Impacts of a Redesigned Virtual Internship Program on Preservice Teachers' Skills and Attitudes

Nell Faucette and Peg Nugent

VOL. 30, No. 2

Abstract

An important issue in teacher education is how to design and implement effective virtual internships for future educators. Today, these experiences should reflect best practices (as found in more traditional programs) by infusing constructivist values and strategies into the process. Interns can develop needed content knowledge and delivery skills through active learning in authentic, real-world environments. In this study, teacher specialists redesigned a virtual internship for senior physical education majors after evaluating a prior program considered inadequate (due to poor student outcomes and satisfaction levels). Using the literature, the specialists redesigned the experience to reflect constructivist assumptions during a summer orientation seminar and fall internship. Eight of 16 interns volunteered to participate in the research project to identify changes in their attitudes and expectations for the internship. During the summer seminar, interns served as curricular evaluation teams to review, analyze, and reconstruct the course they would be delivering to high school students. During the fall internship, pairs of interns met twice weekly with cooperating teachers. Using a web-conferencing program, they experienced authentic learning featured in these sessions. Results indicated that, after these experiences, interns felt more knowledgeable, capable, and enthusiastic about online teaching.

Résumé

Une question importante dans la formation des enseignants est de savoir comment concevoir et implanter des stages virtuels efficaces pour les futurs éducateurs. Aujourd'hui, ces expériences devraient refléter les meilleures pratiques (que l'on trouve dans les programmes plus traditionnels) en insufflant des valeurs et des stratégies constructivistes dans le processus. Les stagiaires peuvent développer des connaissances du contenu et des techniques de présentation grâce à l'apprentissage actif dans des environnements authentiques et du monde réel. Dans cette étude, des enseignants spécialisés ont redessiné un stage virtuel pour les étudiants en classe terminale dont la matière principale est l'éducation physique après avoir évalué un programme préalable jugé inadéquat (en raison de résultats défavorables des étudiants et de faibles niveaux de satisfaction). En utilisant la littérature, les spécialistes ont repensé l'expérience pour refléter des hypothèses constructivistes lors d'un séminaire d'orientation d'été et d'un stage d'automne. Huit des 16 stagiaires se sont portés volontaires pour participer au projet de recherche visant à identifier les changements dans leurs attitudes et leurs attentes pour le stage. Au cours du séminaire d'été, les stagiaires ont servi d'équipes d'évaluation du curriculum pour examiner, analyser, et reconstruire le cours qu'ils réaliseraient auprès des élèves du secondaire. Pendant le

stage d'automne, des paires de stagiaires se sont réunies deux fois par semaine avec les enseignants coopérants. En utilisant un programme de conférence Web, ils ont connu un apprentissage authentique mis en valeur dans ces sessions. Les résultats ont indiqué qu'après ces expériences, les stagiaires se sentaient plus compétents, capables, et enthousiastes à propos de l'enseignement en ligne.

Introduction

Though internships are known to be highly effective for developing preservice teachers, few university programs have offered them for online teacher preparation (Compton & Davis, 2010; Compton, Davis, & Mackey, 2009). The first program with this purpose was created in 2005 at Iowa State University. Here, interns primarily observed cooperating teachers (CTs) with few experiential learning opportunities (Davis, et al., 2007). By 2010, according to Kennedy and Archambault (2012), only 1.3 percent of teacher education programs provided internships for virtual settings, though all 50 states had implemented virtual or online schooling for K-12 students.

With the growth of virtual schooling (and increased need for effective online teachers) (Kennedy & Archambault, 2012), teacher educators noted an increasing need for training preservice teachers (DiPietro, 2010). They emphasized that online instruction would require different skills than teaching face-to-face, so development efforts should align with those requirements (Davis & Rose, 2007). Davis and Rose (2007) emphasized the need for preservice students to be immersed experientially in online course delivery (as opposed to only observing teacher models). They called for authentic learning experiences through real online teaching opportunities (such as virtual internships).

In this paper, a university's redesigned virtual internship is discussed. Since both interns and supervisors had expressed concerns about the effectiveness of their two-year-old program, a decision was made to redesign it. They identified a void in interns' knowledge due to that program's opportunity to only observe others. In addition, some of the former interns revealed resistance to teaching health or physical activity-related content online and some had asked to be released from the requirement. Thus, the virtual internship was redesigned through the lens of constructivist learning principles in order to enhance students' learning and their attitudes toward the requirement (Snyder, 2012; Ultanir, 2012).

The purpose of this study was to examine interns' attitudes and development as they moved through the redesigned virtual internship. More specifically, it addressed three research questions: 1) how did the interns develop as online instructors during the redesigned virtual internship, 2) what were the interns' reactions to their experiences in the redesigned virtual internship, and 3) how did the internship impact interns' attitudes about teaching physical education content online?

Literature Review

Constructivist Learning Theory and Practices

Constructivist education is a theory that assumes most students learn best through real-life or authentic experience with others (Gold, 2001). This learning takes place as students create meaning by applying prior knowledge to the new information being explored (Schell & Janicki,

2013). Also, the theory asserts that learning (for most) is enhanced through pre-designed environments by knowledgeable facilitators or mentors (Koohang, Riley, Smith, & Schreurs, 2009) who train them to move from passive learners to active leaders of their own development (Rovai, 2003).

