educational theories (implicit or explicit) guide these teachers’ online teaching of PE?

3. How do these online PE teachers enhance student learning, physical activity participation, and successful course completion?

4. What student outcomes, in terms of learning and attitudes toward learning, do these teachers perceive or assess as a result of their practices and perspectives about teaching PE online?

In an effort to describe the phenomenon of online PE teaching, within this chapter I have included details that introduce each teacher as an individual case, with descriptions of each participant and her work. All participants were female, and a picture of their general
demographic data can be viewed in Table 4. Each of the four teacher participants came to the online secondary physical education setting with previous traditional teaching experience. All four teachers earned a bachelor’s degree in education. In addition to including demographic information about the participants, this chapter provides data about each participant’s pathway to teaching PE online, their daily instructional practices, the educational theories that guide their teaching, information about how they support and enhance student learning, and what they perceive as successful student learning outcomes in the online PE classes they teach.

The most significant portion of data collected was from the semi-structured interview sessions with the participants. Therefore, much of the data shared in this chapter are direct quotes from the participant teachers. Within the teachers’ quotes are occasional bracketed words or phrases from the researcher, in order to provide greater clarification for the reader. This case study is meant to provide a data-rich example of a phenomenon in order to inform stakeholders interested in the phenomenon (Patton, 2002; Stake, 2006; Yin, 1989).

**Setting/Context**

The educational classroom setting for this virtual PE teaching is all online. Therefore, the courses were observed virtually, and the interviews with online secondary PE teachers were conducted through the phone, via Skype for audio-recording purposes. There were no face-to-face (F2F) interviews, as two of the four participants were from the western part of the United States, and one participant was from Alberta, Canada. The fourth participant was from a central Florida school district, but due to her busy schedule and in order to create a cohesive protocol for interview sessions, her interviews were conducted over the phone also. All of the participants
worked online with students they do not typically meet F2F, so it was appropriate for the interviews to be conducted virtually as well.

The first setting, Utah-based Carone Fitness, where two of the four participants in this study work and teach, is a provider of online secondary physical education and health curriculum. Figure 4.1 shows their website banner. Carone has created engaging curriculum for middle and high school students with multiple course choices. They have recently created online K-5 PE and Health content options as well as post-secondary courses. Carone Fitness is accredited through the Northwest Accreditation Commission as an online school and curriculum provider for schools and students.

![Carone Fitness web page banner](image)

*Figure 4.1. Carone Fitness web page banner (2013).*

The second setting, a virtual school in the southeastern part of the country where a third study participant teaches, is part of a large, central Florida public school district. That district’s virtual school has a license through Carone Fitness to provide Carone’s PE and health-related online courses for the district’s virtual school program. Figure 4.2 displays a snapshot of the virtual school’s home page. The school district employs one of their own PE teachers to teach the online PE and health courses offered to their high school students.
The third setting was an online school in Alberta, Canada, Alberta Distance Learning Centre (ADLC), serving secondary level students throughout Alberta and nearby provinces in the southern region of Canada. The fourth participant in this study teaches at ADLC. Last year, over 50,000 students took one or more courses through ADLC. Most of the students take a few classes with ADLC while attending a traditional brick-and-mortar school full time. Schools can select to contract with ADLC in providing students the online option for many courses. ADLC offers required and elective PE and health courses for secondary level students. ADLC offers more variety in course choices than many of the brick-and-mortar high schools in the province can provide. Figure 4.3 shows a screen shot of the distance school’s webpage.
Data Collection

The data collection process, which spanned three months, included two interview sessions with each participant, reflective journaling by the researcher, and field observations of the online class setting, including observation of teacher feedback on student work within the courses and other school and course documents. The following were included as supplemental data: an interview with the Alberta Distance Learning Centre Physical Education administrator, and a live webinar information session with the Carone Fitness founder and president.

Pseudonyms have been used in place of the four teacher participants’ names in order to protect the privacy of those participants. The Carone Fitness founder and president agreed to use the organization’s name in the writing, and therefore, no pseudonym was required for her name as it is posted publicly online on their website. The physical education administrator for Alberta Distance Learning Centre has not been referred to by name in this writing.
The participant criteria were adjusted slightly during the preparation phase of data collection in an effort to secure participants. Upon receiving a response from the Florida Virtual School that they would not approve of their teachers participating in the research, I set out immediately to submit research requests to a number of Florida counties. I promptly submitted a request to conduct research to Pasco County Schools, then submitted research applications to Polk County and Pinellas County Schools. I submitted a research application to Hillsborough County as well, and inquired with school districts in Lee, Seminole, and Leon counties. Pasco County school district responded quickly with an affirmative response: they approved the study proposal and looked forward to assisting me with the research efforts. The administrative leader of Pasco’s virtual school program was fully supportive, and gave me the contact information for her three online PE teachers. It turned out, however, that those three teachers declined to participate in the study. Polk county school district did not approve the study; Hillsborough County School District ultimately approved the study, but the administrator for Hillsborough Virtual School did not permit me to contact the online PE teacher to ask for her participation, as she was preparing to go on maternity leave. By August, 2012, Pinellas county administrators gave their approval for me to conduct the study within their district and connected me with their virtual school physical education teacher; she agreed to participate in the study.

As the fall semester began with just one study participant, I was given the flexibility to move outside of the southeastern region of the U.S. I pursued participants in other states, and with the help of a significant researcher in the field of online K-12 education, I secured an online secondary physical education teacher participant in Alberta, Canada. I received background information from an administrator in charge of physical education about the Alberta Distance
Learning Centre and their PE-related online content. He recommended his key online physical education instructor as a participant for the study, and she agreed to participate.

Through the online K-12 expert researcher in Michigan, I also was able to communicate with an online/distance physical educator in New Zealand. She agreed to participate in the study, and we began some preliminary data collection, but soon thereafter she was not available, and did not respond to e-mail requests for further dialogue. Ultimately, I stopped trying to reach this teacher, knowing that they were in summer break by the time we were into the fall months.

Through the suggestion of the Polk county virtual school administrator, I reached out to Carone Fitness, an online physical education school and curriculum provider in the United States. The president and founder of Carone Fitness agreed to assist with the study, and she connected me with two of her virtual PE teachers; both agreed to participate in the study.

**Participants**

The participants were all initially reached through their administrators, who gave the approval and provided the contact information for their teachers to be invited to participate in the study. Local administrators recommended others, and I began by calling a number of virtual schools and organizations and then submitting the appropriate research applications to those that had secondary online PE courses and teachers. Every school district had its own research application process. In reference to these study participants, each administrator spoke highly of their online physical education teacher (one administrator had two participants in this study), and all three administrators had information to share about online physical education as well. Two of the three administrators did complete and submit a signed Informed Consent Document and I
was able to amend the IRB application to include their contribution in the data collection and analysis processes. The purposive criteria for the teacher participants were ultimately as follows:

1. Experience teaching physical education (PE) in the traditional setting
2. Currently teaching PE content in an online secondary setting
3. Two years’ experience teaching in the online secondary PE setting
4. Successful evaluation in the online teaching setting from administrator
5. Willing to participate in the study

Data were not collected about participants’ race or ethnicity. The following table (4.1) provides details about the four participants’ demographic data.

Table 4.1. Demographic Data of Study Participants.

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Family</th>
<th>Number of years teaching PE</th>
<th>Number of years teaching PE online</th>
<th>Area/region where working/living</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allison</td>
<td>54</td>
<td>Married with two children, ages 21-22, and a grandson</td>
<td>30</td>
<td>3</td>
<td>Southeast United States</td>
</tr>
<tr>
<td>Lisa</td>
<td>34</td>
<td>Married with three children, ages 3-9 yrs.</td>
<td>8</td>
<td>5</td>
<td>Southwest United States</td>
</tr>
<tr>
<td>Ronda</td>
<td>34</td>
<td>Married with four children, ages 1-8 yrs.</td>
<td>3</td>
<td>2</td>
<td>Northwest United States</td>
</tr>
<tr>
<td>Mary</td>
<td>35</td>
<td>Married with two children, ages 2 months-3 yrs.</td>
<td>7</td>
<td>2</td>
<td>Alberta, Canada</td>
</tr>
</tbody>
</table>
The First Case: Allison

**Introduction.** Allison is a physical education teacher in the southeast part of the United States. She has been teaching secondary level PE in a public school district for thirty years. She has coached and taught in the traditional setting primarily, and just in the past three years has she taken on an additional role as the sole online high school PE teacher for her school district. This is a part time role for her, as she has continued to teach in the traditional high school setting, has continued to coach track and field, and three years ago added the online instructional position to her other commitments. Allison is 54 years old, is married, has two children, ages 21 and 22, and has a 20-month old grandson. Allison’s favorite sports are softball and track, and she is planning to retire to another part of the country and continue to teach online. She will keep her state teaching license current and active so she is able to teach PE for the same school district virtually.

In July, 2012, I completed the extensive application to conduct research within the school district that Amy works, and by August, 2012, was pleased to receive the affirmative reply that I was granted permission to conduct research within their virtual school program. The administrator for the school district’s virtual school began her career in physical education, and she was happy to assist in the study. She connected me with Allison, and after communicating with her administrator and with me, Allison agreed to participate in the study. Allison contacted me by phone to confirm and promptly sent me her consent form in the mail; we agreed to communicate via phone for interviews. She also was happy to respond to e-mail inquiries as I collected personal background information. Allison was very friendly and relatable, and she
opened herself up to questions about her background, her teaching experiences, and her current online work.

**Allison’s pathway to online teaching.** With nearly thirty years of teaching under her belt, it would be natural to think that Allison would just continue to do what she’d been doing and get to the finish line of thirty years of service, the point at which teachers in her state are able to retire and receive a satisfactory pension for the remainder of their lives. However, when presented with the opportunity to learn something new, Allison embraced the challenge and dove into learning to teach physical education content online. The request from her administrator was what began the journey to teaching PE virtually. Initially Allison agreed to the job because the virtual school administrator asked her to do it and she thought it was an interesting concept, but then she quickly discovered that providing online PE options for the high school students was a great way to meet their individual needs. She had no prior experience with online teaching or learning, but did have a high comfort level when it came to using the computer and computer software at school to enhance her teaching in the traditional setting (i.e., grading and attendance). As a parent, however, Allison did have some exposure to online secondary education, and now that she is more experienced teaching the county’s Health Opportunities through Physical Education (HOPE) course online, she has seen the growth occurring in virtual PE:

I had a son who took an online course, and that was my only previous experience. I’ve been doing the county’s virtual version of HOPE for the last three years now and it’s growing. The first year I had eleven students, last year I had 20-something students, and this year I have like 54 kids that have signed up. It’s definitely growing because the county is requiring that any incoming freshmen have to have an online course before they
graduate. So a lot of students are opting to do this one recently because they find it seems to be easier to accommodate their schedule.

One reason Allison became interested in teaching the online PE course is that she liked the possibility of being able to be free from the boundaries of the classroom and to teach from wherever she chooses. Allison enjoys camping, for example, and she knows that she can even go camping and still teach the online class as long as she has a place for internet access. While she has a full schedule in the traditional high school setting, she enjoys adding the online component.

It’s just a matter of what time I want to commit to it on a daily basis or a weekly basis, accessing the information the kids send in. That gave me the flexibility which was very intriguing to me. So after talking to the administrator in charge, she said, “You could do that.” I was like, “Hmmm.” I was interested enough to go ahead and do it the first year, and I found it was okay. At the time, I was teaching six classes and it was my seventh class. Then last year, I had seven classes at school and this was my eighth class. Now this year, I have six classes at school and I have three class lists of online students. So it’s a lot more kids to deal with. It’s working out fine. It’s very busy.

**Allison’s daily instructional practices.** The daily online instructional practices and tasks for Allison varied from day to day, and the weekdays looked different than weekends, naturally. During the week on her lunch break, Allison will log into her online class to check on student work and grade a few assignments. At the end of a school day, she stays at work to log
into the online course again to grade, track student progress, send e-mails, or contact parents.

Allison describes her general routine:

So sitting in front of the computer becomes a daily thing, quite a long time. I come home from school around 4:00 or 5:00 so I can get all the paperwork done for the (traditional) classes. School ends at ten minutes to two, and I may be at school logging in grades and stuff for grading, and then I’ll come home and have dinner then I’m back on the computer with the virtual students. Sometimes I’ll do it at lunch trying to get ahead or get caught up or whatever. So it’s a lot of time in front of a computer.

Allison indicated the online teaching commitment has taken away from her free time, as any part time job would. Students in a virtual class often have the perception that the teacher should be available right away, anytime, whenever they need assistance. Allison makes sure she is available for grading, responding to questions and providing general instructional help most every day. Allison said her part time work is time consuming but not a problem at home:

I have a lot less home time. It’s taken a lot of my personal time to complete the work. I have a very patient husband who is easily amused by anything he wants to do and does not have to be entertained by his wife, so he’s wonderful. He has no problem with me doing that. He knows it’s something I am going to do for a while and that’s okay.

While many online schools offer courses year-round, Allison’s school district does not offer virtual school courses over the summer, so she does have that full summer break with no teaching responsibilities. The virtual school in her county has a traditional end-of-the-school-year deadline for students completing online courses within their school district. Some students
in Allison’s online HOPE class are full time virtual school students within the county, but most are taking the bulk of their coursework in the traditional school setting and supplement that with a few online courses.

**Managerial tasks.** Allison monitors student attendance in her online course similar to the way she does in the traditional setting. The students in her online class are expected to log into the course and do some work in the class each week. Allison has been given some flexibility in the way she monitors student attendance and participation in the online course, so she tracks each student’s work at the end of each week. She was given this latitude in marking attendance after realizing quite a discrepancy in students’ work submitted and their days logged into the course. Some students obviously prefer to work in their online course over the weekend, so traditional attendance, something the county wanted her to monitor, was going to be a challenge to track. Allison found a way that works for her to track the number of assignments a student submits in a given week, and has a system for documenting attendance in the online course. She states,

The hard part for me is adjusting to not having face-to-face contact with any of these kids and you don’t know what’s actually going on in their lives; something may be preventing them from getting caught up, so you have to spend a lot of time on the phone trying to find out and then you may have issues with the phone numbers not being correct, or they’ve changed the number for some reason so your only hope is an e-mail. Well, if the e-mail is incorrect or that’s changed, you’re kind of waiting for the kid to log in and hopefully they’ll send you a message and then you can contact them. So it’s sometimes no control. You may lose some kids sometimes because of the lack of contact. While there may be a few students who end up withdrawing from the course, it is Allison’s goal to assist every student who signs up for the online PE course in successfully completing the
course with a passing grade for the credit requirement. If a student gets off-pace in the course, Allison is responsible for tracking the student’s work, communicating with the student and parent or guardian, and making every effort to help the student get back and stay on target with his pace and efforts in completing the coursework and fitness requirements. When necessary, Allison communicates with the student’s brick and mortar school counselor to enlist his or her help in getting the student back on track for completion.

**Grading.** There are some assignments within the course that are computer-graded, like quizzes and tests. Written assignments, projects, and fitness logs are graded by Allison. Once she grades an assignment for a student, the feedback she gives can be seen by the student in the course, and the feedback also is sent to the student’s e-mail. When asked how much time she spends on grading, she responded:

Typically per day, probably about an hour-and-a-half solid, really. If I get cranking on it, I can knock it out pretty quickly. It’s waiting on the computer that takes so long most of the time. There are certain items that I grade and certain items that the computer already grades – like the quiz, so they can look and see how they did on it and it does the tests also. It will also grade their forum entries. I grade their fitness logs they have to do.

Allison gives specific deadlines for fitness log/workout log submissions, but may be more flexible on the submission dates for other, written assignments:

Fitness logs are half of their grade so I have to assess whether or not they have accurately filled out the chart and how they answered the questions and filled it in – the logs are real important to me as a PE teacher because I want to see that they’re doing
this. So if they’re not – I put deadlines on those particularly – the other assignments, I give them like a “by three weeks, you should be done with this unit”. Then the next unit should be done within the next three weeks. It’s not to say you can’t overlap them, but I’d rather you not have to work backwards because I’d rather you do the first section then go to the next section. So as far as the fitness logs go, those are per week.

Part of the course Allison teaches online includes discussion assignments related to the content for students to interact with one another; Allison grades those discussion posts as well:

They’ll be part of a discussion; they have to respond to somebody else. They have to respond to at least two kids that have already responded to the discussion, so you have to go back and read other people’s entries.

The students have to read the discussion topic, respond to the prompt, and then read others’ posts and reply to a couple of students on their posts. Allison reads and grades students’ original posts as well as their feedback to other students.

*Communication.* Allison communicates consistently with the online PE students and their parents or guardians. Her primary communication comes in the form of her feedback to the students on their submitted work, whether it is a written assignment or a workout log submission. If Allison sees that a student is not submitting work regularly, she will contact the student by e-mail and by phone. She communicates with parents and guardians at least once per six weeks throughout the semester. Allison indicated she is sensitive to the varying needs and life happenings for each student, but sometimes finds it challenging to check in with students:
I’ve got a girl who’s a gymnast and she doesn’t have the time in her day. She’s at practice. So Saturdays it’s just like she knocks out the whole unit six. It’s like, Wow, that was fast. The hard part for me is adjusting to not having face-to-face contact with any of these kids and you don’t know what’s actually going on in their lives, that something may be preventing them from getting caught up; so you have to spend a lot of time on the phone trying to find out, and then you have issues with the phone numbers not being correct or they’ve changed the number for some reason and that was not valid anymore, so your only hope is an e-mail. If the e-mail is incorrect or has changed, you’re kind of waiting for the student to log in and hopefully send you a message and then you can contact them. So it’s kind of not control.

**Allison’s educational theories.** Theories that guide Allison’s teaching practices can be categorized as more implicit than explicit educational theories. Allison does not recall specific educational theories that are promoted in her school or school district. She ascribes to the theory that there is a wide range of learning styles among her students, and she believes she must be flexible in how she presents content to the students in the online setting. In fact, Allison shared that her online instruction has helped her become a better face-to-face (F2F) teacher as she now is more sensitive to the varying learning styles among students. A constructivist learning theory component of differentiated instruction for each student as needed is something Allison supports:

As far as opening up the course and reading a lesson and then taking a quiz on that – if some people don’t get it by reading it and they need some more hands-on participation or individual instruction doing it in a different way covering the same information, then this may be a struggle for them. That’s why the student has the
opportunity to e-mail or call and get some clarification. I’ve had, “Could you walk me through this?” Yes, sure, let’s make the time to do that. I’ll call you at such and such time. Then, “Oh, that’s what you do? Oh. That’s easy.”

Allison believes that differentiated, online learning opportunities are beneficial for many students in this day and age. However, she expressed concern about students who do not enjoy the social aspect of the traditional school setting and think that taking all their courses online is the best answer for them. There are those who are successful with the proper support at home in that scenario, but Allison shared that she has witnessed some students who think they will be happy working virtually from home but who end up getting way behind in their coursework because they are not good with time management on their own. Therefore, Allison believes in meeting individual needs for each student and realizes that online options are best for students who have guidance and structure at home in order to be accountable to stay on track with online academic commitments. She believes online learning options are excellent for students, according to each student’s individual needs. As a veteran teacher, Allison believes in teaching students about the importance of fitness, health and wellness for life; Allison expressed that she can share those fundamental principles with students in the online setting just as easy as in the traditional school setting. She encourages her virtual school students to make the learning outcomes applicable to their own lives, which indicates her implicit support of constructivist learning theories.