This student-centered approach also encourages self-directed discovery of new knowledge and identification of learners' talents and skills (Kaufman, 1996). Finally, having learners teach newfound understanding to others is believed to develop both the leaders and learning peers (Rovai, 2003). Through critical dialog and peer mentoring, learners also can enhance their development (Jaeger, 2013).

Early constructivists, (e.g., Dewey (1916), Vygotsky (1978) and later Bruner (1996), believed that knowledge construction by learners occurred through social interactions and dialog. They were also expected to increase their collaboration and communication skills through this approach (Kim, 2001; Pagan, 2006). More recently, researchers have asserted that constructivist teaching principles and strategies should be applied to online learning to increase efficacy for that delivery model (Huang, 2002; Swan, Garrison, & Richardson, 2009).

Virtual Internships

During the 1990s, K-12 virtual schools were created in many local areas of the US, such as California, Florida, Utah, and Massachusetts. Today, many states require students to experience online learning as part of a graduation requirement (Kennedy & Archambault, 2012). Even though virtual learning has expanded in such environments, the preparation of teachers for this learning environment has been unable to keep pace.

In 2007, the International Association for K-12 Online Learning (iNACOL) called for increased teacher development of virtual teachers (Davis & Rose, 2007). That same year, a national grant led to the development of a teacher education program at Iowa State. It was titled, "Teacher Education Goes into Virtual Schooling" (Davis et al, 2007). Between 2009 and 2010, three Florida universities joined the state's Virtual School system in order to support teacher development for virtual schooling (Kennedy & Archambault, 2012).

In 2012, a national survey identified current types of field experiences in higher education for online educators (Kennedy & Archambault, 2012). Results indicated that only seven (1.3%) of 522 respondents were providing internships by collaborating with K-12 virtual schools. Four of the seven were from Florida, two from South Dakota and one from North Dakota (Kennedy & Archambault, 2012). Thirteen other institutions indicated they were developing programs but only 10 provided details about their plans. This report also noted that some respondents felt unprepared to participate in such development opportunities. Others seemed unaware of the option for online learning in K-12 schools and many discussed only supporting face-to-face internships where "real" learning could take place (Kennedy & Archambault, 2012, p. 195).

Online Instructional Skills

According to various educational leadership groups (e.g., Southern Regional Education Board (SREB, 2006), the National Education Association (NEA, 2006), and the International Society for Technology in Education (ISTE, 2008), specific skills are needed for online teaching to be effective. Later, the International Association for K12 Online Learning developed National Standards for Quality Online Teaching (iNACOL, 2010).

According to iNOCAL, online teachers should be credentialed in fields they teach (as are other

educators). Also in these standards were expectations for specific technological skills to promote "active learning, interaction, participation and collaboration" (iNOCAL, 2010, p. 4). The standards also cited a need for online teachers to provide "regular feedback, prompt response and clear expectations" (iNOCAL, 2010, p. 5) along with appropriate modeling and monitoring of "legal, ethical, safe and healthy [behaviors] related to technology use" (p. 6). In addition, it recommended that online teachers experience real-world learning as students in this environment and develop abilities to attend to the needs of all students. Regarding curriculum development, alignment with appropriate standards (e.g., goals, objectives, and assessments needed to gauge student learning) would be important. Self-evaluation strategies for teachers and learners were also emphasized to help assure expected outcomes (iNOCAL, 2010).

Researchers in this field also identified needed skills and attitudes for online educators. DiPietro, Ferdig, Black, and Preston (2008) discussed the need for exceptional organization skills and the ability to effectively provide ongoing support for learners. They asserted that online teachers must be flexible and understanding of individual student's learning needs as well as being open to new technologies. Other needed capacities included deep subject-matter knowledge and managerial skills relative to students' online behaviors and learning processes (e.g., monitoring their development).

Kearsley and Blomey (2004) recommended that online teachers promote interaction among students throughout their learning. Fuller, Norby, Pearce and Strand (2000) also discussed the need for ample individual feedback along with flexibility and DiPietro's study (2010) of 16 online teachers identified themes related to their success. First, "connecting with students" (p. 333) was considered essential for motivating them and increasing success. They also discussed a need for clearly written "content-related feedback" (p. 335).

Third was "fluid practice" (p. 336) which meant that participants were identified as facilitators who were responsive to the changing needs of students. Using multiple educational strategies was also mentioned to engage "students with content" (p. 337). Results also indicated the need for authentic learning to help students perceive the value of their learning.

In terms of "managing the course" (p. 339), teachers needed to create "equitable and positive" environments (p. 339) and monitor students. Finally, "supporting student success" (p. 340) was identified as an important theme. This included structuring content and pacing of learning for student success. Important to this outcome was a need to encourage peer support and be accessible to them through "instant messaging clients, e-mail, or on the phone" (p. 340).

Research Design and Methods

In order to gauge participating interns' reactions to the redesigned online internship program, researchers designed a qualitative research project. Using a phenomenological approach, the "lived experiences" (Creswell, 2007, p. 57) of participants in the virtual internship were identified. This approach, first described by van Manen (1990) in education, focuses on the description of the phenomenon and identification of themes that depict participants' experiences.