Allison also aligns her teaching to the standards and benchmarks students are to meet; she believes in standards-based curriculum and teaching. Allison was a member of a regional committee for creating and writing assessments for the HOPE course and other secondary PE
courses based on state standards and benchmarks that are to be met. Allison is confident that each unit in her online HOPE course aligns with the state’s minimum requirements for student achievement.

**Allison enhances student learning.** As much as it is in her ability to do so, Allison attempts to assist every online HOPE student in successfully completing the course. Allison tries to ensure the online students feel comfortable in contacting her for assistance with the assignments. Her cell phone number is posted in the course so as soon as the students log in online, they can find her number and call her with any questions, concerns, or one-on-one instruction. She seeks out the students that are seemingly not working in the online class. Allison enlists the help of parents and guardians in the effort see students succeed, and she communicates with students’ guidance counselors as needed for further support. The students in her virtual HOPE class come from all over the county, and Allison has the contact information for each student’s guidance counselor online within the course as part of the demographic information for each student.

Guidance counselors are generally very happy to assist by visiting with a student, laying out a plan of action for submissions, and then following up with that student to make sure the work is being done. Guidance counselors have to approve a student’s request to take an online course for credit toward graduation, so they have a vested interested in seeing that students complete their online courses also. With the personal contact by Allison, the encouragement from home with parents and guardians who are kept informed of the student’s progress, and a guidance counselor checking in on her, a student often feels more support in the online class than in a traditional PE class.
The school district provides a link to the virtual school through their website. Students and parents who may not know about the online options through the school district can learn about the part time and full time virtual school choices. Figure 4.4 shows a snapshot of the information about their virtual school for secondary students on the district’s main website. Students and parents looking at the district’s home page may discover more about the flexible options for taking courses that are offered free of charge for district students. A click on this page will take them to the virtual school website.

![PCS Pinellas County Schools website](https://example.com/pcs.png)

*Figure 4.4. Pinellas County Schools website home page (2013).*

**Allison’s perceptions of student learning outcomes.** Allison has witnessed students making significant improvements in their health based on what they’ve learned in the online HOPE class. She shared about a female student whose family members are obese and who has struggled with food choices:

- Their eating habits have been a huge influence because there is always junk food around and nutrition was never a focus. It’s just, “Here, eat that.” So she’s really tried to make some progress with mom and says, “Let’s get something that’s a little healthier;
look what I’m learning.” That’s like, wow! That’s golden because you want to get that and make those changes. That’s what I was telling kids today. If you can focus on a habit that you formed now and change it to something healthier, gosh, you won’t have to fight all these issues when you get older.

Allison shared that she has seen students develop, improve and grow with regard to learning and attitudes toward their learning goals and outcomes. She has seen students take ownership for their own fitness efforts and overall health:

In their fitness logs they have to answer questions every week on those that say, “What did you do that might be different? How do you plan to change your fitness next week?” So, they’ll elaborate on those discussions like, “I need to work on my cardio next week. I wasn’t able to because I was sick,” or whatever. So, they’ll put a lot more information in that, which is a good thing to be able to comment on too.

Allison expressed delight in the fact that the online PE students often become advocates for health and wellness within their own homes, as they work on the course primarily from home. As a result, the students are more likely to engage parents and siblings in new fitness activities and healthier eating practices. She said, “The family gets into it like a project.” While some students do not make any significant learning or lifestyle changes, most do. She shared about a student who did not have an interest in the content whatsoever:

Most of the students are very self-sufficient. The ones that are doing it are doing great. The ones that aren’t doing it are the ones that are having problems because they are not completing anything. Last year I had a young man who wasn’t working. I e-
mailed him and called him and finally I said, “Look, what’s going on? You’re not getting online and doing your work.” He said, “Let’s face it. This class really isn’t that important like math is.” I replied, “Okay. But it is required for your graduation; so maybe it is a little important.” They’ve got to be able to maintain it on their own or get the help, but they have to have the desire.

The Second Case: Lisa

Introduction. Lisa is 34 years-old, married, and has three children between the ages of three and nine years. Her favorite sport is fast pitch softball. Lisa received an Associate’s degree in General Studies from Ricks College (now BYU Idaho) and her Bachelor’s degree in School Health and Physical Education from Brigham Young University. Lisa taught PE in Arizona public schools for three years, and now enjoys working with schools and students online. Lisa has coached basketball, volleyball, and softball, and still teaches private softball pitching lessons. Lisa works as an online teacher at Carone Fitness. She is currently overseeing curriculum development, has been studying various learning management systems, exploring the latest fitness technology, researching effective student communication techniques, and training new instructors, all while still teaching a part time load online. Her teaching load has diminished in recent months so she has time to focus on the curriculum development tasks she’s been assigned. She still mentors another teacher and hosts teacher training sessions for new teachers.

I was introduced to Lisa in September, 2012, through the founder and executive director of Carone Fitness. The director, Katie Carone, was kind and helpful as she spent time on the phone with me explaining Carone Fitness. A Utah-based organization, Carone provides online health and physical education curriculum and courses for secondary and higher education in the
United States. As a fully accredited organization, Carone Fitness is a PE and Health curriculum provider for many secondary virtual schools across the nation, and they also offer courses for students directly. They are actually developing standards-based, developmentally appropriate elementary PE curriculum currently as well. Carone Fitness’s goal is to “provide credible, accessible, and vital health and fitness information to students of all backgrounds and fitness levels” (Carone Fitness, 2013).

Both Katie and Lisa signed informed consent forms for the study. Katie invited me to attend an Elluminate session to learn more about Carone Fitness. In the presentation, she shared details about Carone Fitness and the variety of PE and Health-related courses they provide for districts and individuals with administrators from across the country. Elluminate is a live, virtual classroom environment used for distance education and synchronous collaboration in academic and corporate settings.

**Lisa’s pathway to online teaching.** After receiving her teaching degree, Lisa began her career in the public schools teaching PE for three years, but she has been working in the online PE setting for over five years now. She has worked full time in the online PE setting in the past, but is not presently teaching full time. She spends most of her work time now in curriculum development for online K-12 PE with Carone Fitness. As the summer months get busier at Carone, Lisa may be asked to teach more. The largest group of students she typically works with is the credit recovery group of students in the summer, in fact. However, to be grammatically and factually correct, the information about online PE instruction that Lisa shared is described in the past tense, as at the time of data collection she was working solely on curriculum and course development for elementary online PE courses at Carone Fitness.
When thinking back on her pathway to online teaching, Lisa stated that she wanted to find some type of teaching or other work she could do from home:

I wanted to find something I could do at home. I got hooked up with Carone Fitness through a friend. They were looking for a teacher and I happened to have a friend that threw my name out there and gave me the idea to look into it. I wanted to stay home because I had two little ones at home at the time. I knew nothing about online teaching and I kind of had the idea at first like, “Online PE? What am I going to do?” I went in completely blind with it much like most people do. It was exciting for me to learn, honestly. I have some girl friends who I’ve worked with in the community and they thought it was so funny when I started telling them what I do.

Lisa had the assistance of her administrator when it came to training and preparing for the online PE teaching position. When asked about the transition she went through from the traditional setting to the online teaching venue, Lisa shared:

I worked with Katie and she was able to train me and she just explained the expectations. I had to learn what to look for, how to communicate with the students because I couldn’t show them what I expect, to be able to communicate with the students via e-mail. I had online training like this.

While receiving online training about how to teach online, Lisa realized she was learning how to utilize the same virtual meeting resources for her future communication with her new online PE students; part of her transition was learning how to prepare students for the similar change:
Through the transition, I learned what to look for, and how to communicate with the students. I realized the online conference resource where the students can see it as I’m explaining worked really well to get them the feel of the course and how to find things and where to do things instead of just throwing them in and saying, “Okay, find it.” Once the students had that foundation and they knew where to go to find their lessons and where to go for this and they have that instruction, the students were able to do really well at keeping on task. It was just learning when I needed to communicate with students and what to look for in their fitness logs to make sure they were pushing themselves where they should and just finding that balance to make myself comfortable like any teacher does when they go even into the physical setting. The first year I got in public school, it was how to deal with students and to understand relationships. It’s just a different dimension of that. You still have that student interaction, but it is all virtual.

Lisa indicated she really enjoys the online aspect and she feels that if she ever goes back into the public setting, she will incorporate a lot of the teaching strategies, best practices and content that she has used online to make the learning experience better for students in a traditional setting.

**Lisa’s daily instructional practices.** The daily instructional practices that Lisa described are slightly different than what is commonly experienced in the brick and mortar classroom. Her daily tasks in the online PE setting included tracking each student’s progress, grading student submissions, replying to e-mails, sending e-mail communications to students and parents, communicating with various school counselors about students who need special
assistance or encouragement, posting messages and announcements on the course web pages, calling students and parents, and generating and sending out progress reports. Lisa also worked on curriculum development while teaching, but is currently doing more course development and is supervising the online PE teachers as an administrator of sorts.

**Managerial tasks.** When teaching the online PE classes, every day Lisa logged into the courses to check and see what assignments had been submitted for grading since she last logged into the site. If she did not grade everything from a previous day, those assignments, along with any new submissions, would be in the list of items to be graded. At a given time, Lisa might have five or six different courses she was teaching, and the assignments to be graded were identified for her by course.

At one time, I could be teaching five or six different courses, whether different sections of the same course or I may have a semester-long course and a summer course and a credit recovery course and a nutrition course. The site would list all my courses and the assignments that need to be graded from each. We’re committed to grading student assignments within three to four days. If something is submitted, we try to get that graded within that time period, and I let my students know, if for any reason something’s not graded, send me an e-mail. If they’re waiting on something, I tell them to bug me about it because there are times that for some reason there could be a tweak in the program that it doesn’t show up or I may have overlooked something.

When asked about how much time Lisa typically spent on the various daily instructional tasks, she indicated it depended on the number of students enrolled in the courses:
It depends on my enrollment, that’s the top thing. I would spend anywhere from
two and three hours up to five hours a day; again, I’m just part time. My average time
was usually about two to three hours a day when I had more students, but there are some
times that it can take me less than an hour and I’m done because I only have 15 students
at the time. It all depends on the student load, and of course, on how well the students are
doing.

Lisa explained her student tracking process. As an online PE teacher, it is her responsibility to
make sure all students are making sufficient progress through the course:

I always did my grading first so that way everything is in the grade book and I get
a clear picture of where the student is. From that point, I like to go and look to see the
list of all my students; you can see when the last time was they logged into the course. I
can look and see if my students haven’t logged in for four or five days. I know they’re
behind. I can e-mail those students from the course or from my direct e-mail to let them
know, “I haven’t seen you log in and this is our time. Please contact me if you have any
questions.” If they get too behind, over a week and it’s starting to add up, those are the
students that I start to make phone calls to.

Once she tracks the students and their progress, another part of her managerial, instructional
tasks is to share the progress report with students:

Once a month, I like to give grade reports so they know what their grade is based
on how long they’ve been enrolled in the course because I will have growing enrollments.
I don’t have one class that all starts on December 1st; I’ll have a student that starts
December 1st, one that starts December 3rd, one that starts the next week. The grade report will show them where their grade stands as far as how long they’ve been enrolled in the course and then against the course total. Then they’ll really have a picture of where they stand in the course and what needs to be done.

It’s all within our system. You can download it into an Excel spreadsheet. Then I have the whole spreadsheet set up, the formulas and all sorts of stuff. With the system we’re looking to move to, it’s not going to take as much time. Right now, it depends on how many students I have. It really isn’t bad because that spreadsheet is already done. I’d just download the Excel spreadsheet, copy and paste it in. I already have them formatted and ready to go, but it’s just copying and pasting into an e-mail.

**Grading.** Grading student work is more than reading submitted assignments and assigning a grade to each submission. Grading student work in the online PE setting includes providing written feedback: general, specific, constructive, prescriptive or positive feedback on each submission. In the traditional class setting, much of the feedback from the teacher to students is verbal. The difference for Lisa and other online PE teachers is their feedback needs to be written, due to the virtual nature of the teacher/student relationship.

With each assignment that a student completes, each fitness log they do, when I assign a grade, I give them feedback and I explain why they received the grade. If they did an awesome job, that’s pretty much what I say. I try to make myself a real person to them. They don’t think it’s just “good job”, and it’s an automated thing. I give them feedback, I expound on that and tell them what they did a good job on; I refer directly to their assignment. With their fitness logs especially, I really try to point out something
within their fitness log that they did well, and something that they need to do better. Then, as I grade their fitness logs, I go in and review my feedback that I left on the previous one or two, so that I can give better feedback on the one that I’m grading. If I told them two or three weeks in a row that they need to get their heart rates up, then I know that I need to contact them via e-mail or to call them.

Every few weeks the students in the Carone Fitness PE classes have to complete a fitness checkpoint for a grade, a submission that summarizes the student’s physical activity and fitness progress:

   The fitness checkpoint forces students to look back over a certain amount of time and just reflect on their progress. It’s just four quick questions, having them examine what they’ve accomplished, what they’ve done and how they feel on things; this has helped them to think about where they are with fitness and look at their fitness logs. This is where we ask for parent verification that the workouts are being done. We involve parents, guardians, and at times, the school counselor because if they’re working within a school setting, the school counselor will verify this for me.

I asked Lisa how much time she spends on grading and she indicated the time varies:

   That one is hard. It’s hard because it does depend on their load and it depends on how much you really have to watch the students. The students get into a routine and basically I’ve trained them at the beginning of the course and they understand it and they get the concept. Then it gets to where I can look through their fitness logs and I can see it, that I don’t have to check every little thing. The heart rate is one big one that I do have
to go back up and look to make sure they are not copying heart rates from the other ones. So I can scan through it and see if there is that fluctuation. I’ve had students submit fitness logs that are identical like four weeks in a row!

So it depends on the students that I’m working with and if they’re going to complete all their work; I’ve gotten a lot faster because I know the answers that I’m looking for. I don’t need to refer to the teacher page. So yes, it depends on the student load. That’s a hard one for me. I’ve never actually tracked how long it takes me to grade.

The following are excerpts of real feedback from Lisa to students on their various assignments and submissions:

Well done. This looks like a great schedule to keep you busy and improve your fitness. Make sure you are recording all fitness on the fitness log along with your heart rates and time. Good luck sticking to it.

I am so glad you have been able to be so successful with your workout schedule. I hope you continue to keep up with it and improve your fitness. Great job!

The assignment asks for drawings of the correct AND incorrect postures for different activities. You can complete the assignment as directed for a higher grade. Please include a brief explanation of what is correct or incorrect about each drawing.
Great job pushing yourself with your cardio even when you didn’t particularly enjoy it. I hope the results are making it all worth it. Keep up the good work!

I hope you can use this personal pyramid to help you balance your diet choices. Good luck making the modifications to your diet to help you be healthier.

Great job. The only goal that is not easily measurable is strengthening your arm muscles. What weight are you aiming to lift? Work hard and you will do great. Good luck!

I’m glad you are working hard to stick to your schedule and making the changes to challenge yourself. Keep up the good work and you’ll be more than ready for hockey season!

Plagiarism is NOT tolerated. All the wording on this submission was copied from other websites. When completing assignments you need to do the research and put it in your own words to submit.

Congratulations on doing so well. I hope you reevaluate your goals and set new ones to push yourself. I’m glad preseason was easy for you! Great job!

Communication. Lisa has a system in place for communicating with parents about the class requirements initially and student progress throughout the course:
At the beginning of the course, I will call and talk to the parents and then I keep in contact with the parents. The fitness log is always the first thing I explain to people when we do anything with it because that is what they’re looking for: “Is this a PE class? What do they do to get that fitness?” At least once a month I send out progress reports to show how the students are doing and then any e-mails, conversations with the students that I have, I try to copy the parents on that, so they’re in the loop about what’s going on. I send out a weekly e-mail as a reminder about something that needs to be done or if I’ve not seen something.

She said she meets students wherever they are with specific instructions she has to share with them in whatever form of communication works best for the students, whether it is the through the phone, through e-mail, or through a synchronized, online meeting:

I usually just start out with e-mail and then I include the parents, or I will e-mail directly to the counselor. From there, it goes to a phone call to the student and/or the parents. Then if the student still needs help, I let them know in the e-mail, “If you want to set up this meeting…” so there are those available steps to take. Just finding out what works with each student and what works with each schedule is the key to success. If they’re not getting the concepts, anything we can use for communication to help the students have success, we’ll try any of those methods.

**Lisa’s educational theories.** Lisa did not identify by name specific theories that have shaped her teaching practices, but after hearing her own philosophy about how she focuses on individual, criterion-referenced student progress rather than norm-referenced assessment
measures, it is clear that she believes in differentiated, individualized learning opportunities for her students in physical education classes:

I have a shift in my teaching since I’ve done online. I grew up and was a good athlete. Everything came natural to me. In PE class I was frustrated by people that were not coordinated because it came easy to me. Going this route online, it really shifted my understanding of the purpose of PE, the purpose of having physical education. In one of the courses we offer, the students can buy a Polar heart rate monitor and it will align with the course. As a teacher, I could go and look and see how long they’ve had their heart rate in the different zones. I think my theory has completely shifted to that focus, to encourage the students to work at their own intensity and ability. I remember when I taught in the public school, we would go out and do the mile run. It was keeping track of time. I don’t think I emphasized enough of individual progress. It was, “Did you make it in this time?” I think I’m now focused more on making sure they took their heart rates and, “Did you beat your time from before?” Discard what everyone else got. “Did you beat your personal time?” That’s where the focus needs to be on how you’re improving, not against everyone else, but individual progress. I think that is where my personal philosophy has changed a lot.

Lisa believes there is a need for both online courses and F2F courses for secondary students:

I think there still needs to be the social aspect. I am a really social person and I don’t want someone to have their online learning only and that they sit at the computer and do everything by themselves because I think there is still a huge value in the social knowledge that you have and how you have to react to people and when someone
disappoints you, you have to know how to react in a professional way. So that’s one of the drawbacks of doing everything online; I don’t want students to get to where they are in their own little bubble; they still need to have that social interaction. They still need to be involved with other people.

**Lisa enhances student learning.** Lisa shared that the fitness assignments within the online course do provide opportunities for enhanced student learning outcomes, as the students are not typically asked to log their fitness throughout a given semester in a traditional PE class. The students in her online secondary PE classes have to log their workouts and then take time to reflect on how the workouts are going, on what they’ve seen in the way of changes to their fitness levels, for example:

> Sometimes the students don’t like to answer the reflection questions and I really encourage them and really push them to give me information because it’s fun to see the beginning of this – as they start to progress and they start to see those benefits in the exercise they’re doing. That fitness log is a progressive log. They download our fitness log form once and then they will save it and add to it each week. By the end of the course, they are going to have one document that has all of their fitness on it. They can look back and see their progress.

The students move through different topics within the course, and they have fitness activities to complete on their own as they move through the course content.

Teachers work on putting into practice effective teaching strategies in the classroom, and that is true in the online classroom as well (Carone, 2013; Young, 2010). Future studies on best
practices for teaching virtually may include consideration of students’ online learning styles.

Lisa shared her thoughts about a person’s online learning style, which she felt can be different from a traditional learning style:

I think the online learning style is something that is not just about online schooling. This online learning style is something that carries into adulthood, as adults have to learn (on the computer). That’s why our multimedia lessons are both in an MP4 format where students can view it online and it’s narrated for them. Obviously they can turn the sound down and read it themselves. We also provide a PDF document that they can print out.

Lisa provided extra tutorial sessions for her students, sessions that she calls teacher training sessions.

When I have a big group of students I offer a training session whether they take advantage of it or not. When the course starts, I encourage them to attend a teacher training. When I have my big group of students in the summer, I’d have a regular teacher training hour every week. They could log on and I would go over the course, show them where things were, and give them that foundation that they could better understand the site and what was expected of them. Then I would have a time if students wanted to call in. I let the students know if for any reason you can’t participate at that time that they can contact me and we can figure out a time to set up something like this as well. That’s the GoToMeeting. It’s something that we can use as a resource for the students if needed.
Lisa’ perceptions of student learning outcomes. Lisa described two types of students that typically have great success with the online PE courses:

I have found as I’ve taught that there are two groups that do really well with online PE. There is the group that is very motivated - the ones that are really involved in athletics, or they are really involved in their academics and they’re driven and they want to get PE done, so they can take AP classes. Those students do awesome because they are clearly motivated by other things. PE kind of drives them nuts, but people that don’t want to be there, they just want to have it done and this is a great way for them to do it and have control. Then I found the other group, which is my favorite, includes the ones that hated PE because they felt inadequate because they weren’t coordinated; they are the ones who got picked last kind of group. It’s so exciting to see them set and achieve a goal.

Lisa has seen significant student learning gains with the students in her courses as a result of the individualized programs the students help create for themselves and follow through on during the time they’re in the course:

We have a nutrition course where the students set goals and lots of times, they have to take that along with our fitness fundamental course. To lose weight and to realize the importance of eating healthy and to start to see those benefits, and then when they get their family involved and their parents involved, that’s the target that really is so fun to watch and it’s exciting to read their comments at the end of the courses on how it’s helped them; I’ve had some parents send e-mails who are grateful because they’ve been able to get involved because they’re not going to just drop their child off at the gym by
themselves. That’s the group that is really fun to see – the ones who will go and just be involved and just do it because they have to.

**The Third Case: Ronda**

**Introduction.** Ronda teaches online PE and Health courses to secondary level students through Carone Fitness. Ronda is 34 years old; she is married and has four children between the ages of one and eight years. Ronda and her family live in the northwest part of the United States. She has been teaching secondary physical education content online for more than two years now. Ronda earned her Bachelor’s degree in Health Education with a minor in Physical Education Teaching and Coaching from Brigham Young University. She currently teaches a variety of online Health and PE courses part time with Carone Fitness. Ronda teaches a credit recovery Health class, a credit recovery PE class, a course called Fitness Fundamentals I, Group Sports, and Exercise Science. She also oversees and facilitates an independent study Fitness Fundamentals class. A credit recovery course is designed for students who have failed the course already; the course is condensed and shortened to six to eight weeks rather than the traditional 16-week time frame.

I was introduced to Ronda through Katie Carone. Katie is very passionate about her work in providing physical education and health-related content and curricula for online schools, and was pleased that I was interested in writing about online PE instruction. She shared praise for Ronda as a PE specialist and an outstanding online PE teacher.

**Ronda’s pathway to online teaching.** Ronda really intended to coach high school softball, but when she graduated from college, she was offered the opportunity to coach softball at a state college in her area. She was the assistant coach for a year-and-a-half, and then became
the head coach of the college softball team for a year-and-a-half. She taught as a substitute teacher after coaching. After three years of coaching full time and teaching as a substitute for six months, her husband’s job opportunities moved them to another state in the northwest part of the country. At that point Ronda was expecting their first child and she made the decision to step away from coaching and the traditional classroom setting in order to stay at home with her growing family.

I was connected with Ronda through her colleague at Carone Fitness. The founder and executive director of Carone also recommended I contact Ronda as an additional resource and potential participant in the study. Ronda immediately agreed to participate in the study to share her experiences and perceptions about online PE. Ronda described how she began teaching PE online:

Well, I got to work here now because I actually had a friend working for Carone and she told me that they were getting very busy and were looking to hire another teacher, so I went ahead and applied, and that’s how I found out about Carone, through my friend. I applied and went through the process and ended up getting the job.

The transition to teaching PE online was smooth for Ronda, as she had already left the traditional teaching arena to be able to stay home with her children. I asked her what was most fulfilling about teaching PE online:

For me, I’m able to teach, and right now I would not be able to teach in a regular school because I have four kids – or I choose not to, I should say, because I have young kids at home. So for me, it’s fulfilling because I continue to do something that I like. It’s rewarding because I’m challenging myself and it’s keeping me in the flow of things but I also love seeing the kids that would not thrive in a regular PE class have such great
success. I see kids be able to thrive and do something that they would not have done before and this gives them that opportunity. So, I really enjoy that part of it. I enjoy getting to know some of the kids that are so fun and have great personalities and the amazing things that they’re doing, and how they fit everything in, I don’t know. So, it’s been very rewarding.

When it came to transitioning from coaching and traditional classroom teaching to online teaching, Ronda shared that it was fairly easy with the training she received from the organization:

The only difficulty I found in transitioning was just getting used to how everything worked in the system and that kind of thing, but overall there was not a huge problem with transitioning because there was training through Carone on how things worked and I had a really good mentor to answer questions. So I had someone to go to if there were problems, which made it a lot easier.

She described the transition and differences between working with her team of softball players and teaching online:

I guess the biggest difference is with coaching I was used to being super hands on every day, as far as making sure the students were in class and making sure they were taking the right classes, and making sure they were in the room where they were supposed to be. So it was really hands on and now it’s more self-driven and I am there just to kind of oversee and make sure, I’m still checking on them and making sure they’re where they are supposed to be in the course and that they’re on track. It’s not quite as hands on and not quite as personal as far as knowing them really, really well. What I get
from them is through assignments, e-mails and a couple of telephone calls back and forth to get to know them.

**Ronda’s daily instructional practices.** While Ronda teaches part time, she does spend time on her work each day. She spends a few hours daily in her courses, grading student submissions, tracking students’ progress, responding to e-mails, and calling students and parents. She does occasionally check her courses to grade work and answer e-mails during the weekends as well. Ronda said that if a student is not working regularly in the class and she needs to reach the student and the parent or guardian, she has more success calling on a Saturday.

**Managerial tasks.** Ronda provided an overview of her daily tasks, which take from an hour to four hours per day:

On a daily basis, I will log into both my e-mail and my Carone Fitness site and check to make sure that I have no e-mails or respond to the ones that I’ve received. Then when I look at our Carone site, I go ahead and just grade the assignments that have been submitted. On a weekly basis, I make contact with the students. I have a contact log and I try to rotate every other week. One week I will make sure that I communicate via e-mail and I have started just copying where they are in the class and what assignments I’ve received, and I attach that to the e-mail every other week so they can go back and check so they know exactly what I’ve received from them and what I have for them. Then the opposite week, I will try to make a phone call and touch base with them over the phone, and then I try to track them on my communication log so that I know I’ve been in contact with each student at least once a week.
Aside from providing individual instruction to students, grading their assignments and tracking student progress, Ronda described some of the skills required as a teacher in order to complete daily tasks in the online teaching and learning environment:

In order to be successful I think you have to have time management and some organizational skills to be able to keep track of the work. We’re responsible for keeping track of when we contact the students in a communication log. As far as teaching Health and PE for me, I am not the most technologically savvy person, but I know how to do what I need to do. I have support from Carone as far as them having people that operate the site, and if there is a problem or glitch, then I call our wonderful person and say, “Wait, this is not working”, and she’s the one that goes through and figures out why something isn’t working. So for me, it’s just being able to operate our system, navigate our site and help the kids know how to upload an assignment. I’m more focused just on the teaching and being able to use our site and navigate that and how it works as far as me grading and submitting and that kind of thing.

As an online teacher Ronda has to be proficient in communicating with students, parents, guardians, other teachers, guidance counselors and administrators at traditional schools, as well as with her administrator and others at Carone Fitness.

**Grading.** Ronda shared that she spends not more than a couple of hours per weekday grading on a typical day:

Daily I try to log into the site and see if anyone submitted any assignments, and then I will grade those assignments; I am responsible for making sure that they’re graded within three days of being submitted. So there shouldn’t be any longer time period than three days once they’ve submitted an assignment to when they get feedback. So daily I
just check in, check my e-mails, respond to questions, and grade assignments. It depends on how many students I have and what they’re submitting on a daily basis. There are some days when I’ll get inundated like the end of the week. Sometimes they’ve worked all week and then they just submit it at one time; I’ll end up having a lot more assignments to grade. Then there will be days where I don’t get any assignments or maybe one or two, and it takes me no time at all.

At the time of the initial interviews, Ronda had approximately 20 students total in her various classes. Typically in the summer her teaching load increases due to students having more time to address their physical education credit needs over the summer break. Most of the students Ronda works with are taking a PE or Health-related course of hers through their school districts, which have contracted with Carone for the classes. A few of her students are home-schooled. Ronda explained some of the assignments she grades:

I teach a handful of classes online right now and some of them are health classes where there is no fitness log requirement. It’s just they read an assignment or watch a video online and then they answer questions and take the quizzes. So then I’ll grade those things when they submit them and I’ll give them feedback on what they did or why they missed points.

Then there are the PE classes where they also do lessons and submit assignments and take quizzes, but then they also have to do a fitness log that’s attached to each week. I will go back through and make sure they’re getting all of their cardio in, that they’re getting their flexibility in, that they are getting their strength training in, and make sure their heart rate is in the right zone because they record their heart rate. Then
I’ll say, “Hey, I think you can get your heart rate a little bit higher”, and if some of them are struggling I’ll give them some advice. Some say they’ve walked three miles today and after they’ve done that for a while then I’ll try to challenge them and say, “Okay, this time I want you to walk your miles, but for part of it you can walk for a minute and jog for 30 seconds and then sprint for 15 seconds and try to do that three times in a row.” You know, just trying to get them to do more.

The following figures (4.5, 4.6, and 4.7) show examples of feedback Ronda provided to a student on his work. These are snapshots from the student’s grade book in the course; this is the way the feedback appears to the student as well:

Figure 4.5. Carone Fitness teacher feedback on student work (1).
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<th>Figure 4.6. Carone Fitness teacher feedback on student work (2).</th>
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<td><strong>Team Huddle 4.2: Agreeing on Differences</strong></td>
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<td><strong>Assignment 4.2: Exercise Brochure</strong></td>
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<td><strong>Quiz 4.2</strong></td>
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| **Section 4.3** |
| **Team Huddle 4.3: Competition** | 5.0 | 0.0–5.0 |  |
| **Assignment 4.3: Heart Rate Experiment** | 18.0 | 0.0–20.0 | Overall you did a good job. You missed 2 points because you did not show your work on 1st couple of problems. |
**Communication.** Ronda tracks each of her student’s progress weekly and sends them some type of communication via e-mail in addition to any comments and feedback she provides on graded work in the course:

I will also on a weekly basis try to make contact outside of the assignments, whether it’s an e-mail reminding them to do their work or just checking in and seeing how things are going. If I have time or if I see that a student is maybe falling off, then I try to make a phone call to touch base with them and make sure they’re on track. I have to be able to communicate effectively through e-mail. I’ll always leave a comment when I grade an assignment. Sometimes it’s related to the assignment. Sometimes, if I know a student’s been playing on a certain team, I’ll ask how the team is doing so that way they may end up with two or three different contacts through the week depending on how many assignments they’ve submitted.

She makes phone contacts on Saturdays, as that is often the day that she is able to reach students and, periodically, parents:

If I need to make a phone call and really am having a hard time getting a kid to respond, I’ve noticed that if I do make a phone call on Saturday, they’re more likely to answer. There are checkpoints throughout each class where the parents are supposed to e-mail me and make sure that they say, “Yes, my son or daughter is doing what they say they’re doing”. If there are questions at all during those periods, then I will call them, or if there is a problem. So I probably talk to the parents once or twice throughout the course.
Ronda shared that their website and courses are simple to understand and very well-written. In the event that a student does not understand how to move through the course, however, Ronda will spend time with the student providing instruction through e-mail, through phone communication, or through the GoToMeeting synchronous web conferencing tool. In a live web conferencing session, Ronda can show students exactly how to maneuver through the course and how to complete assignments. Carone Fitness has a GoToMeeting account that Ronda can use anytime for instructional purposes.

Giving feedback to students on their work through e-mail and the written word means that Ronda must be very careful in what she says. On one hand it is easier to carefully plan the best words to describe what she’d like to convey, but on the other hand she misses the F2F contact and the body language and facial expressions that can provide effective communication as well:

There are definitely positives and negatives, like I think you do get to pick the exact word and you do get to be more careful in how you give feedback, and it is more personal I think at some points. But then at the same time I feel kind of bad sometimes because I think if I could sit down with them and explain things a little bit more or be right there with them, I think there are positives and negatives that come with both. I know there are students who are way more comfortable doing PE online. I have a few students like that and I am able to encourage them in a kind of anonymous way; I think they are doing more than they ever would in a regular class.
Sometimes the communication is geared toward tracking down a student who has started the class but is not working in the class at all or is working too sporadically for successful completion in a somewhat timely manner. Ronda described what that looks like:

If I see that a student is struggling, I’ll try some reminder e-mails and encouragement e-mails, and if I’m not getting through to them that way, then I will actually try to go and weigh things out and say, “Look, this is your deadline; this is what you have left to do, so if you can go through and do these assignments this day then you’ll be right back on track.” I’ll try to do that and then I’ll contact the counselors or parents and say, “Okay, can you help me with this because they seem to be falling behind”, or, “Is there something that’s come up that I’m not aware of, something that I can do to help them and get them where they need to be?”

**Ronda’s educational theories and beliefs.** As I reflected in my journal notes, Ronda has many key responses that align with my own background knowledge, beliefs and experiences; however, she is not in a work place that refers directly to specific teaching and learning theories. Just like the other teacher participants in this study, Ronda did not specifically identify and name an educational theory that she teaches by, but when asked about differentiated and individualized learning options, she fully agreed that they do differentiate instruction to some extent in her organization. After probing further, I found that Carone Fitness does in fact offer differentiated instruction to their students through varied media presentation options within the course. Ronda does believe in providing differentiated learning opportunities for all students:

I do believe that some students obviously learn differently and are better with certain hands-on things and some are better with doing the quizzes and assignments. Our
curriculum is really very structured and laid out, and I don’t really change any of that or try to present it in a lot of different ways. Students can turn off the volume of the video presentation in the course lesson and read it or they can watch a power point presentation of the same content. They do get to choose what kind of activities they do for their fitness logs.

Ronda also addressed the differences among students and how the online course serves students well and she is able to meet the varying needs of students from all walks of life and all fitness levels:

Whether they’re the super athlete or not – I had an aspiring actress that took one of our classes; she couldn’t take regular classes, but she was super self-motivated. I’ve had kids with Asperger’s syndrome. So there’s a huge, varying degree among students and having all of those little life experiences I think is what’s helped a lot; so many diverse students and so fun.

Teaching strategies. Ronda believes her athletic experiences have been instrumental in shaping who she is as a teacher. She feels that she is able to be more effective in reaching students because of the communication strategies she learned as a ball player and as a coach. She has her own experiences with fitness and sports-related activities that help her understand what young people go through with their personal exercise efforts, and those experiences, along with being a mom, make her more empathetic as a teacher.

I think what helps me be effective is that I did play softball and other sports in college, so I have that going for me as far as being able to deal with a bunch of different people, and having references and things that I can go back to and say, “Okay, look, you
know what? I’m not a runner, but this is what I did to help me get my cardio in.” Or, “This is how I did strength training”, or, “I remember that this really helps for me”, or, “When I struggle...” I can give them personal experience that way and it may sound silly but I think being a mom has helped me be a better teacher. I think just learning how to juggle a bunch of different things but also being more compassionate toward a student that may be struggling because I am a mom and would hope that someone would be that way with my child.

Beliefs. Ronda believes strongly in and is passionate about ensuring that all students have a successful experience in PE and Health classes. She knows that some students are stronger in math and science, and some thrive in English and reading. She believes that fitness and wellness are areas of life that all students should enjoy:

Well, I was an athlete in high school and college, and for me, my favorite classes were sport-related. I loved being able to attend my PE class because I thrived there. As I got my Health Education teaching certificate and decided to be a teacher, I figured Health should be a class where everyone is able to succeed. Some people are really good at reading and English, and some people are really, really good at math, but everyone should be able to pass and have a good experience in Health class; but I can see how a lot of people will feel self-conscious and uncomfortable in a PE class, and I believe that everyone should have a good experience because it can be so individualized for each student. Health is different for everyone depending on what they can do.

She ascribes to the constructivist theory of teaching and learning as well. Ronda believes that students can learn by making meaning of content as it applies to their own life experiences, and
that they should have options for how they meet the course objectives according to their abilities and interests:

I believe that everyone should be able to have a good experience and I think the flexibility of online PE opens that up to everyone, not just the athlete, not just to the person who’s physically fit, but online you can open that up to everyone, whether it’s going for a walk for someone’s who’s overweight or someone who has some medical issue or the athlete that really wants to push himself. So if it’s maybe not like that in their high school PE class, that they can push themselves, or do things that are more challenging for them than going and walking around the field or jogging five laps.

So I love the fact that it can be so individualized and we can really push the student at whatever level they’re on, and open that up to everyone to have a good, successful experience which hopefully propels them into finding ways to have health and physical activity be a part of their daily lives going forward. If we can provide that good experience and that good base and foundation for them, then we’ve set that in motion to help them better their lives for who knows how long.

*Role differences.* Ronda explained that she does not have to teach content directly as an online PE instructor. While in the traditional PE setting she taught specific skills and health-related content and provided direct and guided instruction in physical education, but in the online class she is more like a facilitator.

I’m not spending a lot of time with the content. That is already done through the site. The school has provided that information for them to watch. So basically I am the one grading the paper, monitoring their progress and success, and moving them along and making sure they’re staying on track.
When asked if she ever has students who just do not understand the content or how to complete various assignments, she replied:

> No, no because I think they’ve done a really good job at writing it and making it very plain and understandable and very user-friendly. There have been times when I’ll call and say, “You know, I just want to check in and see how things are going. Do you understand it? Do you have questions with what’s going on?” Most of the time I get, “Nope, I got it, I’m doing fine.”

**Ronda enhances student learning.** Ronda shared that one of her strengths as an athlete, as a coach, and now as a teacher is that she knows how to encourage others and get the best out of people:

> I think one of my strengths as a player when I played softball and then one of my strengths as a coach was knowing how to get the best out of people, just from knowing a player. I needed to say, “Hey, you know what? You’re way better than this and I expect more from you”, and pushing their buttons that way. I had one player that in order to get her to do her best, I had to tell her that her hair looked nice. “You look really great today.” She would say, “Oh, thanks!” Then she would, you know, she thought if she looked well she would play well. That, I think, was my strength there, and now trying to find those connections with my students online to know, okay, this student is in this class because he’s struggling, or maybe a little bit of a harder exterior and how to push them, and then there are the kids who are in certain classes because they are overachievers and if you just feed them a little bit of humor they just take off.
When Ronda sees submissions that are not accurate, she will give the appropriate feedback and suggestions for improvement and ask students to resubmit for a better grade:

When students submit work that is inaccurate or incorrect, I will ask them to redo the assignment. I’ll say, “You know what? I think that we missed the point. You think that you can go back and redo these assignments?” Or I’ll try to give them an opportunity to correct the problem that maybe they misunderstood.