Participants

For this project, preservice students in a K-12 physical education teacher certification program at a southeastern US state university were required to complete a secondary level virtual internship. This experience was delivered during the 16 seniors' fall term. During a class meeting at the

beginning of the semester, a university researcher described the research project and received signed consent forms from eight who agreed to participate.

Data Collection

This qualitative study explored eight preservice students' instructional skill development, experiences, and attitudes as they progressed through the virtual internship. Data collection methods included: (a) document collection (biographical profiles, interns' weekly field notes, interns' journals); (b) semi-structured interviews; (c) audio recorded debriefing sessions with a university supervisor or cooperating teachers (CTs); and (d) open-ended surveys by the interns. Before collecting data, the study was approved by the University of South Florida's institutional review board (IRB# Pro00005418) and consent was received from participants.

The biographical profiles of interns were collected as the study began. Data such as age, gender, and race were collected and interns were asked about previous experiences with online instruction and their feelings as the internship began (from very confident to very anxious). Semi-structured interviews (using an audiotape recorder and interview guides) were conducted with interns near the beginning and end of the internship. Each lasted 30 to 40 minutes. Fourteen questions guided the initial interview and 23 guided the final one. Foci for these interviews included participants' initial expectations and feelings about the internship. Participants were also asked to discuss their attitudes about online instruction and concerns they had at that time. In the second interview, participants responded to similar questions and reactions to specific aspects of the program.

In addition, interns completed open-ended surveys twice (one near the beginning and another at the end of study). For the first survey, interns responded to seven questions about initial reactions to the internship and their expectations for it. For the final 15-item survey, interns were asked about their feelings about their learning experiences and reactions to the program.

During the internship, participants were debriefed by a university supervisor who recorded the sessions. In addition, interns' journals (five written during debriefing sessions) and weekly field notes were collected by the university supervisor. They included reflections about their experiences in the program and other self-selected topics. The field notes discussed content of the CT sessions, their grading of high school students' work, and a list of phone calls or emails made to students and parents. Also, bi-weekly web-based conferences with the four CTs were audio recorded in order to better understand interns' learning experiences and reactions to the program.

Data Analysis

During the study, data were continuously collected and analyzed across participants and data sources. These analyses were conducted using constant comparison and inductive analysis (LeCompte & Schensul, 1999). Recorded interviews and web-based sessions between interns and CTs were transcribed. Then, these data and other written documents (e.g., open-ended surveys, intern journals, intern weekly field notes) were coded according to the time period they were collected. Next, data were reviewed to identify recurring themes relative to interns' experiences and responses over time.

Trustworthiness for data interpretion was generated by triangulating multiple data sources across the eight participants (LeCompte & Schensul, 1999). The researcher, who did not know the interns personally, served as an unbiased peer reviewer to help provide trustworthiness of interpretation (Lincoln & Guba, 1985).

The Redesigned Virtual Internship

In order to redesign the virtual internship, two university faculty members agreed to begin the process (one from the university where the internship took place and another from an online university program specializing in teacher development). First, the team decided to modify an existing summer seminar course to orient interns to the required high school course. Next, the 7.5-week internship was redesigned to emphasize collaboration between interns, CTs, and the university supervisor. Cooperating teachers agreed to expand their responsibilities online with intern pairs in order to provide more opportunities for authentic (experiential) learning.

During this process, the interns' university supervisor, administrators, and CTs from the virtual school agreed to collaborate about potential changes. This involvement led to the final plans for the summer seminar, internship, and research project.

Summer orientation program. During five weeks of a 10-week seminar, 16 interns divided into evaluation teams (pairs or trios) to critically analyze both content and instructional processes in the high school course they were to teach. These sessions lasted 1.5 hours each and required teams to develop critical elements of the course including how it aligned with national standards; highlights of each module relative to these standards; and objectives, activities, and instructional strategies that seemed especially effective for high school learners. They then created handouts featuring these elements for peer teaching episodes during the seminar.

Also, during the summer session, interns participated in a technology-focused orientation by the virtual school (10 online modules). This course explained virtual school operations in general and how classes were to be conducted. This self-directed course was taken individually and featured self-administered quizzes to check for interns' understanding of the content.

Finally, during this seminar, a technology specialist at the university conducted a 1.5-hour training session in the use of a web-conferencing program for the interns. This was critical, since interns were required to use this technology during a web-based class for high school students and to collaborate in sessions with their CTs.

Fall internship. Of 16 interns in the virtual internship, eight volunteered to participate in the research project. They were assigned to an intern partner and each of the four pairs was assigned a CT. Five interns were males and three were females and they ranged from 21 to 29 years old. Four were Hispanic, one was Asian American, and three were Caucasian American.

A university faculty member conducted the summer seminar and served as the interns' supervisor for the fall internship. Two other university researchers redesigned the program and conducted the research project. They were not in a supervisory role with the interns and had no role in the process of grading them, which reduced the potential power relationship. The researcher at the students' university knew them and conducted the interviews and surveys to increase their comfort levels. The researcher from another university did not know the interns. Her role included co-creating the redesign process and research project as well as analyzing data and preparing manuscripts.