Occasionally Ronda has students who just do not have a strong interest in completing the class online. She has students that have not wanted to take or have not passed the PE class in the traditional setting, but who still will not give sufficient effort to complete the requirements online. When she works with a student who does not feel the class is truly worthwhile, Ronda knows how to address the student with kindness and firmness:

I have one student right now who is very sarcastic, and very much like, “I know all this stuff.” He actually flat out said, “I know all this stuff you’re trying to teach me.” So then you try to be nice and say, “Well then, you should do great in this course.” Sometimes you have to remind them, “Look, I cannot give you the points unless you answer the questions.” So you do have to sometimes step up and take a little bolder approach and let them know that they actually have to do the work or you can’t grade it.

One way that she enhances the students’ opportunities to learn and have success in her courses is to allow them to resubmit assignments for better grades:
I try to give them a second chance if something’s going wrong, and if they don’t take it, I’ll tell them, “If you don’t want to redo it that’s fine”, but then I’ll go ahead and grade it as is and get the grade submitted. For the most part, kids have done pretty well if I give them another chance to resubmit assignments.

Ronda utilizes a web conferencing tool occasionally to assist a student and provide a greater enhancement to the learning environment:

One thing I can do and may end up doing today with a student who is struggling a bit – I’ve talked to her counselor and she’s frustrated; she doesn’t quite get it – one tool we do have that seems to be helpful in those situations is GoToMeeting. I will get on with a student and help her navigate through the site so that they can understand a little bit more if they’re having difficulty. I can set up a meeting to show them a little bit more.

During the summer months Ronda offers weekly office hours through GoToMeeting; she posts the link to her virtual office with the times she will be there and students can then pop into her virtual office if they have questions or would like extra help with any assignment. This is also the place and time that Ronda provides orientations and virtual tours of the classes to new students, to assist them in navigating the course successfully.

**Physical activity.** Ronda shared that in most of their PE classes the students get to choose which activities they participate in for the fitness portion of the class. Most fitness coursework requirements involve health-related fitness activities, but there are some courses that call for skill-related activities. She explained:
In group sports, there are units on different sports where they have to try: “Do a chest pass; do a bounce pass; do a lay-up.” It’s where they do have certain skills within those sports; but in other sports and PE classes, they do choose the fitness activity. If you like to swim then you get your exercise through swimming. If you want to run, if you want to play basketball, if you want to mix it up, if you want to do weights for whatever portion of your workout then that’s great, as long as you’re meeting the requirements that we’ve set and are within the parameters, then awesome.

We had one student in the marching band and he would go out and do marching practice and he’d be out there marching for 40 minutes so I said, “Yes, sure. Count it.” He expressed concern that he wasn’t getting all of his fitness commitment done, and as I talked to him about why, he shared, “Well I have band practice and we’re out marching.” I said, “You are marching. That counts. You take your heart rate while there and kill two birds with one stone.” So, he got some of his workout in through marching band practice.

**Ronda’s perception of student learning outcomes.** Ronda conveyed that she’s seen all types of students have success in the online PE setting:

Even the credit recovery class, even though they have a little bit of a harder attitude, I love that they feel successful in something when they’ve completed it because for them, a lot of times I think that they haven’t had that great success and so when I’m able to work with them and they know that I’m going to be there to help them and work with them and they start doing it, I love being able to help them succeed at something.
Ronda believes the one-on-one attention she is able to give and the in depth instruction she provides whenever a student needs additional guidance contribute to the students’ success in their online PE courses. She agrees that skill instruction is not the primary focus of the courses she teaches, but that increased health-related fitness is the target goal for each student, and while there are students who don’t seem as successful moving through the content as others, she’s heard from many students at the conclusion of their online courses that they have achieved greater levels of fitness and greater knowledge about the importance of staying fit for life.

For the most part, most of them are pretty successful, but there are times when we have all kinds of procrastination. In certain classes that I have online, I definitely see that more than in others because I do have two courses that are credit recovery courses; there are kids that are probably in this for a reason like they were sick or something happened and they couldn’t finish it or they need to catch up their assignments. I see a lot more procrastination and a lot more pulling along and trying in those classes, where in my exercise science class they’re just like gung-ho and they’re right on top of it. In the Fitness Fundamentals, they’re a lot more proactive. So I think it depends on the class and if someone is lagging behind I try to pull them along and make contact as much as possible and do all that I can from across the country.

Ronda shared that some of her students expressed gratitude for the online PE option for more than just convenience’s sake:

I had one student who just cracks me up. The kid was awesome and I had a great time having him in my class this past summer. He basically said, “I’m taking this class because high school PE is a joke. If you’re not an athlete, if you’re not the coach’s
favorite, it’s pointless.” He was going on, and I thought, “They’re describing me; that’s what I got in high school”, and I just laughed that he was saying, “Those stupid athletes and those stupid PE teachers.” I’m thinking, you’re talking to one. I thought it was funny, but you know what? He did things; he got on his bike and rode and he would text me: “I just went for a bike ride so for my reward I’m going to get a job at Schuster.” He’s a great kid and we had a lot of fun throughout the course.

Ronda explained further that the student had some setbacks and sadness during the course with his dog dying, but he still found time to complete his fitness and written assignments and finished the course. Ronda feels that students overall learn to work on and improve their time management skills while in her online PE classes, as that has been one of the most prevalent comments in their feedback to her:

So many kids, in their feedback to me during their fitness logs, when asked to reflect on what was difficult or challenging about this week, respond with finding the time, finding the time to get it done; I’ve seen that trend over and over again, and sometimes I’ve responded, “Well, you’ve just found the key to fitness, being able to find the time and making it a priority. This is going to be an issue for you your whole life and so you’re learning early and that’s good.” It makes them aware, because how often in regular PE classes do we ask our students, “Hey, what was challenging about your week? What did you learn?”
The Fourth Case: Mary

**Introduction.** Mary lives in Lethbridge, in the province of Alberta, Canada, and teaches middle and high school physical education courses online for the Alberta Distance Learning Center. She is married and has two small children. Mary studied to become a physical educator in part because it was her favorite subject in school as she was growing up. She earned a Bachelor of Science degree in Exercise Science from the University of Lethbridge, a Bachelor of Education degree in Elementary Education from St. Francis Xavier University, and a Master of Education degree in Curriculum, Teaching and Learning from the University of Calgary.

Through the esteemed professor of distance teaching and learning in the Michigan area, I was introduced to an administrator at ADLC in September, 2012. This administrator was the lead teacher for all of the secondary PE programs at ADLC, and had recently moved to an administrative position. He communicated with Mary about participating in the study, and she agreed. Mary and her administrator submitted signed informed consent forms for the study. I spoke with the administrator in September to get background information about the school. He explained the courses and gave me authorization to access the PE courses in order to view them from a student’s perspective. Mary sent me her own background information through e-mail, and we began the first interview session in mid-October.

Mary teaches a course called Physical Education for Grade 10 (Phys Ed 10), which is strictly a print course; it is completed by the students virtually, but the work submitted is hard copy or electronic copy form. Mary also teaches Physical Education 20 (Phys Ed 20), which is online and print, and she has recently started teaching PE content online for grades 7, 8, and 9 with a few middle school students. In Canada, grades 7, 8 and 9 are considered junior high
school grades. Figure 4.8 shows a sample of an ADLC information page regarding the Phys Ed 10 course. Mary works out of one of the ADLC’s satellite offices that primarily serves students in the Southern Alberta region, but she has students from all over Alberta. She explained that there is another PE teacher who works with students from Edmonton. Mary also is responsible for teaching all international students and those from other provinces in Canada.

![ADLC Physical Education Department’s homepage](image)

**Figure 4.8.** ADLC Physical Education Department’s homepage.

**Mary’s pathway to online teaching.** Mary began her teaching career in the traditional school setting for six years, teaching elementary PE. When she and her family moved to another area, she gave up her teaching position. A friend of hers was working at the Alberta Distance Learning Center (ADLC), and let her know that ADLC was hiring teachers to grade student work. In Canada, grading is also referred to as marking. When she went in for an interview to mark for Career and Technology Studies (CTS) courses (i.e., photography, graphic design, culinary, forestry, mechanics, computer programming), Mary happened to meet the physical education supervisor, and her CTS job eventually led to a position teaching physical education.
with ADLC. Her job has grown since the beginning, when she began as a marker. She not only made the move from a traditional brick and mortar school to the online setting, she moved from elementary to secondary PE at the same time. She spoke of her previous experience in distance, or distributed, learning:

I do have a Master’s degree in Curriculum Teaching and Learning. A lot of my focus was distributed learning, so I guess I was kind of preparing myself for it through the master’s degree, but I didn’t even know it existed at the time, really.

Recently Mary has developed recreation leadership courses within the CTS department at ADLC. She has created a coaching course and a course in sports nutrition. ADLC also offers sports management and a personal fitness certification course. Students are required to complete 10 CTS credits to graduate from high school in Canada. Mary is currently working on the Phys Ed 30 curriculum development. Phys Ed 10 is a high school graduation requirement, and Phys Ed 20 and 30 are electives for those students who want to push themselves to a greater level physically and learn more about health and wellness.

**Mary’s daily instructional practices.** Mary has a more traditional, full-time work schedule, and she goes to an office to work five days a week. Mary teaches a couple of different distributed (distance) learning courses for secondary students.

**Managerial tasks.** Most of Mary’s daily work tasks involve grading and communicating with students and parents, but she has other, managerial tasks to address as well. She receives new students daily because their program does not follow a synchronous calendar; students can
start a course at any time. Among other responsibilities, when a student registers for a course, Mary conducts an initial orientation:

Like this morning, if I come in with physical education students I call them and I send a follow up e-mail to them. We set up an orientation; in my Phys Ed program, I do have an orientation with each of my students. Either they’ll go into one of the offices and do it via computer, or if they’re around here, then I’ll meet with them or we do it over the phone and that takes about 20 to 40 minutes, depending on how many questions they have.

The orientation serves the purpose of introducing the students and parents to the course and ensures that each stakeholder involved is clear about the expectations and responsibilities to be met for successful course completion. Parents and guardians do play a role in the supervision of physical activity for their student. This is a time for Mary to confirm all contact information for students and parents, and to get some background information on the student’s fitness activity history and interests.

Then I spend time just answering and fielding student phone calls during the day, and answering e-mails. I’m doing development as well. Now I’m working on the Phys Ed 30 course, so when I have time I’m working on that throughout my day and just following up with students. I have four binders sitting on my desk with all my students in them. I just sift through and call students to see where they are in the course if I haven’t gotten anything from them in a while; I will check to see what’s happening. Chasing down assignments, all of that stuff; so it’s a lot of administrative tasks.
At the time of the first interview with Mary, she had about 40 students that registered but had not started the course yet. She had completed the welcome communication and orientation meetings with all students and parents, but was in the middle of following up with them to receive the necessary forms and document to get them started fully in the course. There is a safety guidelines document that needs to be signed by the student and parent, for example. Students are also required to lay out their plan of action for meeting and completing all fitness requirements.

While they have flexibility in choosing their specific fitness activities, there are five different domains of activity that students must participate in: 1) alternative environments or outdoor-based activities, 2) dance activities, 3) flexibility core training, 4) games/sports, and 5) individual fitness activities. Mary’s administrator shared that in the Phys Ed 10 course, students need to complete a total of 80 activity hours, with a minimum of seven and a maximum of 30 hours from any one domain. He further explained:

In addition to the initial orientation, we also have a video copy of the orientation available which students may go back and view and get some additional insights should they want more information following that orientation. Then there are the startup documents. Those come to us. Upon receipt of those, we follow up and have another communication with the student. Then moving forward, the communication for the most part, unless we see need or the parents see need, is primarily between our teacher and student. So we go through and review those start up forms, their course plans. There’s a goal setting component to that initial start-up documentation. Then from there, once all those are completed to our standards, we provide approval for the student to begin logging hours and begin the course activity.
Mary has a lot of work responsibilities up front to get students started in the courses successfully. She then tracks and supervises their progress through the course, and grades student submissions in some of her classes.

**Grading.** In the Phys Ed 20 course, Mary has others marking (grading) for her. The markers receive student work, read it, assess it, and give grades, and they then input those grades into the administrative database online. In the Phys Ed 20 course, Mary supervises the students’ progress through the course, facilitates the students’ movement through the content, but the grading and tracking is assigned to a marker. Markers are certified teachers, perhaps retired or those who would like to work from home part time for a season.

As stated previously, Mary meets with each student and the parents or guardians to assist the students in planning and building their program; she helps the students set goals for the course. Once that is done, she hands the students over to one of two markers, so to speak, who grade her students’ assignments. The markers have access to the ADLC school database and they input grades there for Mary to monitor and for students to see.

I still follow up with students. Once the students have handed in that initial paperwork and we’ve gone through the orientation stuff, especially in the Phys Ed 20 – they’re my athletes and they’re going to get it done. It’s just getting that initial stuff done to start before I hand it over to the markers.

In the Phys Ed 10 course, Mary does do all the grading of student work, along with the teaching and all managerial tasks. She shared that she spends an average of two to three hours a day grading student work. Figure 4.9 shows a snapshot of the student log in page for their ADLC
course grades; the students can log into the site to view grades that have been posted on their work.

It just depends. I mean we have our busy times during the month. At the beginning of the month, all the students’ monthly logs are coming in. For Phys Ed 10, if you’re getting close to the end of a semester, well then all of the sudden students are sending in five assignment books each day, right. So it just depends. Like today I think I have graded two pieces.

While she may not grade in the Phys Ed 20 course, she does grade student work in the Phys Ed 10 course, and is responsible for tracking everything each student is doing in all her courses. At the beginning of each month, the students set and submit goals; they do that by consulting with Mary, the lead teacher. There is a mid-point in the month where students reflect on their goal-setting, and at the end of each month, the students submit a detailed reflection with an analysis of their goals and an explanation of whether or not they’ve been successful at meeting their goals. All of the consulting and communicating with her students are forms of grading for Mary. The activity supervisors who observe students completing fitness work provide feedback to Mary about how the student progressed through the activity. Mary reads the rubric grades and evaluations that come in from the physical activity supervisors.
Communication. There are a couple of ways Mary communicates when giving feedback on student work, with e-mail messages and phone calls being the most common:

It just depends how they submit it. We have a drop box in the online courses. Some students submit [documents] through the drop box and then I leave a message in the drop box. Other students will just e-mail me everything so then I’ll e-mail them back. If I get a paper copy, like if they printed it off and sent it to me, then I get it here [at work]. If everything is good, I’ll just write a note of great feedback on the assignment and send it back to them. If there are issues, I will call them with most things. I will call them directly or call the facilitator. Mostly, I try to call up the students.

Mary shared that all the brick-and-mortar secondary schools provide a facilitator who assists students in their online courses. The facilitator will bring students into his or her office
and will initiate and supervise the phone meetings between students and their online teachers. The facilitator will also assist students as needed in their effort to complete and submit assignments. The facilitator is a contact person for Mary when she is not successful communicating with a student or parent. A school counselor or teacher may take on the additional job of an online course facilitator.

There are times when a video conference or a Skype communication is beneficial, and she also uses Facebook to communicate with students and parents as needed.

**Mary’s educational theories.** Mary expressed a strong belief in the theory of differentiated instruction, a component of the constructivist teaching and learning theory (Tomlinson, 2000). She shared that individualized instruction is something she strives for and works to provide daily. Mary fundamentally believes in differentiating her teaching to meet the varying needs of a diverse student population. She indicated that in this online environment, individual, differentiated instruction is essential:

I had one student at the beginning of September, he didn’t continue with the program, but he’s going through cancer treatment. So obviously we’re making a lot of exceptions and changes to his course based on that. Another student has some motor control issues so his program is going to be different also. We have a lot of students that have come from different religious backgrounds where their religion doesn’t allow them to stay in the dance unit so it’s submitting something different or taking that piece out of the program. I probably have a dozen students right now that are in a treatment center. So for them, the volunteer [community service] component of Phys Ed 20 is not an option, and we work around that.
Mary confirmed that the courses are very much student-directed, which is another component of the constructivist learning theory (Azzarito & Ennis, 2003). She is the primary facilitator and guide as the students move through the content, and she recognizes that students’ learning styles are not all the same. She stated:

It’s very much student-directed. I facilitate it. I help to make sure everything is in order, but I’m not there teaching them. It’s in their hands to make sure they get the [physical activity] hours done and completed. In our Phys Ed 10 program, they have two projects for every unit. We give them the option of how they want to present that project, whether it is by an essay or a power point or a collage.

There are some students who struggle to write down comprehensive reflections of their fitness efforts on their workout monthly logs, and Mary allows those students to verbally describe their thoughts and reflections and outcomes to their local facilitator without having to struggle with the writing component. This is an example of differentiating the delivery method for the students (Tomlinson, 2000).

**Mary enhances student learning.** Mary works to assist students in creating and scheduling their own personal fitness regimen that they’ll follow during the course. She has to be knowledgeable about what types of fitness activities and sports are available in many communities so she can provide that information and those options to students and parents. She explained:
A lot of it comes down to understanding what’s available in communities for students in order to access resources or facilities because you do get a lot of those reluctant students. So you can say, “Hey, you know what? I know there’s this facility, they offer this, this and this. You can get all your supervised hours this way. It’s inexpensive.” A big piece of it is making sure, before they leave you, the students are equipped with how I’m going to get this done rather than have them feel overwhelmed and think, “Well, I have to do so much of that, so much of this, and so much of this. How am I going to do this?” If I give them some facilities they can actually work with, that helps. A lot of it is just connecting with the students, especially those reluctant ones. You have to find common ground with them that doesn’t have anything to do with physical education because they’re not interested in it anyway. So if you can make a connection elsewhere that helps a lot. With your athletes, you can make connections easily, but with those reluctant ones, they have to do it to graduate and so it’s a struggle.

Sometimes students are not practical when it comes to determining how they will meet the various fitness requirements, and Mary is ready and able to suggest alternatives for meeting the activity goals for the course:

I help them. I mean a lot of them will come up with a plan or an idea and I help to make sure they have the resources to make it happen. I’ll question it. They’ll put down 20 hours of just snowboarding yet they live five hours from the nearest ski hill! Obviously, how are you going to do that unless your family is going on a ski trip? So, making sure that their activities are realistic and attainable.
Mary attempts to get to know her students individually, which can help to enhance the learning experience for the students in her class. Mary went on to explain that in the traditional classroom teachers may have 30 or more students and may not be dealing with them one-on-one and might not be aware of personal information about the students:

When you get in the traditional classroom you get 30 kids in front of you. You’re not dealing with them one-on-one, whereas this way when you are talking with them you are dealing primarily with them one-on-one or maybe mom or dad is there, but it’s not a group setting. And you know their stories, right? Like mom will tell you, “Well, he’s got major anxiety about this”, or whatever the story is.

Mary also makes an effort to meet her students F2F whenever possible, and she participates in the fitness activities with her students when she can. She explained:

We have a home schooling high school within our school board. They’re called Vista Virtual. They are a complete distance learning high school. They do a lot of different kinds of activities with the students so I promote those with my Phys Ed students. I even go on them. We went water-rafting, which was part science, part Phys Ed. I promoted that to Phys Ed 10 students and the Phys Ed 20 students saying, “This is the way to earn hours. I’ll be there; I can sign off on it.” They can get hours that way. So working with Vista Virtual, we make sure there are lots of opportunities. It’s just that trying to get the students involved in those can sometimes be tricky.

When asked to expound, Mary indicated that the students may not live close enough to attend the activity, or students may have some social anxiety issues; not all students are excited about participating in a group fitness event.
Mary’s perception of student learning outcomes. Mary enjoys working with the students she teaches; she sees a variety of students that experience different levels of success in the classes:

So I mean it’s interesting. On my Phys Ed 20, it’s quite enjoyable to teach. I have a lot of really good, high-end athletes that you get excited about it and you’re excited to follow them and see what they’re doing. A lot of them are provincial level athletes [equivalent of state champion/high performance athlete], so it’s fun to watch as they go through their training and to hear how they do in their competitions and stuff like that. It’s very enjoyable. Of course, the Phys Ed 10 is required to graduate in Alberta, so I get a mixture of students. I get students that are athletes and just don’t have time to do it in school; I get a lot of students, too, that have attempted it twice, even three times in school and never passed it. So I’m kind of their last resort.

When I asked what her perceptions were with regard to student learning outcomes in online PE courses, Mary shared the following:

I do believe the best place for students to do a Phys Ed course is probably in a Phys Ed classroom; I mean with a teacher face-to-face, but obviously there are circumstances where that is just not possible. So, I think we do make sure, with the supervisor declarations and follow-ups to supervising staff that it [virtually] is a valid way to teach Phys Ed. We ensure that students are meeting outcomes through these courses. For some students, it’s great – students that are really busy, I mean, not to say that all students aren’t busy, but our athletes and our international students and our
students who are studying music or studying whatever and a great portion of their day is spent in the studio, then this is a good alternative for them.

In order to ensure successful student learning outcomes, ADLC’s physical education program provides accredited, certified, and often nationally-trained coaches to supervise students’ physical activities. There are lifeguards, fitness instructors and other certified coaches who are registered as qualified supervisors for ADLC students. Mary’s administrator explained that in order to offset the cost of participating in structured, community activities, ADLC provides $100.00 per class per student for course-related expenses, to purchase a gym membership or to help them sign up for a dance class or an aquatics program. The school does this in an effort to remove any barrier to student success in the PE courses.

While students in Mary’s courses complete fitness activities and related written assignments throughout the courses, the Phys Ed 10 students must complete a mandatory CPR training and certification. Her administrator shared:

The sixth and final piece that we have in our course, which has been made mandatory in this province for Phys Ed 10, is CPR, healthy heart training certification. What we do is travel around the province and provide those classes absolutely free of charge to our students through our trained supervisors. There is a list of dates provided to families and they identify which one is going to be a fit and they register. That is the sixth and final component of the course.
Conclusion

The growing demand for online, virtual education options for K-12 students leads us to the need for examining best practices for online PE teaching. These four secondary online PE teachers have shared their experiences, practices and perceptions about their teaching and student learning outcomes in virtual PE classes. In this chapter, I described the online PE teachers who took part in the study, with an introduction of each and information about their educational background. I described the pathway that led each teacher to the online venue. Following that, I explained their knowledge and practice of educational theories and presented information about how each teacher works to enhance and positively impact student learning. I provided information that summed up what the teachers have witnessed in the form of student learning outcomes within their online PE classes.

All four teachers have degrees in education and came to the online teaching environment with previous experience in a traditional physical education setting. Each teacher expressed a desire to have a teaching job that was flexible because of family interests and responsibilities. While there are increasing opportunities for full time online teaching in physical education and other subject areas at the secondary level, these four teachers have been teaching in a part time capacity. In order to enhance student learning outcomes, all of the teachers interviewed have utilized non-traditional methods of communication and instruction with their online students, from text messages and e-mails to virtual webinar sessions. The participants implicitly shared that they generally frame their online PE teaching around constructivist theories of education practice, and they each gave examples of students’ improved health habits and overall course completion successes within the online PE venue due to individualized instructional practices.
The premise that online physical education courses are viable, effective options for secondary level students in North America is supported in the perceptions and practices of these teachers.

Found in this chapter are phenomenological descriptions of four online PE teachers and their pathway to online instruction, their daily instructional practices, the fundamental beliefs that frame their teaching practices, details about how they enhance student learning opportunities, and their perceptions about student learning outcomes overall in the online PE setting. In the next chapter, I will present cross-case analyses of various themes that have been presented within the individual cases of each teacher.
Chapter Five: Analysis, Interpretations, and Recommendations

To reiterate, the purpose of this study was to describe the practices, experiences and perspectives of online secondary PE teachers with regard to online PE teaching. The research questions that guided the study were the following:

1. What are the daily instructional practices of participating online high school PE teachers?

2. What educational theories (implicit or explicit) guide these teachers’ online teaching of PE?

3. How do these online PE teachers enhance student learning, physical activity participation, and successful course completion?

4. What student outcomes, in terms of learning and attitudes toward learning, do these teachers perceive or assess as a result of their practices and perspectives about teaching PE online?

During the past three decades, obesity in America has been steadily on the rise. Today, a third of Americans are overweight, a third are obese, and approximately 6% of Americans are considered extremely obese, leaving less than one-third of the population in the United States as being at a healthy weight (Amen, 2013). In neighboring Canada, two out of three adult males are considered overweight, and one in four adults are classified as obese (Sassi, 2010). With such a prevalent problem, the overarching concern and purpose of physical education in North America can be stated as the improved health and wellness and prevention of disease for all young people.
With that goal in mind, there is seemingly a disconnect between physical education courses (and teachers) and the students they’re meant to reach. As virtual school attendance in North America accelerates by approximately 30% per year, the increasingly popular online PE courses for secondary students are focusing on the critical content of health, wellness, and fitness-for-life for young people (Beem, 2010; iNACOL, 2010; Young, 2010). Online PE teachers in their virtual setting cannot offer students much in the way of skill-related sport instruction, but online teachers are able to provide one-on-one assistance as the students set up their personal fitness plans and move through the rich, health-related content. As a result, online PE teachers are often filling the role of individual personal fitness instructors for their students. In the case of the Alberta Distance Learning Centre, the online PE teachers do occasionally get together with their students to lead out in the students’ participation in a variety of fitness and sport activities. However, most of those outings are not in team sport settings. The other online PE teachers in this study do not interact with their students F2F, but communicate regularly to provide individualized instruction.

The need for more research about effective online PE teaching practices and learning opportunities for students drove this study. Research that informs stakeholders of the teaching structure and best practices within an online physical education teaching and learning environment, particularly at the secondary level, is in demand (Barbour & Reeves, 2009; Ferdig et al., 2009). While this study presents data from just four secondary online PE teachers, it can be considered significant, as teaching PE online is a phenomenon that is of general public interest due to the numerous education and health issues abounding in society today (Yin, 2003). The underlying issue of how to effectively address those education and health concerns can be viewed with an eye toward the ever-growing distance learning options available today.
According to the American Educational Research Association (2013), academic researchers in education are seeking further information on technology in education, on how to serve students equitably, how students learn most effectively, and the specific viability of online teaching and learning, among other topics. Many issues and topics in K-12 education can be addressed through the lens of online teaching and learning options. This study attempted to describe online settings within the PE field to set the stage for additional research. Although this case study represents a small sample of online PE teachers, the intent was to describe a few teachers’ experiences, practices, and perceptions about online PE teaching and learning at the secondary level for those who are not familiar with the phenomenon.

The theoretical framework of constructivism has informed the structure of this study. Constructivism as a framework for teaching and learning practices has been a guide throughout the data collection methods and analysis process. Constructivism as pedagogy is not precise and has multiple facets and component parts that vary among teaching and learning environments (Tomlinson, 2000). However, there are many signs of constructivism in these teachers’ instructional practices and in their perceptions about and experiences with student learning. Constructivist theory states that experiences within the classroom ought to be authentic and should provide students with assignments and tasks that mirror real life experiences (Azzarito & Ennis, 2003; Murphy, 1997). I have posited that the teachers from this study do practice constructivist teaching and learning theories as they provide individualized, differentiated instruction; statements from the participants and the choices for physical activity support that premise. My own background knowledge and experience in the online secondary PE setting supports the framing of optimal distance teaching practices around constructivist theories of education. The online courses themselves are set up in the framework of constructivism.
In chapter four, data were presented in the order of the broader research questions and theoretical propositions that guided the case study (Yin, 2003). The categories of data, based on the research questions, interview protocol, and theoretical orientation provided a general structure to the presentation of information collected throughout the study. The topical themes present in the data collection were shaped by my reliance on the theoretical propositions and general, guiding questions initially outlined at the beginning of the study related to the following: daily instructional practices (largely including individualized grading and communication), educational theories, enhanced student learning, and student learning outcomes. After examining the interview data and my reflective journal notes during the analysis phase, I was able to identify four emergent themes relevant to teaching in the online secondary PE setting:

- Similar pathways to online PE teaching
- Individualized instruction provided to students
- Teacher-guided student choice
- Teacher-facilitated student success

An additional, lesser theme became apparent during the data collection and analysis, and that was a need for professional development for in-service PE teachers related to online instruction. Because there were not sufficient data to describe this theme fully, I will address professional development as part of the implications of this study. See Table 5.1 for a summary of the four predominant themes and the similarities related to those themes across the cases. These main themes will be addressed further within the cross-case analysis forthcoming.
Cross-Case Analysis

Chapter four describes each participant as an individual case largely within the structure and boundaries of the broad research questions. In an effort to describe the overall phenomenon, or quintain, as researcher and author Robert Stake calls it (2006), the cross-case analysis blends the cases and encompasses the common themes across cases that emerged during data analysis (Table 5.1). As Stake recommended, the data collection and reporting of each individual case was done separately, with the same semi-structured research questions and interview protocol asked of each participant. The common themes that emerged will be presented next.

Table 5.1
Summary of four thematic similarities across cases

<table>
<thead>
<tr>
<th>Common Theme</th>
<th>Similarities across Cases: Theme Details</th>
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| 1. Similar pathways to online PE teaching | • Flexibility of hours, part time work  
|                                      | • Remote location  
|                                      | • Raising children and being close to family |
| 2. Individualized instruction provided to students | • Personalized communication and instruction  
|                                      | • One-on-one communication and feedback  
|                                      | • Differentiated instruction depending on students’ needs and learning styles  
|                                      | • Direct phone calls and e-mails to student and parents |
| 3. Teacher-guided student choice | • Students have choice in how to meet PA requirements  
|                                      | • Focus on health-related fitness components  
|                                      | • Flexibility in when to complete coursework and PA assignments  
|                                      | • Working out in comfort of own environment |
| 4. Teacher-facilitated student success | • Courses packed with essential content about health and wellness topics  
|                                      | • Students often become advocates for health and wellness within their homes and with family and friends  
|                                      | • Experiential learning in applicable environment yields better chance for long-term PA |
**Theme 1: Similar pathways to online PE teaching.** Each of the four teacher participants in the study received bachelor’s degrees in education fields related to physical education and health. In addition to their traditional routes to degree and certification, they all began teaching in a brick-and-mortar school – two in the elementary PE setting and two in the secondary PE setting. One participant worked as a collegiate softball coach and taught as a substitute, but all began teaching right out of college. The idea of teaching PE online or teaching online at all was not something the participants thought of during their teacher preparation or in their early careers.

The pathway that a teacher typically follows to arrive at an online, work-from-home secondary teaching position was not something I initially thought of as significant, but after seeing the data collected through the interview sessions, it seemed worth addressing, albeit briefly. As an inclusion in the data analysis and summary, it is appropriate to place this background information about the participants’ pathway to online teaching at the beginning of the analysis.

While Allison has had a full career in the traditional high school PE setting coaching and teaching, she shared her thoughts that the current online teaching and learning options were interesting. Her pathway included a request from administration to teach and facilitate a course online; otherwise, she may not have pursued it on her own. She responded positively to the request and felt it was intriguing to be able to teach from anywhere, even while camping, as long as she had access to the course online. Allison has grown as an online PE teacher as her class size has grown each year. Allison still enjoys the flexibility of teaching online and intends to continue in the part time job teaching HOPE online for the school district. She actually has moved to another state in the U.S., but will keep her current state teaching license.
Like many teachers who become interested in online teaching, Lisa, Ronda, and Mary heard about the online PE teaching opportunity through a friend. Even though K-12 distance education is growing in North America and globally, five to eight years ago it would not have been a surprise to find public school teachers who were unaware of any online options for their students. These three teachers did not transition directly from a full time, traditional PE position to the part time online PE job. They were not currently working when they sought out their part time positions.

One observation noted in my own reflective journal was that none of the teachers mentioned the desire to separate themselves from student discipline issues as a reason for pursuing teaching in the online venue. None of the four participants said they were glad to be away from the traditional classroom setting. They each expressed an appreciation for the online setting as a viable option for many students for various reasons, and as they grew in experience with online PE teaching, their understanding of the value they provide has increased.

**Flexibility of hours.** Three of the four teachers sought a job teaching part time; that was their primary goal. They all expressed satisfaction with the flexible schedule that allowed them to work when it was best for them. The ability to weave the work into a day that includes a variety of commitments made online teaching an attractive opportunity. Three of the four teachers would not have been teaching at all if it weren’t for the online, part time, flexible schedule they were given in teaching secondary PE courses virtually. For example, Ronda explained that she wouldn’t be able to teach in a regular setting right now because she has young children at home. The fourth teacher was able to add the part time work to her traditional, full time secondary PE job, with the flexibility to fulfill her online responsibilities throughout the weekdays, evenings, and weekends.
**Remote work location.** Each of the teachers described a desire to teach remotely as a primary reason for pursuing a teaching job within the physical education field. Being able to work from home was ideal, according to the study participants. Not only was a part time, flexible teaching schedule important to the teachers, but working from home was a significant benefit for three of the four participants because of their commitment to be at home while raising their children. The fourth teacher, Allison, has a grandson she helps care for, and she appreciated being able to work remotely as well. As previously stated, Allison intended to retire from full time teaching and continue to teach part time for the school district from another state.

**Children and family.** All four participants expressed a desire to teach while still being able to take care of their children and/or families. Three of the participants in the study have young children, and they liked the idea that they were able to stay plugged into teaching physical education while being physically close to their children and spouses. In fact, Lisa, Ronda and Mary shared that they would not be able to work right now in their lives unless in an online capacity because of their firm commitment to being predominantly at home while raising their children. Figure 5.1 graphically displays each participant’s family make-up. Mary gave birth to her second child at the conclusion of the data collection phase of this study.
Figure 5.1. Graphic organizer of the participants and their families, with children’s age ranges

**Theme 2: Individualized instruction provided to students.** The daily instructional practices of these four online PE teachers have clearly been student-centered with individualized instruction almost exclusively provided. Individualized instruction is one of the key benefits to the online teaching and learning environment for K-12 teachers and students alike (Cavanaugh & Blomeyer, 2007). Stakeholders in K-12 education know that one size does not fit all when it comes to learning. Teachers today are called to address individual needs in all classrooms no matter the content area or topic. In a traditional secondary level PE class, teachers may not have the means or time to focus on sufficient individual instruction, but the online PE class certainly lends itself to that opportunity. A teacher in an online PE class uses one-on-one instruction as a primary means of communication for each student due to the nature of the class setting. There are times when a group tutorial or instructional session is provided by the teachers through a web meeting tool, but primarily the teachers communicate with students individually.
The participants in this study described how the online courses they teach are designed to meet the individual learning styles of students and how they themselves provide individual instruction to students through non-traditional means of communication and instruction. Allison shared stories about students who have called for additional instruction about course assignments when they didn’t understand something, and after the call, the students felt confident about completing the assignments. “Students just need clarification,” Allison explained, “and then they see that the tasks are doable.”

Telephone and e-mail communications are best for providing guidance and instruction, the teachers all confirmed. Ronda has had an easier time reaching students and parents by phone on Saturdays for quick communications and updates. Lisa, like the other teacher participants, shared that when she realizes a student does not comprehend some of the concepts or is not submitting work in the pre-established timeframe, she starts with an e-mail communication and moves to the phone for contact if e-mail was not successful in reaching the student and parent or guardian. As Mary described, “If an assignment isn’t handed in correctly or if I’m waiting on something from students to get them through the course, I send out reminders; I can call them or e-mail them and touch base to see where they are with that assignment.”

Researchers within the field of education have attempted to identify effective direct and indirect instructional strategies. Studies have shown that both direct and indirect instruction about specific content yield positive student learning outcomes. Although online PE teachers do not typically provide direct skill instruction to their students, the teachers in this study utilize both direct and indirect instructional strategies to present the content to students. According to Rink (2010), teachers who implement direct instruction provide clear, task-oriented academic goals for their students, give clear instructions and provide materials that help students meet the
stated goals. Direct instruction includes prompt feedback on academic work. The participants in this study teach in online PE courses that are designed to effectively direct students through the rich content. These teachers provide individual instruction to students in a one-on-one fashion and act as facilitators for students as they meet their learning goals. The Carone Fitness virtual PE courses examined in this study have a video library resource with video clips that directly describe and demonstrate movement patterns for various resistance exercises and stretches.

Rink has described instructional components of physical educators’ direct instruction as including the following: 1) providing clear descriptions and demonstrations of what the student is to do, 2) assisting students in understanding content and helping them identify structured tasks that will assist in student mastery of content, 3) holding students accountable for meeting task goals and providing specific feedback, and 4) evaluating students on their work and what they have learned (Rink, 2010). The teachers in this study have demonstrated through the interview data that by nature of the online course design and their own practices, they do provide direct and indirect instruction to the students with whom they work.

**Personalized instruction and feedback.** Each of the participants gave examples of how they have been able to provide personalized instruction and feedback in the online venue. Allison has utilized Elluminate, the virtual office tool for live tutorial sessions. She also posts new messages on the course home page regularly to assist students in their progress through the course. Lisa and Ronda use GotoMeeting, another web resource, for synchronous meetings and tutorials to assist students as they move through the courses. Ronda has had success getting students on track with their fitness work by sharing her own personal experiences about what type of activity works for her and has proven successful for her in the past. She has compassion for the students and that comes out in her instruction and feedback. Allison provides personal,
specific written feedback on everything she receives from students. For students who are not typically very physically active, she is able to suggest fitness activities that will fit for their lifestyle; for those students who are already very active and have no trouble getting in the fitness requirement, she focuses on nutrition and other health-related components of the course to personalize her communication.

Ronda felt that feedback to students should not just be general, but specific, whether referencing what was correct about a submission or what needed improvement. In contrast, I reflected on the assignment comments I’ve seen on occasion in the online HOPE class; the feedback is frequent but sometimes general; it is specific to the particular assignment submitted by the student, but may be lacking in personalization for the student. Figure 5.2 shows an example of positive feedback to an FLVS student; the online PE teacher addressed what the student did correctly according to the assignment rubric, but the comments could be even more helpful by including content-specific feedback related specifically to the student’s project topic. This example shows feedback that could have been to any student who followed the directions and grading rubric and submitted all that was requested for the assignment. Therefore, Ronda’s comment that written feedback can benefit the student more if it is specific appears to be worthwhile. All four participants provided statements to that effect. The example in Figure 5.2 shows general, positive feedback for the purpose of contextual reference, but it should be noted that FLVS HOPE teachers do often provide constructive, specific feedback to students about their work (Williams, 2010). Katie Carone provided an example of constructive, specific feedback:

“I noticed that you’re doing a lot of running but it doesn’t look like you are stretching your hamstrings and quadriceps and calf muscles. Those are the muscles that
are really being targeted during these exercises and you need to make sure you’re stretching so that you don’t have injuries.”