During the fall term, interns met on campus two mornings weekly with CTs who monitored them during web-based sessions. The first three weeks featured CT-led sessions that lasted one to two hours each. By the fourth week, sessions were reduced to 30 minutes due to interns' increased knowledge and skills. During these sessions, interns collaborated in pairs using critical dialogue to enhance their planning and problem solving efforts. As expected in constructivist teaching, they experienced authentic learning opportunities while assuming roles as researchers, problem-

solvers, learners, and peer teachers.

Initially, CTs taught interns how to share computer desktops so teams could share each other's data simultaneously. Then, interns analyzed CTs' instructional behaviors, efforts to engage high school students online, and other practices to develop these skills. Mentors explained grading procedures, types of calls and emails to high school students and parents, and time frames required for completing grading and returning emails and calls. Cooperating teachers then assigned each intern up to 15 virtual high school students for grading, tracking progress in their courses, and communicating with them through phone calls and emails.

Mentors also modelled how to grade and provide feedback with rubrics required by the virtual school and shared sample emails featuring scripts for different types of contacts with students and parents/guardians (e.g., welcome calls, monthly calls, and assessment calls). Once interns began grading and giving feedback to high school students, CTs critiqued their efforts emphasizing a need for interns to provide more personalized responses with positive specific feedback.

As the internship progressed, interns increased time spent on grading students' work and monitoring their progress. They conducted more phone calls with students or parents and increased emails to students as appropriate. Interns also used reflective journals during debriefing sessions on their campus to analyze the effectiveness of specific activities. These were conducted by a university supervisor to help them better understand feedback received from CTs and to generate more effective online practices for their online delivery (Kinsella, 2006).

Results

In this section, results of the redesigned virtual internship program are described. Included are participants' reactions to the changed internship as well as their concerns about developing needed teaching skills and teaching physical education online. This section then explores participants in terms of their development over time and changing attitudes about their experiences and futures.

Interns' Initial Reactions to the Redesigned Virtual Internship

Initially participants expressed concerns about the virtual internship. They felt concern about lacking skills needed to teach online. In addition, they expressed reservations about teaching physical education content online.

Concerns about needed teaching skills. In interviews conducted at the start of the research project, participants were clear about their concerns. Nathan said, "I'm a little nervous about phone calls. I don't really like talking on the phone." Sherri was not as specific. Instead, she just "thought it would be overwhelming and a whole lot of work." Chuck echoed her words saying, "It could get overwhelming."

Also in open-ended surveys, students cited specific concerns. Rhonda wrote that, "I'm a little nervous about… emailing [students and parents]. I don't want to sound unprofessional." Sam didn't want to fail either saying, "I don't feel we have had enough training to be thrown into teaching virtually." Sherri felt that she needed "more preparation in parent/student communication" and Kathie stated that, "I don't know how it's going to work." Similarly, Gary felt that he needed "more practice grading students' assignments." Thus, early reports from multiple data sources revealed that seven out of eight participants felt shocked, confused, or anxious

about the internship prospect.

Concerns about teaching physical education online. In their First Open-ended Survey, several participants discussed resistance to the concept of teaching physical education online. Chuck stated that, "I didn't like the idea at all…. I thought it was dumb." Ed noted that, "I was shocked at first because I asked myself how do you teach PE online?" Like Ed, Nathan was "shocked." He believed that "physical education being taught on line defeats the purpose."

Some of these attitudes also were reflected in the interns' first journal submission. Nathan wrote that he was, "not a big fan of online classes." He declared, "Physical Education should absolutely not be done online because that defeats the whole purpose of the class." Chuck also felt that "teaching PE online is a NO…. Physical Education is more than a computer class. It is the class you look forward to going to the whole day."

Three of the interns were also concerned about students actually doing the activity assignments (Gary, Ed, and Kathy) and Gary was disappointed that they would miss "the opportunity to interact with their peers while participating in physical activities." Nathan believed he needed to be "face-to-face to be able to talk to students." He recollected how he "could always turn to [his] PE teachers or coach."

During initial interviews, similar concerns were expressed. Kathy said she found it "hard to imagine PE online" and that "a lot of trust has to go into it" and Sherri questioned "how do you know they are doing [the physical activity]? They can make it up." Chuck also thought this was "the sketchy part."

Outcomes of the Interns' Virtual Internship Experience

Interns reflected more confidence about teaching online as they proceeded through the summer orientation and internship. They also reflected greater receptivity to the idea of teaching physical education online. Aspects of the fall experience included positive interactions with CTs and their team partners (as they practiced online delivery processes). They also mentioned their enhanced time management and online teaching skills.

Interns' Increasing Levels of Confidence. After the summer orientation, interns revealed important changes in their attitudes during interviews. Sherri said, "We learned sections, did presentations and prepared handouts. It was good." We also practiced "phone calls with partners" (First Interview). Kathie brought up the 10 virtual school modules saying that they "helped with navigating through it [which] made it easier" (First Interview). Another element that Chuck found helpful was the web-based conferencing training where he "learned how to be a moderator." He summed it up for many students when he noted that, "I would be lost without the summer sessions" (First Interview).