**One-on-one communication.** According to the participants’ comments and my observations in the HOPE course, students are free to call their online PE teacher when they have questions about how to complete written and physical activity assignments. The teachers shared that they receive calls, text messages, and e-mails from students daily. Each teacher in this study explained a goal they have in the online setting to respond to e-mails and return calls within 24 hours. Due to the nature of the online, virtual setting, they believe that time frame is essential, and so do virtual school administrators (iNACOL, 2010).

<table>
<thead>
<tr>
<th>Title</th>
<th>Consumer Fitness: Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details</td>
<td>Submit your consumer fitness project following the instructions in the lesson.</td>
</tr>
<tr>
<td>Instructor Comments</td>
<td>Hey Shelby, Your Consumer Fitness Project is outstanding! The purpose, features and target audience of the product are all clearly stated. You’ve exposed a good understanding of advertising techniques utilizing correct business letter format. Keep up the hard work.</td>
</tr>
<tr>
<td>Date</td>
<td></td>
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</tbody>
</table>

*Figure 5.2. Feedback to student on online project submission (2013)*

In my reflective journal, I noted that there are professionals in educational settings who do not have guidelines set by their administrators or set for themselves about returning e-mails or phone calls within a suitable time frame. As a former teacher in a traditional setting and as a parent of a student in a traditional setting, I myself have waited longer than I thought was optimal for an e-mail response to a question or request directed to a teacher. One teacher in a traditional school setting wrote in her note to parents at the start of the 2013-2014 school year, “I
encourage you to contact me should you have any questions or concerns. You can send in a note or write an e-mail and I will try my best to ensure a speedy response.’ That type of comment would be unacceptable in the online school environment. A positive aspect of the online setting for many students and parents is that these teachers do communicate and answer questions promptly. The online setting would not be as successful otherwise (iNACOL, 2010, Young, 2007).

The one-on-one communication between a student and the teacher is what makes the online PE course so attractive to many students. They come to know that their online teachers are available as needed, and they can ask questions in private, via text, e-mail or phone, and can complete the physical tasks on their own or with friends and family, in the comfort of their own environment. If the student does not perform something correctly and it shows in a fitness log, for example, the teacher can address the correct task with the student without embarrassing him in front of his peers. Studies have shown that students perform better with individualized instruction than with group instruction (NEA).

Students taking PE courses through Alberta Distance Learning Centre speak with their teacher a minimum of once a month. The ADLC administrator explained that at the beginning of each month, students set personal fitness goals in consultation with their lead teacher, Mary. They communicate mid-way through the month as they reflect on the goal briefly. At the end of the month, the student and teacher communicate again, either on the phone or through e-mail, for a reflection and analysis of the goals and whether they were met or not, and what obstacles may have gotten in the way.

*Differentiated instructional and learning options.* Allison shared a story about a student who had a heart condition. Allison was able to suggest a workout plan that was low-impact for
the young student because she would become out of breath after just a few minutes of walking. Allison provided options for this student that differed from others’ fitness activity requirements, which is the essence of differentiated instruction. The teachers are able to guide students in choosing and completing tasks that are relevant and applicable to them. Allison described a time when she modified the assignment submission schedule for a student who had her impacted wisdom teeth surgically removed; that student needed additional time to complete the fitness and written work. Another student of Allison’s lost a parent, and during a six-week period, Allison stayed in touch with the girl but did not ask for work to be submitted during that difficult time. While Allison knows there are similar situations with students in the traditional class setting, she believes the online setting provides more flexibility for the students with special needs to complete the work as they are able on their schedule.

Ronda had an aspiring actress in her class who was highly self-motivated when it came to completing the coursework. While this student was not athletically inclined, according to Ronda, she was a diligent worker who moved through the content at a faster pace than many other students. Mary has had students with cancer and others in various types of treatment facilities in her online classes. Those students were able to successfully complete the online PE courses due to the flexible nature of the online setting.

Students in the online PE courses have an assignment to complete initially in which they are asked to collect baseline fitness scores. This information aids the teachers in knowing approximately where each student is physically and helps the teachers assist students in creating their own health and skill-related fitness goals related to the course assignments.
Theme 3: Teacher-guided student choice. According to the four teachers, students have identified multiple benefits of taking a PE course online, but the primary benefit to them is the choice they have with various components in the class. Traditional PE class activities are typically designed by the teacher and may not suit all students equally. In the online PE class, students are able to select the fitness activity they prefer, the amount of health and skill-related activities they do, and can choose the best time for completing the written and physical tasks; all of this is done in the comfort of the environment of their choosing.

Physical fitness activity choice. More than any other topic, the participants in the study unanimously shared stories of students responding positively to the choices they had for fitness activities. According to these teachers, students enjoy being able to select the fitness activities that suit them best in meeting the course physical activity requirements. Lisa, Ronda and Allison have had students take the course online because they failed it in the traditional setting by not dressing out and participating in the physical activities of the class. In the online setting, students can choose the activities that are most comfortable for them; often the choices are individual fitness activities. Students are able to receive credit for the fitness requirement with activities like playing a Wii Fit Tennis game with family at home, swimming, football or softball practice, and working out at the local YMCA.

While Mary’s students have choices in which activities they participate in, they do have a few guidelines to follow in their selections. Mary’s administrator explained:

Students in their Phys Ed courses with us have some real flexibility, unlike more traditional environments where we have units of badminton and volleyball, basketball and track, and ice in alternate environments. We have five different domains that we need students to participate in but within those specific domains, they have flexibility to
the specific activity. So for us, the five different domains, number one would be alternate environments or outdoor-based activities. The second one is the dance component. The third one is flexibility core training. A fourth one is games, and a fifth one is individual activities. In our Phys Ed 10 course, students need to complete a total of 80 activity hours, and from within those five different areas, a minimum of seven hours from each of those five domains and a maximum of 30 hours [from any one domain].

Mary added that they give the students choice in order to try and build a fitness program that will work for the students. She reiterated, “They don’t have to take basketball. They have to do something from each dimension, but I try to find things in their community for them to do as well; I try to help them be as successful as possible.”

The Carone Fitness, Pinellas Virtual School and Florida Virtual School PE courses allow for a broad range of acceptable fitness activities, and they do not need to be categorized by specific domains. Students in those courses are asked to participate in a variety of activities, though. There is a cardiovascular fitness focus in the courses, and a muscular strength and endurance focus, for example. Students may be asked to participate in an activity that encourages a skill-related fitness component practice, and to add some cardiovascular work as well, but there are no physical activity percentage guidelines in those online classes. For example, a band student who takes the course during the fall marching season can receive much of his physical activity credit with the marching band practices and performances, but will also be expected to participate in and document other types of fitness activity to supplement the primary band and marching workouts.
**Health-related fitness focus.** With the exception of the Alberta, Canada, online PE courses, the secondary level virtual PE classes referenced in this study focus predominantly on health-related fitness topics. Students taking PE courses online with the Alberta Distance Learning Centre do have specific guidelines about what types of physical activities they complete, and some of the activities are more skill-related tasks, but overall, healthy recreational fitness activities are the goal. Students in each of these teachers’ PE classes learn important principles of health and wellness and develop skills that lead to a long-term healthy lifestyle. Students practice by applying what they learn in the courses to real life situations in their own environment.

The Carone Fitness administrator explained in an online webinar meeting that the courses they provide for students, more than teaching rules of games and sports, are rich in content related to life-long health and fitness. Students realize right away in the online PE setting that they are not competing against others in the class for the best score or ability, but are taking their individual measurements and assessments so they can track their progress on their own health-related fitness levels.

In my own reflective journal, after listening to the participants describe their courses, I was able to document the health-related content found in the Carone Fitness HOPE course. Students in that virtual PE course are presented with lessons covering the health-related fitness components: cardiovascular fitness, flexibility, muscular strength and endurance, and body composition. The course also provides students information about nutrition, about how to be savvy fitness and health consumers, how to improve skill levels, and other content related to long-term health and wellness. Even with the skill-related fitness topic in the HOPE course, the focus is on how increased skill levels can improve function in daily living activities and
recreation efforts. The skill-related content helps students understand the benefits of each of the six skill-related fitness areas (agility, balance, coordination, power, reaction time and speed) and gives students practical ways to improve their fitness levels for individual activities and potential sport participation.

The main skill-related learning objectives for students taking the HOPE course are the following:

- Understand health versus skill-related fitness and components of each
- Identify activities that can strengthen areas of flexibility, agility, balance, coordination, power, reaction time and speed.
- Identify individual challenges to skill-related fitness components
- Be able to compare and contrast how movement skills from one physical activity can be transferred and used in other physical activities (FLVS, 2011).

Lisa and Ronda teach courses for and through Carone Fitness, and Allison teaches courses provided by Carone Fitness. Figure 5.3 provides a snapshot of the list of high school courses and curriculum offered through Carone Fitness. The organization also provides middle school courses, credit recovery courses, an adapted course, a homebound course, and other variations on the PE content that students need. To compare, Figure 5.4 displays a list of Florida Virtual School PE-related courses offered. Both Carone and FLVS provide the HOPE course that many students in the southeast United States need to graduate high school.
Figure 5.3. List of high school courses offered through Carone Fitness (2013)

*Flexibility in when to work.* The teachers are not the only ones pleased with the flexibility regarding when to work on the PE course in the online setting. These teacher participants have received feedback from students about how much they appreciate the flexible options and choices they have when it comes to working in the course. They are able to work on the assignments anytime day or night, weekday or weekend. Students know they can communicate with their online teachers throughout the evenings or on weekends if they have questions about directions for assignments. The teachers all shared that they appreciate how they
are able to weave their work into any given day and can still be there for their families as needed, and they have stories about students who have described the same benefits in their own busy lives.

<table>
<thead>
<tr>
<th>Health / Physical Education</th>
<th>Credits</th>
<th>Status</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptive Physical Education IEP or 504 Plan</td>
<td>0.5</td>
<td>Accepting Requests</td>
<td>April 2012</td>
</tr>
<tr>
<td>Fitness Lifestyle Design</td>
<td>0.5</td>
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<td>April 2012</td>
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<tr>
<td>Health Opportunities through Physical Education (HOPE)</td>
<td>1.0</td>
<td>Accepting Requests</td>
<td>April 2012</td>
</tr>
<tr>
<td>Life Management Skills</td>
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<td>April 2012</td>
</tr>
<tr>
<td>Personal Fitness</td>
<td>0.5</td>
<td>Accepting Requests</td>
<td>April 2012</td>
</tr>
</tbody>
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*Figure 5.4. List of high school PE courses offered through the Florida Virtual School (2012)*

**Comfort of own environment for fitness work.** Not only do students appreciate flexibility with regard to when to work on assignments, they also clearly value the ability to complete the fitness activities in their own home or community environments. Many students do not prefer to dress out and participate in the traditional setting, and many others just like working out at the local gym or are already playing a sport in a team setting. Students can get credit for walking in the neighborhood, for walking the dog or walking with family members after dinner. Students at ADLC are required to participate in fitness activities from five different categories, and these are the same categories of fitness activities that students in the U.S. are asked to select for their PA requirement.

**Theme 4: Teacher-facilitated student success.** High school students are choosing to take PE online for various reasons, and many are completing online PE requirements successfully. More than 18,000 students in the state of Florida completed the online HOPE
course through the Florida Virtual School during the 2010-2011 school year. Also in the southeast, Allison shared that the numbers of students taking the online HOPE course with her have continued to grow over the past two years as well.

**Essential content for today’s students.** The Florida Department of Health (DOH) recently reported that obesity rates have skyrocketed over the past decade, and that obesity is a major factor in the diseases that affect many people today, including children. According to the DOH, obesity in children has presently resulted in many chronic disease conditions that were largely unheard of in recent years. In my own reflective journal, I noted that many traditional high school PE courses I’ve been privileged to observe in recent years have been lacking in instruction relevant to these issues of health, wellness and disease prevention; the teacher participants in this study all agreed. They have had experience trying to impact students’ health in a traditional PE setting, but all shared that the content available to students in the online PE courses is full of helpful information about healthy best practices for fitness and nutrition and overall wellness issues.

The online PE courses, the study participants agree, provide more information and focus on health-related fitness components, information about how to become and stay fit for life, and not as much content on sport-related or skill-related fitness components. During a live webinar presentation about Carone Fitness curricular offerings, the founder and president of Carone Fitness read authentic student feedback to the audience. While there has likely been negative feedback from students about taking a PE class online, the following positive student comments from Carone Fitness PE course completers have been added to this document in order to show
support for the topic at hand. The following three student quotes from end-of-course exit surveys were provided by Carone Fitness:

The most valuable thing I learned in this PE and Health course is to take care of your body so you’re not limited to what you can do in the future. I learned that it’s very important to stay or become [fit] in all dimensions of health.

This first taught me about all the aspects of health and wellness. I used to think that health was eating right and not getting sick. Now I know there’s so much more and I know how I can contribute to areas such as environmental wellness and spiritual wellness. It also taught me that I can set behavior goals and change my habits, which is awesome. The workout has definitely helped with several areas of my life. Working out always makes me feel healthier. I’m so glad I took this course. It has made me stronger physically and emotionally and that helped everyone around me. I will continue to work out with the same type of schedule.

Since beginning this course I feel so much better about myself. I have more energy. I’m more alert and focused in the day. I’m more relaxed and more self-confident. I work out at my own level of fitness. I’m very proud of myself because it wasn’t easy. I’m proud for pushing myself the way I did and [I am] living proof of the results. It’s amazing.

In a Carone Fitness PE course, there is a recommended pace and plan to follow, and once they begin a topic area, students are encouraged to complete it fully before moving on to the next
topic. In addition to fitness assessments students take and record on themselves, and regular, weekly physical fitness activities they have to participate in and log, students in this popular PE and Health class complete reading and written assignments about different health and fitness topics. Students taking HOPE with Allison, Lisa and Ronda have rigorous assignments and content relevant for obtaining and maintaining fitness for life. Mary’s students in Alberta are required to take a minimum of two PE courses in high school. The fitness work they do is significant, and the written assignments are similar to those in traditional brick-and-mortar Health classes. One won’t see many written assignments in a traditional high school PE class, so this type of online PE course has the potential to give the students even greater content and application.

**Improved attitude and advocacy for health and wellness.** In their own recollections, these teacher participants affirmed the idea that their students often become advocates for health and wellness within their own homes. Each teacher was able to recall more than one time when a parent told them about their child who had engaged the whole family in exercising more due to the fitness requirements the student had to meet. In addition to appreciating the alternative route for completing PE credits online, with fitness work and often all written work completed at home, the students bring the content and assignments to the attention of their parents and guardians, which often engages the family in improved wellness efforts. Parents have reported that they modified the groceries they bought in order to assist their young person in eating better, all based on content the student read and shared about nutrition. When asked about students who have engaged their family members in the physical activity and health concepts they learn in the course, Ronda said that many students have told her they have enlisted the help of their family members. While telling a story about one overweight student she had who was struggling with
the exercise portion of the class, Ronda said, “His mom would go out and walk with him. They would go on this little hike around their house in the woods or they would ride the exercise bike in the basement together or do a video.” Ronda continued to share:

Another student and her mom would go out and do Zumba together or go to the gym or go swimming together, and one student where the family was super involved, the dad would not allow her to go running by herself, so her brother or sister would go running with her or her dad would take her to the gym and play basketball with her. So, they were always getting their families involved and I always encourage them and compliment them [on including family members].

**Experiential learning in relevant environment.** The four teachers each explained that they had received feedback from many of their students about the benefit of working out in their own, relevant environment. Their students tend to prefer to exercise in the privacy and comfort of their own homes, or in their community gym, and/or to get credit for some of their fitness requirements while playing on a recreational softball league, to name one recreational activity choice. In my own experience, I reflected on the students I worked with who extolled the virtues of working out with mom or dad, or of being able to receive credit for the intense tennis workouts required as an up and coming professional.

Like the teacher participants in this study, I have had students confess that they failed the course in their traditional school setting because dressing out was uncomfortable for them. Students have also shared that they enjoy working out at home and in the community more than participating in the activity they were asked to do in the traditional setting.
Ronda expressed that the majority of her students maintain a positive attitude while taking the VPE courses:

For the most part, I would say 95 percent to 99 percent, their attitudes are fantastic. They’re always saying, “Oh, I’m so grateful I can do this because my schedule is so full,” or, “I really needed to squeeze this in so I could graduate on time,” or whatever the case may be; or, “I’ve been sick”, or, “Something came up and I couldn’t take it [at school].” So they’ve been really great to work with and a lot of them are very self-motivated because they know that it’s a good chance for them to get done what they need to get done. I’ve actually had a lot of my students say, “I’ve gotten way more out of this than I would have in my high school or junior high PE class.”

Ronda concluded that she believes students feel more comfortable in the VPE setting because they can work out at home instead of in front of their peers, which is often a prohibitive factor. In fact, students in a previous study reported that they were made to feel less than successful in a traditional PE setting (Ransdell, Rice, Snelson, & Decola, 2008).

**Relevant, authentic learning.** It is clear that the basis for any physical education course is the physical activity, or experience. Psychomotor, cognitive, and affective objectives form the structure for most if not all secondary PE courses. While this is not unique to the online class setting, the participants shared that the students in a secondary virtual physical education (VPE) class are held accountable for participating in and moving through the following course components that address each of the three learning domains:

- A variety of preferred health-related fitness activities, including cardiovascular exercises, flexibility stretches, and muscular endurance exercises (psychomotor)
• Options for skill-related fitness activities that develop gross motor skills (psychomotor)

• Readings within the course that include critical content and relevant vignettes for application examples (cognitive)

• Written assignments and projects submitted online that develop their cognitive knowledge about key fitness matters (cognitive)

• Collaboration and interaction with peers via discussion boards and live tutorial sessions (affective)

All of this and more can be found in an online PE course, and the teachers in this study expressed their perceptions that students generally experience the content and complete the tasks in an environment that is particularly relevant to them, and that increased comfort level makes the experiences more meaningful. Ronda shared her viewpoint about the students’ success:

I have so many of them telling me, “We would just sit on the bleachers or they would make us walk around this circle,” or, “Some people would play soccer and I’d sit there and talk to my friend.” So they’re actually doing stuff. Not only are they doing stuff, they are doing physical stuff; they’re actually doing assignments that go with those [physical tasks]. How often in the [traditional] PE class are you handing out a book and saying, “Okay, take this. You read this chapter or watch this multimedia lesson and understand your heart rate and how it applies and where you need it to be to burn fat.” They are actually doing these things and getting them and tying it all together. So I think this technology [VPE] opens it up to so many more people that would be successful and have really good experiences.
This study was not designed to compare traditional and online secondary physical education, and the results are not meant to imply that the online venue for secondary PE is superior. There are good and bad experiences in all types of PE courses, no matter the format for presentation. It is largely up to the student to create a positive experience in a PE class, but these teachers report that based on their background in both settings, they have witnessed students who may not have been successful in the traditional setting complete the online course with experiences that are relevant and applicable to their lives. The teacher-as-guide is a significant premise of constructivist teaching and learning; that concept is clearly practiced in the online PE course where students are expected to work independently. Students are asked to make meaning of the health-related content and tasks within their own relevant context; their views about fitness and wellness are thus shaped by the environment within which they learn (Azzarito & Ennis, 2003; Garrison & Anderson, 2003).