Thus, after the summer seminar, interns were more positive about the upcoming internship. Chuck said, "Now, I'm excited to start to see if I like it." Similarly, Kathie reflected new enthusiasm saying that, "I'm just anxious to get in there and start doing it." Rhonda also revealed enthusiasm saying that "I'm ready to experience how to be a virtual teacher because it's new and inventive." Sherri reported that, "I'm just excited and ready to learn…. I'm open to whatever is to come." Nathan reflected his confidence level saying that, "it seems easy enough to do."

According to journal submissions from Week 3 of the study, two students discussed their changing attitudes. Rhonda wrote that, "since the first week of class, my comfort level has definitely increased" and Kathie reported that, "at first I often got lost trying to navigate my way…

but now I could draw a map!"

During second interviews at the end of the study, interns again reflected feeling enthusiastic or confident about the online teaching experience. Gary relayed that, "I thought it was an exciting new way of getting students active." Rhonda reported that she really liked "the virtual school because it brings PE up to date…. I think the content is fun." Ed said, "I think the virtual school is great and I would love a chance to work for them. I think it's a great idea to teach PE online." Sherri agreed saying, "I liked it a lot more than I thought I would. I really enjoyed the experience." Like Sherri, Chuck felt more enthusiastic about the prospect. He said, "I got to like it more when I was more confident at the end. It grew on me." Though not his "preferred method," Sam admitted, "I felt I learned a new style of teaching…. I learned a ton" and, though Nathan repeated his feeling that virtual schooling "defeated the purpose of teaching PE," he also advised that, "I am more confident that I could use it."

In their Week 7 Field Notes, interns' new confidence emerged as a topic again. Sam said that, "although many of us felt uncomfortable and out of place, I think we all took something positive out of this experience." Sherri relayed a similar response saying that, "I think this whole thing was an awesome experience and I'm grateful that I got the opportunity."

Interns valued the experience both because they appreciated their development through it and due to new and varied employment opportunities for their careers. Ed stated that, "I know there are more teaching chances for me" (Second Open-ended Survey). In her Week 3 Journal, Sherri reflected similar feelings by saying "the knowledge I gain here will only benefit me in the future when I'm searching for a job." Kathie also discussed her future saying that, "the best part about using technology is that, as long as there is Internet, I can go anywhere I want and still be able to teach" (Week 7 Journal).

Interns' Changing Attitudes about Teaching Physical Education Online. By the conclusion of the internship, attitudes about teaching physical education online varied. Two of the interns remained negative about this prospect. In his Second Open-ended Survey, Nathan said that "PE online still doesn't make sense" and Sam repeated this feeling responding "To me it still doesn't make sense."

However, others' attitudes had changed during the internship and, by the end, they reflected more positive feelings. Chuck said that though he "didn't like it much at first" and thought "it was dumb," he later revealed that he "got to like it more when [he] was more confident at the end." (Second Open-ended Survey). Kathy agreed saying that she "never thought it was possible to teach PE via the Internet and now [she sees] it is possible." In addition, some felt more positive about teaching the content online, though several thought it would be better as a hybrid or blended course (Gary & Nathan, Second Open-ended Survey).

Positive Impacts of Cooperating Teachers. The positive impact of CTs emerged as an important theme relative to interns' development. In their Week 7 Journals, they discussed their mentors with Sam relaying that, "Our virtual school cooperating teacher was always positive…. She told us to always have a smile on our face and things [would] go in the right direction." Rhonda respected her CT "as a professional" saying "she always encouraged us…and was always prepared when coming to the…sessions." Thus, participants recognized CTs' knowledge, attitudes, and online skills for their professional development.

Sherri mentioned aspects of working with her CT saying that she was "really helpful and positive with everything we've done so far. I know if I have a problem, I can go to her for help. Not having her there would definitely make things more difficult and scary" (Week 3 Journal). Kathie

appreciated her CT saying, “I have learned to stay relaxed and just go with the flow because whenever something goes wrong, she just makes light of the situation and moves on—That has now become my new outlook” (Week 3 Journal).

The interns reiterated similar perceptions in their Week 7 Field Notes. Kathie wrote that her CT and peer intern “definitely helped me enjoy [the experience] and get the most out of it.” Sherri agreed saying that, “She was ridiculously positive and nice.” In his Week 3 Journal, Gary wrote that his CT “even provided us with her work and personal cell numbers so we could text her if we [had questions].”

Positive Impacts of Peer Interns. In addition to the support of cooperating teachers, interns felt great comfort in collaborating with a peer partner during the experience. In their initial interviews, Sherri explained that, “we’re going through it together. We can freak out together and help each other out. My partner is good with technology.” Kathie felt having a partner made the experience “not as intimidating.” She found it “comforting feeling like you have someone next to you.” Chuck believed “it would be a lot harder” without a partner and Nathan thought his partner would be there to “help [him]…if [he] got in trouble.”