**Implications and Recommendations**

The number of secondary students taking online courses to fulfill high school graduation requirements increases each year. In the *Keeping Pace with K-12 Online & Blended Learning: An Annual Review of Policy and Practice 2012* report, the number of online course enrollments (one student enrolled in one semester online course) in the U.S. rose by 16% from the 2011 school year to approximately 620,000. Virtual physical education courses are among the most popular online high school courses offered (FLVS, 2011). More studies are needed to inform and guide the teaching practices for effective student learning outcomes in the online physical education venue (Buschner, 2006). This particular description and analysis of the more general
phenomenon of teaching secondary PE online has implications for current and future physical educators, virtual school administrators, and for teacher educators at the university level.

Studies show that traditional high school PE classes do not always yield a high level of physical activity for students (Cawley, Meyerhoefer, & Newhouse, 2006; Chen, Martin, Sun, & Ennis, 2007). The online PE courses can be viable alternatives for students for a variety of reasons, to meet their needs most effectively. Students in a virtual PE class have as much or better opportunity to participate in moderate-to-vigorous physical activity as those in a traditional setting (Ransdell, Rice, Snelson, & Decola, 2008; Williams, 2010). In order to ensure success for teachers and students in the online PE setting, some implications and recommendations can be made.

**Implications for physical education teachers.** For secondary PE teachers who are considering teaching physical education virtually, this study has revealed that customer service is an essential component to the job. Each participant’s stories confirmed that teaching should be student-centric. According to these study participants, the online PE teacher should also have a strong ability to type, should enjoy being on the computer, and should be interested in grading written work, making phone calls, and communicating efficiently through e-mail. National standards state that the successful online PE teacher must be proficient in computer skills and technology (iNACOL, 2010; SREB, 2006).

For secondary PE teachers who may never attempt to work with students in the online venue, the implication is that teaching should be student-centered, personalized, individualized and differentiated, with a bent toward a constructivist educational framework and an inclusion of 21st century technology tools. Teachers in the traditional setting can benefit from the results of
this study by understanding what is successful about the online PE class – what teacher behaviors and dispositions are most successful in the online setting and what can be easily transferrable to the traditional setting. Some high school physical educators in the southeast region of the United States have, in recent years, been trained on effective strategies for teaching the HOPE content by learning about what is done and how content is presented in the virtual HOPE course. Secondary PE teachers are able to examine what is offered in the online setting and can implement many of the same assignment ideas for their own students in the brick-and-mortar setting. Best practices in the online PE course can also be utilized in the traditional setting; this study reveals examples of constructivist, student-centric, technology-based teaching for 21st century students. Teachers in either setting should be ready to address individual students’ needs and learning preferences. Teachers in either setting can utilize technology resources to enhance their PE classes. For example, video clips for more detailed instruction that are found in the online PE class can also be created and placed in a traditional teacher’s school-based social learning platform. Test reviews can be placed online in that same platform for students to access at home. Just as these online PE teachers utilize e-mail to communicate with students, traditional teachers can communicate about student progress with parents and students within the brick-and-mortar school. Traditional teachers can offer more choice for fitness activities in their PE classes, and can give students the opportunity to create personal fitness and activity logs for growth and assessment purposes.

**Implications for virtual school administrators.** Administrators of online schools and organizations can learn from this study by understanding there is a need to provide professional development and enrichment for their teachers. Administrators in some online schools may have
the ability to hire teachers who are not certified, but the majority of virtual schools are required to hire certified teachers for each content area. Administrators will be working to serve their students best by assisting teachers in their continued professional development in the areas of education technology, curriculum and content development, state and national standards, educational theories, and practical applications for best teaching and learning scenarios. Professional development workshops (online and F2F) and conferences can enhance teachers’ skills and knowledge, and will provide teachers with the hours needed for recertification requirements.

In my reflective journal, I observed that each teacher participant in this study had little to say about professional development or in-service development to stay current on technology in education, on the latest educational theories and their potential applications, or on best teaching practices in the online K-12 classroom. These teachers did not regularly participate in professional development related to distance teaching and learning or physical education and health. There is a need for more professional development within the virtual school organizations represented in the following areas: in-service development addressing educational theories, teaching best practices, and technology training in the online educational setting, and content-related information. Administrators in online schools and organizations can provide virtual training for new teachers and subsequent professional development for those same teachers as they grow in experience and comfort with the job. There are webinars (virtual seminars) teachers can attend to learn about the latest in educational technology and resources to improve their teaching practices and to share with students for their assignments. Teaching students about internet tools and resources is an obligation of the online instructor (iNACOL), and in order to do that, the virtual teachers must learn the new technology themselves.
Synchronous, face-to-face (F2F) meetings periodically would be helpful. The teachers in this study did not mention that they have a semi-annual or even annual requirement to meet F2F with their virtual school administrators. However, at the Florida Virtual School, the administration provides opportunities for professional development within their organization and teacher attendance is mandatory. The organization also encourages teachers to attend outside professional development as appropriate. None of the four teachers in this study indicated a need for professional development in distance education to keep or even enhance their teaching jobs.

These teacher participants did not explicitly describe their teaching and learning educational theories. They were clear about what they believed in: the teacher as facilitator; students drawing on background knowledge as they tackle new health and fitness assignments and build on their schema; student choice for physical activity; relevant, authentic tasks to engage the student; individualized, one-on-one instruction and student-teacher interaction; differentiated learning tasks as needed per student; and interaction among peers within discussion boards and out in physical activity settings. All these practices and beliefs add up to a buy-in of constructivist teaching and learning theories, however, none of the four teachers were able to call the theory by name. Although the teachers were not able to define constructivism as an educational theory, they all understood and used the term ‘differentiated instruction’ when discussing their teaching, which shows they do believe in what can be considered constructivist epistemological practices for the online PE setting. It would be helpful for online physical educators to be given greater opportunities to learn and become well-versed in effective educational theories and their application for 21st century teaching and learning.

Oliver, Osborne, and Brady (2008) suggested online teachers need to be proficient in technology and should demonstrate that proficiency and share those skills with their students.
Some of the benefits of online high school courses are that students learn general computer skills and netiquette; they learn technology-related skills in their creation and submission of assignments electronically, and in communicating with their teachers via e-mail or through a live webinar lesson. Ultimately, administrators can take the responsibility to provide these professional development opportunities for their online teachers.

**Implications for teacher educators.** One way to ensure PE teachers are prepared for a potential future teaching position online is to teach them in about virtual PE environments in their pre-service educational program. An internship experience would be very helpful to pre-service teachers, and perhaps an additional certification offered to those students would enhance their job opportunities once they graduate. Over the past three years, the Florida Virtual School has provided internship opportunities for pre-service teachers at various state universities in Florida: The University of Central Florida, The University of Florida, Florida State University, The University of West Florida, Florida Gulf Coast University, and The University of South Florida. Florida’s Pasco-Hernando Community College has also utilized FLVS for pre-service teacher internships. The Florida Virtual School has hosted out-of-state pre-service teacher interns from Liberty University and University of Maryland University College.

Some stakeholders may propose that it is difficult to secure a K-12 online teaching position, but in our current economy it may be difficult as well for new teachers to obtain a position in the geographical location they prefer, with the exact content area they have studied. Whether or not a certified teacher ever works in the online venue, the skills and technology one can learn in a quality online school setting can be of great benefit. Teachers in traditional PE settings today are hopefully being called to enhance and supplement their lessons with online
resources like video demonstrations of the target activity, video assessments, active gaming technology, heart rate monitors and pedometers, and other 21st century technology. All of that and more can be found in a secondary online PE class, and in their preparation of future physical educators, university professors can give students opportunities to observe virtual PE classrooms and teachers to be better prepared for either setting. With the National Council for Accreditation of Teacher Education (NCATE) and the Southern Association for Colleges and Schools (SACS) accreditation and recertification requirements in colleges and departments of education, providing this type of online, technology-based learning opportunity for pre-service teachers is an ideal way for universities to demonstrate those teaching and learning competencies.

**Recommendations for future research.** Future research regarding online physical education at the secondary level is warranted, certainly. This study provided information about the daily instructional practices of four VPE teachers. Following these or other online teachers in person throughout a given time period and observing F2F their tasks and instructional duties would be another way to provide more detailed information about how one teaches PE online. Survey data from online PE teachers about their daily instructional practices, dispositions, and effective teaching strategies would also be helpful in providing further information about the online secondary PE setting (Buschner, 2006; Smith, 2009). In addition, comparing data on student learning outcomes between traditional high school PE classes and online PE classes would be beneficial.

Within this study, the teachers provided examples of students who have benefited from the online PE classes and who have improved their workout habits and even fitness levels as a result of what they learned in the virtual class. However, objective student fitness assessment
scores were not taken or reported on within the confines of this study. In future research, pre- and posttest fitness-related assessments and cognitive assessments could be conducted on students in both PE settings in order to objectively examine whether standards and benchmarks are being met and whether optimal student learning is occurring.

While three of the four teacher participants in this study were working part time at the time of data collection, and only one was a full time teacher, it would be ideal to collect data on full time virtual PE teachers. For instance, the Florida Virtual School has many full time PE and Health (HOPE) teachers that could provide rich data on their effective teaching as well as their training and professional development practices. Another attempt to interview and observe PE teachers at FLVS and other state virtual schools and to observe their courses is worthwhile.

Research that examines teacher preparation for online teaching would be helpful to teacher educators and to policy makers in education. The future may call for teachers to exit the university with supplemental certifications related to online instruction. More research about effective practices and essential dispositions in the online secondary PE setting may be required to meet the benchmarks and standards set for students across the continent (Smith, 2009).

Ronda shared that she has had students who were incarcerated to some degree or in some fashion but have been able to take her online PE class in an effort to meet their high school graduation requirements. There are also students across the U.S. and Canada who do not have internet access, or they would have chosen an online PE course or other online courses for themselves. Of interest to all of us should be equitable learning opportunities for every student, no matter their socio-economic status or other limiting factors they may have been dealt. It would be beneficial to further study the online PE instructional setting as a means for reaching a
variety of students and particularly at-risk students through credit recovery and alternative routes to graduation (Watson & Gemin, 2008).

Ultimately, a significant study related to online secondary physical education would be one in which the benefits of such a course are held to the U.S. national standards for physical education, using the National Standards for Sport and Physical Education as a barometer. It would be most helpful to collect and study qualitative and quantitative data on student learning outcomes and fitness assessments to objectively determine the viability of virtual secondary physical education.

**Impact of this Study on the Researcher**

This study had a significant impact on me as a doctoral candidate and as a future teacher and researcher in the field of education. One of the more challenging aspects in conducting this study was the ability to understand the difference between my own framework and lens through which I view education, and the framework I employed in the structure and design of this study. I discovered another challenge in trying to adhere to the data collection schedule I laid out at the onset of the study. With these and other concerns, I thought back to the characteristics of qualitative inquiry as described by Creswell (2007) to conduct a self-check on this work and the outcomes of this effort:

- **Natural setting.** I was able to collect data in the settings where the participants worked. I interviewed the participants while they were in their work environment, and I observed their online courses and the feedback they provided to students. I listened to a live introduction session between one of the participants, a new student, and her parent. There were no instances of a contrived setting for observation purposes; and the only
instrument (which can be considered impersonal and unnatural) for the participants to complete was a brief questionnaire about their background relating to education and immediate family demographics.

- **Researcher as key instrument.** As the primary and sole researcher of this study, I was a key instrument in collecting the data through the processes of interviewing participants, examining their courses, observing and noting their interactions with and behaviors toward students, and overall, pulling it all together in a formal summary.

- **Multiple sources of data.** I utilized multiple forms of data, including interviews, observations, and my own reflections, and attempted to organize the data into succinct categories.

- **Inductive data analysis.** In order to guard against potential researcher bias, rather than a deductive reasoning approach, I followed an inductive data analysis process. Without focusing on previous experiences, I moved from the actual data collected during interviews and observations to ultimately offer up broader generalizations in the implications and recommendations for various leaders in physical education and for future research.

- **Participants’ meanings.** Again in an effort to keep my own bias in check, I continually reminded myself to keep focused on the participants and the various experiences and perspectives they brought to the study. It was only in the final chapter, which included implications and conclusions, that I incorporated some of my own experiences and background knowledge to support the potential meanings of the study.

- **Emergent design.** The research process for this study was indeed an emergent design. The data collection and analysis phases both extended beyond what was originally
outlined due to constraints on the researcher and constraints on the participants. The addition of data from the participants’ administrators, and from my own recent experiences in the online PE setting as a non-participant observer, was part of the emergent design of the study.

- **Theoretical lens.** When examining the theoretical lens used to view the study, I was able to confirm that a constructivist worldview shaped the study. I sought to describe the world of online secondary physical education and the instructional component of such a phenomenon. I relied primarily upon the participants’ views, perspectives and experiences of online teaching and learning. The questions guiding the research were broad and general in order to give the participants every opportunity to construct their own meaning of the online PE phenomenon. A phenomenological case study aligns itself with the worldview of constructivism.

- **Interpretive inquiry.** It is expected that the qualitative researcher will interpret what is heard, seen, and understood during the analysis phase of a study. The sole researcher, I was inclined to view and interpret the data within the lens of constructivist teaching and learning practices, as well as an inclination toward seeking best practices in an online or traditional setting for secondary physical education. In my interpretation of the data, I reaffirmed inwardly and hopefully conveyed outwardly that a leaning toward online PE was not the intent of this study; rather, a description of how one teaches in an online PE course was the goal. I discovered that the information provided within this study is not only helpful for understanding the online PE setting further, but for stimulating ideas about how to effectively teach secondary PE in any setting.
Holistic account. I can report that the phenomenon of teaching PE online is complex and larger than the scope of this study. The purpose of this study was to describe the teaching practices and perspectives of four online secondary PE teachers from a few different virtual schools in North America. There are differing perspectives about online physical education among stakeholders at all levels of education. This study was not intended to provide a causal relationship between an online PE class and student success, or to compare F2F and virtual PE classes. It was meant to provide a general, holistic picture of what it looks like to teach PE online.

In reflecting on the characteristics of qualitative research, I can confirm that I held to the overarching definition of such a study. While I will work to improve my methodology regarding a stronger effort to stick to timetables and deadlines in future research, I feel positive about the authenticity of this study. The content and results of this study made me realize that all aspects of and venues for secondary physical education can and should be researched in depth in order to ultimately improve students’ psychomotor, cognitive, affective and physical development. I am looking forward to beginning another research project.

Conclusion

This study was conducted with the intention of describing the phenomenon of online physical education instruction. Data collected from four secondary virtual PE teachers in North America revealed what it is like to teach PE online. The following categories of data collected comprised the analysis and results: an introduction to the teachers and their pathways to online physical education, their daily instructional practices, implicitly stated educational theories that generally frame their teaching, how they enhance student learning, and their perceptions of
student learning outcomes in the online PE courses they teach. Within those data collected, the four common themes among all the study participants included a pathway to online teaching that included family considerations, a clear focus by the teachers on individualized instruction for each student, a perception of students’ appreciation for the course flexibility and activity choices, and a consensus about the potential for student success in online PE courses. Those four themes were stated and presented as follows:

1. Similar pathways to online PE teaching
2. Individualized instruction provided to students
3. Teacher-guided student choice
4. Teacher-facilitated student success

The teachers’ pathways to online physical education primarily included family considerations. Three of the four teachers went from staying out of the workforce to stay home with children, to realizing an ability to teach physical education online. One of those instructors teaches in the distance education setting from a satellite office location, and two others teach solely from home. The fourth teacher, who has taught part time online for her district, ultimately retired from full time F2F teaching and intends to teach part time in the virtual PE setting. There are full time online PE teachers in the southeast region of the United States who also have chosen to teach online because of commitments to their young children and families. Ultimately, we do not want teachers coming to the virtual setting simply because they want to work from home. In fact, if that were stated as a reason for desiring the position, some administrators would not be inclined to hire the teacher. Ideally, qualified, certified teachers who are passionate about providing differentiated, individualized instruction for students and who want to positively impact students’ health and overall wellness should seek online PE positions.
All four of the teachers felt strongly about the work they do to provide individual, differentiated instruction to their online PE students and appreciate the fact that they can do this, whereas in the traditional setting, each teacher shared that they were not able to differentiate and personalize instruction as extensively and were not able to communicate with students and parents as much as they do currently. The grading, e-mails and phone conversations alone surpass the level of communication they had in the traditional setting. In a full time online PE teaching job, teachers have reported that they put in more hours than they did in the traditional setting. Allison had a particular insight as she was working in both settings during the time of data collection, and she conveyed strongly that the grading and communication responsibilities with her online HOPE students took a considerable amount of time.

Each teacher had stories to share about positive student feedback regarding flexibility of the course and freeing choice for physical activities. The teachers in the study have had plenty of students tell them how much they appreciate being able to work out in the comfort of their own environments. There are students who failed PE in the traditional setting but have experienced success in the online course because of the privacy and freedom to participate in fitness activities away from the critical eyes of their peers. Many students also have obligations to work part time to help their families and need the flexibility of being able to work on the coursework late at night or on weekends (Dwyer et al., 2006). Ronda even has had students living in a facility due to trouble with the law, and they have experienced success due to the flexible, online courses.

While these four teacher participants were not current on theories related to educational best practices, they did actually apply principles that align with the framework of constructivism. Implicitly stated many times were comments and reflections about being the facilitator of the course, rather than the imparter of all the content knowledge. Each teacher conveyed that the
students were responsible for their learning outcomes; they were responsible for completing tasks and assignments in a timely fashion. The students created their own fitness plans with their teacher’s guidance, not with the teacher’s direct order or mandate (Cavanaugh & Blomeyer, 2007). Students in these virtual PE classes have built on previous content and personal background knowledge to structure their activity preferences and workout schedule. Students have had choices in how they demonstrate mastery of the critical content (Andrews & Haythornthwaite, 2007). Although these teachers have not been required to know educational theory, they appeared to be trained in the application of constructivist theories of teaching and learning and continued to apply those effective principles to their teaching practices.

The National Education Association (NEA) has called for virtual schools to provide online courses that align with already established state and national standards, and the teachers in this study and their administrators confirmed that the courses they offer do match standards for physical education content and meet the requirements for optimal student learning outcomes (NEA, 2011). As someone who has recently viewed both environments, I can state that the courses represented in this study are student-centric and are considered more comprehensive and rigorous than some traditional high school PE courses; they surpass the minimum requirement for rigor, rather than just mirror the traditional courses. As the NEA charges, the online teachers in this study are in fact present in their classes daily and are available for their students weekdays and weekends. The teachers provide assignments that are collaborative in nature, and students have opportunities to communicate with their peers through course discussion boards. To uphold the efficacy required of any high school online course, clear instructions for course goals and specific directions for assignments, along with grading rubrics, are provided by these teachers within their courses (iNACOL, 2011; SREB, 2010). After observing the online courses, it is
apparent that the PE courses provided by Carone Fitness are visually appealing for students. The Alberta Distance Learning Centre’s online PE content is rich and informative, but much of their courses are activity-based, so there is not a need for a lot of visually appealing content for their students. The four teacher participants within this study have been working with these instructional criteria in mind and have made a difference in many students’ lives. They have worked with individual students to deliver a non-traditional, differentiated means of moving through required physical education content for high school graduation.

Although there has recently been a downward shift in the economy that has led to cuts in education overall and particularly distance education funds in some states like Florida, the desire for online learning options continues to grow in the United States and Canada (iNACOL, 2012). Because of that, the need for qualified, effective online instructors will continue to grow. Publically-funded virtual schools, private virtual schools, and for-profit curriculum providers are in demand. Online physical education classes at the secondary level have swelled in popularity for students and have been reliable options for school administrators that value the flexibility due to high student numbers and cuts in teacher units or a lack of physical space for physical fitness activities (Ransdell, Rice, Snelson & Decola, 2008).