In their Week 3 Journals, interns continued to be grateful for the support of a peer. Kathie wrote, “Often times I doubt myself so it is nice having my partner there so I can run something by her for reassurance. Overall, she has made this experience manageable because I know we are in the same boat.” Sam felt it was “nice to have somebody else to struggle with because you don’t feel like you’re alone.” Chuck felt the same, writing, “It is always better to have a partner no matter what you’re doing because two heads are better than one. I definitely wouldn’t be as confident if we were alone at our houses.”

The interns also recognized benefits from working in a common space (classroom) with other peers. In his Week 3 Journal, Gary wrote, “Just having my classmates nearby has eased some of the tension, frustration, and anxiety.” He continued, saying that, “I can look around and see that I am not the only one struggling.” Rhonda mentioned, “classmates had given [her] some pointers such as being more personable in phone calls.” She also gave back saying, “I helped some peers when trying to log on.” In his Second Open-ended Survey, Nathan summarized his feelings. He wrote, “the best help…was having my coop [CT] and the rest of my peers available to help.”

Improved Time Management. Initially, some of the interns were concerned about time management because they realized the need “to be timely with contacting people, doing phone calls, and grading” (Sherri, First Interview). Six of the eight mentioned their growth in time management and organizational skills and their belief that these skills would help them in the future (Ed, Sherri, Chuck, Sam, Kathie, and Nathan).

In her Week 3 Journal, Kathie wrote that “if I didn’t have to be here, I would most likely be sleeping in and putting off grading until the evening when it is due.” In her Week 7 Journal, she reflected on her growth saying that, “after doing this internship, my time management skills have definitely improved.” In his Second Open-ended Survey, Chuck noted that the internship helped him “by learning to stay on top of students with no teacher telling [him] to.”

Enhanced Online Teaching Skills

Throughout the virtual internship, interns discussed their increasing confidence relative to communication and instructional skills with students and parents. Communicating through phone calls and via emails was often mentioned in this context. In terms of specific teaching skills discussed, two themes were identified: assessment skills and enhanced questioning skills.

Communicating through phone calls. Initially the interns expressed concerns about phone calls and emails to students and parents. As the internship progressed, they reflected increased confidence in these skills.

In their second open-ended surveys, several discussed their growing communication skills. Kathie wrote that she "liked talking to parents more as [she] became more confident" and that it "grew on [her]." Ed appreciated this opportunity because he "was able to practice phone calls which [was] something [he] had not done." In his Week 7 Field Notes, Gary discussed his experiences saying, "I did a MC [monthly call) with a parent and I was able to give her great information to help her son get his grades up…. I have improved on my ability to communicate with parents over the phone."

Two interns appreciated tips shared by their cooperating teachers on how to improve the tone of phone calls. Each discussed the value of smiling while talking to them. Gary wrote in his Week 7 Journal, "Smiling during phone calls creates the proper tone. Non-verbal communication is a huge part of our dialogue that is missing over the phone. Putting a smile … will make a huge difference." Kathie also discussed this saying, "I realized when the phone was answered at first I came across as negative because of my tone. Talking to a student with a smile on my face changed the way that students heard my voice." Rhonda felt like "planning what to say in phone calls helps so much." She believed if you didn't "you might get tongue tied or caught off guard with a question" (Week 7 Journal).

Communicating through email. Several of the interns discussed their enhanced skills creating emails. In his Week 7 Journal, Gary wrote that he learned to "be extra mindful and take your time when putting things in writing…." Rhonda discussed this also saying, "being positive in emails to students about being behind really increases the rate of assignments turned in. They tend to feel more comfortable with the teacher and feel they can talk to you about any problem they may be having with the content" (Week 7 Journal).

Assessment skills. By the end of the internship, six interns reported feeling more confident using rubrics and providing positive specific feedback to students. Gary said, "I understand the importance of being able to provide immediate specific feedback" and delivering it "in a positive manner" (Second Open-ended Survey). Rhonda indicated that "being able to grade assignments to a rubric really helped" and that "providing the students with positive feedback…really motivates them" (Week 7 Journal). Ed appreciated that he "was able to practice grading which [was] something [he] had not done" and Sam agreed saying, "practice grading helped [him] most" (Second Open-ended Survey). Sherri also felt "much better at grading papers with positive feedback" as did Chuck who wrote that he had "improved on grading … [and increased his] comfort level" with it (Week 7 Field Notes).

Enhanced questioning skills. Three interns discussed their growth in the use of questioning to engage students. When Sherri and Kathie talked about the web-based session for high school students, they were excited by how well it went. In her Week 7 Field Notes, Sherri wrote, "teaching the [web] lesson was pretty cool. The students were all responsive to my questions and [CT] told me that when students submitted their work, a lot made comments about it being awesome." Kathie also thought that students were fully engaged during her session. She wrote, "The students were so quick to respond that when I looked at the chat box everyone hit 'enter' at the same time. I felt pretty cool when [CT] said she's going to try that for her next session" (Week 7 Field Notes).

Discussion, Implications, and Limitations

Results of this study revealed that university interns moved from anxiety, shock, and other expressions of resistance to enthusiasm for delivering a virtual physical education course for high school students in response to a required internship and orientation seminar. After experiencing sessions that featured constructivist-learning strategies, they felt able and eager to take on the challenge. Participants were active leaders of their own development (both in reference to challenging content and the use of effective online delivery skills) (Kroll & LaBosky, 1996; Rovai, 2003).