This is not a call for online PE at the secondary level to the exclusion of traditional high school PE classes. Outstanding traditional secondary level PE teachers and classes are out there in the brick-and-mortar setting, to be sure. The majority of students are successful in their traditional high school PE class. Many teachers are blending their traditional classes with online materials and the latest technology tools related to their content area (Gallini & Barron, 2001; Ferdig & Cavanaugh, 2010); for those in physical education who are not, there are effective teaching practices in the online venue that can enhance the traditional PE setting for students. In
order to continue to improve education in North America, it can only help to learn all we can about effective teaching and learning practices in the online environment, even if it is simply to improve communication and interaction between teachers and students. This study has meant to add to the dialogue, with information about the daily instructional practices, experiences, and perceptions of four secondary online physical educators.
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DePalma, K. (2010, October 24). Re: Director musing – need a helping hand [Electronic mailing list message]. Retrieved from Microsoft Outlook FLVS Team Faculty


North American Council for Online Learning, 2009


Rovai, A. (2002). Building a sense of community at a distance. *International Review of Research in Open and Distance Learning, 3*(1), 1-16.


Young, J. (2010, March 25). Re: Future of the Florida Virtual School [Elluminate webinar live session]. Retrieved link from Microsoft Outlook *FLVS Team Faculty*
Appendix A: Initial Invitation Letter to Potential Participants

Dear __________,

I am writing to ask if you would be willing to participate in a study about online secondary PE teaching. I am a doctoral candidate at the University of South Florida, working on a degree through the College of Education in Interdisciplinary Studies, with an emphasis on Physical Education and Instructional Technology. I’ve been a public school teacher for 16 years, and am currently working as a visiting instructor at the University of Tampa in Physical Education and Exercise Science. I worked for nearly five years as a Personal Fitness and HOPE teacher with FLVS. I love online education and instruction, and have found over the years that stakeholders in the traditional field of physical education don't always see the validity or authenticity of online PE teaching and learning. It would be fabulous if you could help by sharing your stories a bit about your daily instructional practices and how you effectively impact your students' lives and their learning outcomes through your online PE courses.

I have received approval for the study proposal from my dissertation committee at USF and from the USF IRB.

I will attach here some formal documents that explain things further, but basically what I am asking from you is the following:

1. Two or three audio-recorded interview sessions - approximately 45-60 minutes each - I will conduct those at your convenience, and I hope to start the interviews as soon as possible. The audio recording will be for me to hear only... I will transcribe the dialogue and send transcripts to you for confirmation and approval. We can communicate by Skype or by phone.

2. I would like to visit your course shells a few different times to view the layout, the assignments, etc... I will take notes while observing in order to describe the courses accurately and thoroughly. I would like a few of my observations to include your feedback to students, in grading and e-mails. I will not ask to view any student work.

3. I would like to attend any live sessions you hold over the weeks in September and October, and even in November if possible.
I would very much appreciate your willingness to participate in this study, and I will make it as smooth as possible, as easy as possible for you. I will keep all of your personal information confidential and will use pseudonyms in the writing of the dissertation.

I am attaching a formal invitation letter and the informed consent form for you to sign and return to me (page three only), if you are willing to participate. If you agree, you could send me a scanned signed copy of page three of the consent letter, or send via mail to my address below. Last, I am attaching the list of broad research questions that will guide the qualitative case study.

I would love to communicate about the study if you have any questions or suggestions... please communicate anytime if you'd like to discuss the research plan! If you can fit this into your schedule, I would be so grateful.

Sincerely,

Leslie Williams

(added below was my contact information)
Appendix B: Informed Consent Document

Informed Consent to Participate in Research

Information to Consider Before Taking Part in this Research Study

IRB Study # _ Pro00000985 _

Researchers at the University of South Florida (USF) study many topics. To do this, we need the help of people who agree to take part in a research study. This form tells you about this research study.

We are asking you to take part in a research study that is called:

_A Case Study of Virtual Physical Education Teachers’ Experiences in Teaching Online_

The person who is in charge of this research study is Leslie Williams. This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge. She is being guided in this research by Dr. Steve Sanders.

The research will be done at your own workplace, within your own environment.
Purpose of the study

The purpose of this study: To describe the experiences and perspectives of four online secondary PE teachers with regard to online secondary PE teaching.

The study is being conducted as a dissertation.

Study Procedures

If you take part in this study, you will be asked to:

1) Meet with the primary investigator on three occasions for interview sessions that will last approximately 90 minutes each. You will be asked to discuss your daily instructional practices, the educational theories that guide your online teaching, your perception of students’ learning and their attitudes toward learning, and how you work to enhance student learning, physical activity participation, and overall successful course completion. You will also be asked to allow the primary investigator to observe your virtual classroom three times per week and to allow her to view your feedback to students.

2) Three different individual interview sessions will take place over the course of approximately eight weeks during the summer, 2012.

3) The interviews will take place in your work environment on days that are most suitable for you.

4) Audio-taping of the interviews will take place with an iPod and Belkin attachment for audio recording. The primary researcher and her supervisor, Dr. Steve Sanders, will have access to these tapes; the information will be identifiable only to the principal investigator and her supervisor; the audio recordings and transcripts will be maintained in storage safely and securely for five years after the completion of the study in a locked filing cabinet at USF within the
Physical Education and Exercise Science Department. After five years from the date of the study completion, the confidential research data and records will be destroyed. Any paper documents will be shredded, and data in electronic format will be destroyed by rewriting or reformatting. For the audio tapes, a magnetic field bulk eraser may be used to remove the recordings. The most effective and updated methods for destroying data at that future time will be employed.

**Alternatives**

You have the option to choose not to participate in this research study.

**Benefits**

The potential benefits to you are:

You will have a voice in describing to a broader group of stakeholders how you teach physical education online.

**Risks or Discomfort**

This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.

**Compensation**

We will not pay you for the time you volunteer while being in this study.

**Confidentiality**

We must keep your study records as confidential as possible. The data collected will be kept strictly confidential. The researcher will use pseudonyms in place of participant names for privacy and confidentiality purposes.

Audio recordings will be stored securely within the researcher’s own computer and on portable discs which will be stored securely in files within the USF Physical Education and Exercise
Science Department under the supervision of Dr. Steve Sanders, the supervisor of the study and head of the department.

The audio recordings and written documentation/notes will be used in the analysis and conclusion phases of the study, which will take place throughout the months of June-November, 2012. At the completion of the study and the writing of the dissertation, the data will be stored safely and securely within the Physical Education and Exercise Science Department at the University of South Florida for five years, according to the IRB protocol.

Data will be stored on discs and external drives in a locked filing cabinet.

Data will not be shown to other professionals for any other type of research.

However, certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are:

The research team, including the Principal Investigator, study coordinator, research nurses, and all other research staff.

Certain government and university people who need to know more about the study. For example, individuals who provide oversight on this study may need to look at your records. This is done to make sure that we are doing the study in the right way. They also need to make sure that we are protecting your rights and your safety. These include:

The University of South Florida Institutional Review Board (IRB) and the staff that work for the IRB. Other individuals who work for USF that provide other kinds of oversight may also need to look at your records.

The Department of Health and Human Services (DHHS).
We may publish what we learn from this study. If we do, we will not let anyone know your name. We will not publish anything else that would let people know who you are.

**Voluntary Participation / Withdrawal**

You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study, to please the investigator or the research staff. You are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study. Your decision to participate or not to participate will not affect your job status.

**Questions, concerns, or complaints**

If you have any questions, concerns or complaints about this study, call Leslie Williams at (813) 389-3275.

If you have questions about your rights as a participant in this study, general questions, or have complaints, concerns or issues you want to discuss with someone outside the research, call the Division of Research Integrity and Compliance of the University of South Florida at (813) 974-9343.

If you experience an unanticipated problem related to the research, call Leslie Williams at (813) 389-3275.

**Consent to Take Part in this Research Study**

It is up to you to decide whether you want to take part in this study. If you want to take part, please sign the form, if the following statements are true.
I freely give my consent to take part in this study. I understand that by signing this form I am agreeing to take part in research. I have received a copy of this form to take with me.

__________________________________________       
Signature of Person Taking Part in Study       Date

__________________________________________
Printed Name of Person Taking Part in Study

Statement of Person Obtaining Informed Consent

I have carefully explained to the person taking part in the study what he or she can expect. I hereby certify that when this person signs this form, to the best of my knowledge, he or she understands:

What the study is about.

What procedures/interventions/investigational drugs or devices will be used.

What the potential benefits might be.

What the known risks might be.

__________________________________________       
Signature of Person Obtaining Informed Consent       Date

__________________________________________
Printed Name of Person Obtaining Informed Consent
## Appendix C: Sample Content Guide for Online HS PE Course

Overview of Personal Fitness (PE) class with Florida Virtual School (2010), 16-week course

<table>
<thead>
<tr>
<th>Module/Chapter Topics</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Module 1</td>
<td>Course introduction, training principles, flexibility/stretching safely, start flexibility workout, fitness assessments</td>
</tr>
<tr>
<td>2. Module 2</td>
<td>Health risk factors, skill and health-related fitness components, warm up/cool down, continue flexibility workout</td>
</tr>
<tr>
<td>3. Module 3</td>
<td>Stress related issues, positive coping strategies, managing stress, goal setting, continue flexibility workout, check fitness measurements again</td>
</tr>
<tr>
<td>4. Module 4</td>
<td>Cardiovascular health, monitoring HR, cardiovascular disease, cardiovascular principles, continue flexibility work and add cardiovascular activities</td>
</tr>
<tr>
<td>5. Module 5</td>
<td>Muscular fitness, safety, FIT principles of resistance training, continue flexibility and cardiovascular work and add resistance training</td>
</tr>
<tr>
<td>6. Module 6</td>
<td>Food, evaluate personal menu, food labels, food guide pyramid, continue all three components of fitness</td>
</tr>
<tr>
<td>Module</td>
<td>Content</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>7. Module 7</td>
<td>Body types, body composition, intake/output, BMR, weight control, continue all three components of fitness</td>
</tr>
<tr>
<td>8. Module 8</td>
<td>Overview/review, final fitness assessments, workout log and exam</td>
</tr>
</tbody>
</table>
Appendix D: Interview Protocol

Protocol A – First Interview (Transition to and Overview of Online PE Teaching):

1. What was your path to your current online teaching position (Hasson, 2011)?

2. Why did you want to become an online physical education teacher?

3. What are the transitions you experienced in moving from traditional to online PE teacher (Hasson, 2011)?

4. Talk about a typical day at work teaching PE online. What does it look like?

5. What do you do to support successful student learning outcomes in the online PE class?

6. What knowledge, content and other, do you need to successfully teach PE online?

7. What skills are required to successfully teach PE online?

8. What are the dispositions necessary for successfully supporting student achievement in the online PE environment? (Janesick, 2009)

9. What do you enjoy about teaching in the online PE environment?

Protocol B – Second Interview (Technology, Communication, and Tasks in Teaching Online, and Follow-up):

1. What aspects of your online job are challenging?
2. What technology skill is necessary to teach PE online?

3. How proficient are you with computer technology?

4. Describe your communication with students and parents.

5. How much time do you spend in communication with your students?

6. How do you track your students’ progress? How much time do you spend tracking and monitoring students’ progress?

7. How much time do you spend grading student work?

8. Has your online teaching experience changed your face-to-face teaching? How – positively or negatively? (Smith, 2009)

9. How is your role as teacher different online? (Smith, 2009)

10. What was most helpful in preparing you for online teaching? (Smith, 2009)
Appendix E: Additional Interview Questions

1. What is most fulfilling about online PE teaching?
2. What is most challenging about online PE teaching?
3. Just as your role of teacher is different, how is the role of students different online?
4. How have you had to adjust your persona or teaching style as an online PE teacher?
5. Are their personal traits that you believe assist you in being effective as an online PE teacher?
6. Do you observe any differences in the way you connect and interact with your online versus face-to-face students? What are some differences?
7. What kinds of misunderstandings or challenging situations arise in online PE classes?
8. Do you use Flash appointments for parents and students? How does that work? *
9. Do you use Elluminate for tutoring or help sessions for students? How does that work? *
10. What strategies have you tried online that just didn’t work?
11. What strategies do you use online that seem to be successful in helping improve student learning outcomes?
12. What experiences have you had as an online student?
13. Does it matter if online teachers have had experience as online students themselves?
14. Are there other experiences that helped you become effective as an online PE teacher?
15. Should online PE teachers be required to have some sort of preparation for online teaching? Would you describe it?
16. Should online teachers have a separate license? If so, how should it work?

17. How would you compare your responsibilities as a PE teacher in online classes versus face-to-face classes?

18. Which do you prefer – teaching PE online or face-to-face? Why?

19. Do you want to continue teaching online courses? Why?

20. What are the most important things for online PE teachers to know and do?

21. What advice do you have for people considering becoming online PE teachers?

22. What do administrators need to know about online teaching?

23. How do you confirm and authenticate students’ physical activity for the course assignments?

24. What do you do that provides enhancement to the students’ learning?

25. What educational theories support your methods of instruction?

26. What do you observe in your students with regard to attitudes toward learning?

27. What type of growth, if any, do you see in your students with regard to learning and attitudes toward learning?

Taken with permission from Smith, R. (2009)

*Original questions not taken from Smith, R. (2009)
Appendix F: Member Check Form

Date:

Dear _______________________,

Thank you for an enjoyable and insightful interview. Attached you will find a draft copy of the verbatim transcripts of the interview. Please review the transcription for accuracy of responses and reporting of information. Please feel free to contact me at (813) 389-3275 or via e-mail at lmwilli8@mail.usf.edu should you have any questions.

Thank you again for your willingness to participate in this study.

Sincerely,

Leslie Williams

(Janesick, 2004)
Appendix G: Sample of Interview Transcript

Interviewer: Okay. So you were used to really providing a lot of skills instruction?

Respondent: This is how you do it and let me correct this and let me, you know, let’s repeat this over and over in my coaching, and now there have been a few times where I’ve done that with the students like they’ll submit something and I’ll be like okay, I want you to re-look at this and then submit it again because I think you can do better or you left a lot of stuff out. So I mean there’s a little bit of crossover but it’s not quite as hands on that way.

Interviewer: Well, what kind of content are you speaking of that they’re - are you talking about some written assignments that are online?

Respondent: Yes. So I don’t know if you’re aware of how the courses work. So I teach a handful of classes online right now and some of them are health classes where there is no fitness log. It’s just they read an assignment or watch a video and stuff online and then they answer the questions, take the quizzes. So then I’ll grade those things when they submit them and then I’ll give them feedback on what they did or why they missed points. Then there’s the PE classes where they also do lessons and they submit assignments and take quizzes but then they also have to do a fitness log that’s attached to each week.

Then I will go back through and make sure they’re getting all of their cardio in, that they’re getting their flexibility in, that they’re getting their strength training in, and make sure their heart rate is in the right zone because they record their heart rate. Then I’ll say, “Hey, I think you can get your heart rate
a little bit higher,” and if some of them are struggling I’ve given them just some advice. Some of them like I walked three miles today and after they’ve done that for a while then I’ll try to challenge them to say, “Okay, this time I want you to walk your miles but maybe for part of it you could walk for a minute and jog for 30 seconds and then sprint for 15 seconds and try to do that three times in a row,” you know, just trying to get them to do more.

Interviewer: Okay. You’ve kind of touched on this next question about just taking a minute to describe your current daily teaching responsibilities and duties.

Respondent: So, daily I try to log into the site every day and see if anyone submitted any assignments, and then I will grade those assignments and I am responsible for making sure that they’re graded within three days of being submitted. So there shouldn’t be any longer period than three days once they’ve submitted an assignment to once they get it back. Then I will also on a weekly basis try to make contact outside of the assignments whether it’s an email reminding them to do their work or just checking in and seeing how these things are going.

Interviewer: Oh, yes. Okay, well, we’ve talked about educational theories or educational practices like thinking about different learning styles. Do you have any theory or practice that you really hold true to or that you think is kind of like the way you’re committed to teaching?

Respondent: Well, for me, and I’ve talked to a couple of advisers about how - For me, I don’t look for reasons to take points away. Like I don’t look and be like, “Oh, you missed this.” Well, I mean I have to look for that stuff but I don’t, that’s not my main focus. Like I’m looking and like okay, they met this criteria, they did this, they did this, they did this, instead of really super nitpicking and then like, “Oops, you screwed up on that.” But I think if they’re getting the point, the spirit of the assignment, then I’m pretty good with it.
Appendix H: Sample Excerpts from Researcher’s Reflective Journal

9-26-12: I have hand-written notes about the progress so far, but need to rewrite and reflect now about what has transpired thus far. It was wonderful to speak with Katie Carone and have her support for the study. She connected me with her two teachers, Lisa (pseudonym) and Ronda (pseudonym). Katie feels the same way I do about online PE and health options. She has done something significant in starting her company as a curriculum provider for online PE and Health content for K-12 virtual schools. She has added the elementary components recently, and is adding post-secondary, undergraduate college courses too. She also has content for school faculty or business folks who want to complete a group fitness program.

Carone partners with technology companies to offer fitness technology that matches up with her courses… so students can use Polar HR monitors, for instance, and then upload the data into the course for the instructor to read, assess and evaluate. I wondered about asking Katie if a student could ever shadow one of her teachers to see what it’s like to work in the online setting… I am not sure if she would be able to provide an internship experience, as most of what they do is provide curriculum to other virtual schools.

10-5-12: I conducted my first interview with my first participant finally! Lisa (pseudonym) gave me the access code to phone in and I did that, and she showed me some of the course via their LMS, Moodle. She mentioned Brain Honey as an LMS they are considering moving to – I will investigate Brain Honey when I have a chance. Mainly I learned about Lisa
and where she lives; she has a son who missed the bus home today and she had to go get him, so we started our interview this afternoon a bit later than originally planned.

Lisa shared about a fitness checkpoint terminology that is similar to a monthly call or discussion-based assignment, it sounds; parent verification is part of their fitness checkpoint/check-in.

Something interesting is her reference to ‘lucked into’ the online job/position. That is just what it’s like at FLVS kind of, but it is hard work and more hard work – diligence and perseverance to get a job at FLVS. This makes one think that it is hard to get a job in an online setting. There is not an abundance of online jobs in any subject area, I imagine. Lisa also said she knew nothing about online teaching and learning, at the secondary level anyway, beforehand. She secured the position through another contact who knew Katie? Then Katie trained her virtually – she attended a teacher training on the computer. I will ask again if they met F2F before she started working for Carone Fitness. I realize that I need to ask more direct questions next time.
About the Author

- Works at The University of Tampa
- Teaches Physical Education curriculum and methods courses and supervises student internship experiences. Leslie also teaches Exercise Science courses for students from a variety of majors within the Department of Health Sciences and Human Performance at the university, including pre-service PE students. She spent three years as a graduate assistant at the University of South Florida in the School of Physical Education & Exercise Science and then went on to the University of Tampa in 2011.
- Received a Bachelor’s of Arts degree in Exercise and Sport Studies from the University of Texas at Arlington in 1995 and began teaching at the secondary level. She received a Master’s of Education degree from the University of Florida in 2005 while still teaching PE and other subjects in the traditional secondary setting.
- Teaching experience in the online secondary educational setting as well.