These results reflect a major assumption in constructivist theory that learning opportunities should be more student-centered (Cannella & Reif, 1994). With ongoing training in self-directed learning approaches during this study, participants discovered new talents and skills that they found more effective and enjoyable (Candy, 1991; Kaufman, 1996).

In addition, throughout the summer orientation and fall internship, interns worked in teams of two as researchers, planners and problem solvers. Assuming roles of curriculum evaluation specialists, they critically analyzed the course they would be teaching later. These analyses were then presented to the other intern teams. From their responses to these interactions and active learning experiences, interns reflected growth as collaborators, critical thinkers, planners and delivers of required content. Thus, results align with expectations of constructivist teaching where learners create new knowledge with others cooperatively (social learning) and then teach it to others to quickly bring an entire class to similar levels of knowledge and skills (Kroll & LaBoskey, 1996; Rovai, 2003). After these sessions, participants felt confident in their abilities to negotiate the course and successfully deliver it to high school students online.

Another constructivist teaching strategy reflected in these results was using mentors (e.g., university supervisor and cooperating teachers) who served as guides, models, and facilitators while interns developed needed collaboration and communication skills (Thompson, Jeffries, & Topping, 2010). In addition, interns served as peer mentors using critical dialogue with each other and their developers (Jaeger, 2013). This allowed them to grasp challenging requirements of the internship together while discovering other areas that needed additional support (self- and peer-evaluation of developmental needs) (Cannella & Reif, 1994).

A final constructivist strategy for the study involved authentic learning through hands-on experiences (Brooks & Brooks, 1993; Richardson, 1997).). Throughout the summer orientation and fall internship, participants developed needed content knowledge and online delivery skills through real-world teaching experiences (Gould, 2003; Wiggins, 2007). The number of online sessions led solely by interns increased over time, as did their feedback to students, grading of student work, and monitoring of students' progress.

Though traditional face-to-face internships are still the norm in teacher education, broadening pre-service teachers' opportunities for future employment is critical. Knowing K-12 virtual schooling is growing quickly, learning how to best prepare future teachers for this arena is recommended. Also, the effectiveness of peers and CTs in collaborative teams reflects the potential efficacy of this practice. Perhaps, other learning environments with different age groups, content areas, and delivery systems are warranted.

Regarding limitations, the small sample in this research project prevents generalization of results to other sites and populations. However, in qualitative research, generalization is not usually a concern. Also, interviews and surveys depend on participants providing accurate data, which cannot always be confirmed. However, data triangulation across multiple sources (participants and data collection methods) was used to enhance trustworthiness. In this vein, separating the supervision and grading roles reduced the researcher's power influence with interns and, the

researcher who co-analyzed data had no control over the interns' evaluation.

Conclusions

Results of this study reveal that university interns can move from anxiety and other expressions of resistance to enthusiasm for delivering a virtual physical education course for high school students during a required orientation seminar and subsequent internship. After a summer orientation and internship employing constructivist learning strategies, most of the interns felt ready and eager to take on the challenge.

Several components of the program were identified as contributors to these changes. First, participants became actively involved in their own development (both in reference to content knowledge and the use of effective online delivery skills). Working in peer teams, interns assumed roles as curriculum evaluation specialists identifying important elements of the course they would be teaching. Each team analyzed assigned modules for the course in terms of important elements and how they aligned with national standards. Their analyses were then peer taught to the other intern teams. After this training, participants felt able to negotiate the course during the virtual internship and successfully delivering it to real students online.

By working with peer partners and a mentoring cooperating teacher during the internship, participants developed effective collaboration and communication skills. These included specific capabilities relative to calling or emailing students and parents, assessing students' work online, and providing positive specific feedback to the high school students as needed.

Though two interns continued to question the appropriateness of teaching physical activity content online, most were positive about the redesigned learning opportunity. Several suggested that the online course would be better implemented as a blended or hybrid course with half of the content taught online and half face-to-face. Some continued to question if the students were actually completing the physical activity assignments, while others appreciated the discovery of a new medium for their teaching.

As a result of the constructivist learning strategies emphasized during this study, interns were able to immerse themselves in deep learning of complex content knowledge and skills. By the end of the experience, each felt prepared to effectively deliver courses online and all were ready to teach online if needed in their futures.

References

1. Brooks J., & Brooks, M. (1993). ***The case for the constructivist classrooms.*** Alexandria, VA: ASCD.
2. Bruner, J.S. (1996). ***The culture of education.*** Cambridge, MA: Harvard University Press.
3. Candy, P.C. (1991). ***Self-direction for lifelong learning.*** San Francisco, CA: Jossey-Bass.
4. Cannella, G.S., & Reif, J.C. (1994). Individual constructivist teacher education: Teachers as empowered learners. ***Teacher Education Quarterly, 21***(3), 27-38.
5. Compton, I., & Davis, N. (2010). The impact of and the key elements from a successful virtual early field experience: Lessons learned from a case study. ***Contemporary Issues in Technology and Teacher Education, 10***(3), 309-337.
6. Compton, I., Davis, N.F., & Mackey, J. (2009). Field experience in virtual schooling—to be

there virtually. ***Journal of Technology and Teacher Education, 17***(4), 459-477.
7. Davis, N.E., Roblyer, M.D., Charania, A., Ferdig, R.E., Harms, C., Compton, L., & Cho, M. (2007). Illustrating the "virtual" in virtual schooling: Challenges and strategies for creating real tools to prepare virtual teachers. ***Internet and Higher Education, 10***(1), 27-39.
8. Davis, N. E., & Rose, R. (2007). P***rofessional development for virtual schooling and online learning.*** International Association for K-12 Online Learning. Retrieved from http://www.nacol.org/docs/NACOL_PDforVSandOlnLrng.pdf
9. Dewey, J. (1916). ***Democracy and education.*** New York, NY: The Free Press.
10. DiPietro, M. (2010). Virtual school pedagogy: The instructional practices of K-12 virtual school teachers. ***Journal of Educational Computing Research, 42***(3), 327-354.
11. DiPietro, M., Ferdig, R. E., Black, E. W., & Preston, M. (2008). Best practices in teaching K-12 online: Lessons learned from Michigan Virtual School teachers. ***Journal of Interactive Online Learning, 7***(1), 10-35.
12. Fuller, D., Norby, R. Pearce, K. & Strand, S. (2000). Internet teaching by style: Profiling the on-line professor. ***Educational Technology & Society, 3***(2), 71-85.
13. Gold, S. (2001). A constructivist approach to online training for online teachers. ***Journal of Asychronous Learning Networks, 5***(1), 35-57.
14. Gould, C. (2003). ***Constructivism and practice: Toward a historical epistemology.*** Lanham, MD: Rowman & Littlefield.
15. Huang, H.M. (2002). Toward constructivism for adult learners in online environments. ***British Journal of Educational Technology, 33***(1), 27-37.
16. International Association for K-12 Online Learning (iNACOL). (2010). ***National Standards for Quality Online Teaching.*** Retrieved June 18, 2015, from this URL.
17. International Society for Technology in Education (ISTE). (2008). ***National Educational Technology Standards (NETS*T) and Performance Indicators for Teachers***. Retrieved June 18, 2015, from this URL.
18. Jaeger, E.L. (2013). Teacher reflection: Supports, barriers, and results. ***Issues in Teacher Education, 22***(1), 89-104.
19. Kaufman, D. (1996). Constructivist-based experiential learning in teacher education. ***Action in Teacher Education, 18***(2), 40-49.
20. Kearsley, G., & Blomeyer, R. (2004). Preparing teachers to teach online. ***Educational Technology, 44***(1), 49-52.
21. Kennedy, K., & Archambault, L. (2012). Offering preservice teachers field experiences in K-12 online learning: A national survey of teacher education programs. ***Journal of Teacher Education, 63,*** 185-200.
22. Kim, B. (2001). Social Constructivism. In M. Orey (Ed.), ***Emerging persepctives on learning, teaching, and technology.*** Retrieved March 10, 2005, from http://epltt.coe.uga.edu/
23. Kinsella, E.A. (2006). Constructivist underpinnings in Donald Schon's theory of reflective practice: Echoes of Nelson Goodman. ***Reflective Practice: International and Multidisciplinary Prospectives, 7***(3), 277-286.
24. Koohang, A., Riley, L., Smith, T., & Schreurs, J. (2009). E-Learning and constructivism: From theory to application. ***Interdisciplinary Journal of E-Learning and Learning Objects, 5,*** 91-107.
25. Kroll, L.R., & LaBosky, V.K. (1996). Practicing what we preach: Constructivism in a teacher education program. ***Action in Teacher Education, 18(***2), 63-72.
26. LeCompte, M., & Schensul, J. (1999). D***esigning and conducting ethnographic research***. Walnut Creek, CA: Alta Mira.
27. Lincoln, Y., & Guba, E. (1985). ***Naturalistic inquiry.*** Newbury Park, CA: Sage.
28. National Education Association. (2006). ***NEA Guide to Teaching Online Courses.*** Retrieved June 18, 2015, from http://www.nea.org/home/30103.htm
29. Pagán, B. (2006). Positive contributions of constructivism to educational design. E***urope's***

Journal of Psychology, 2(1). Retrieved March 8, 2015, from http://ejop.psychopen.eu/article/view/318/html

30. Richardson, V. (1997). Constructivist teaching and teacher education: Theory and practice. In V. Richardson (Ed.), ***Constructivist teacher education: Building new understandings*** (pp. 3-14). Washington, DC: Falmer Press.
31. Rovai, A.P. (2003). A constructivist approach to online college learning. ***The Internet and Higher Education, 7,*** 79-93.
32. Schell, G.P., & Janicki, T.J. (2013). Online course pedagogy and the constructivist learning model. ***Journal of the Southern Association for Information Systems, 1***(1), 26-36.
33. Snyder, C. (2012). Finding the "royal road" to learning to teach: Listening to novice teacher voices in order to improve the effectiveness of teacher education. ***Teacher Education Quarterly, 39***(4), 33-53.
34. Southern Regional Educational Board. (2006). ***SREB essential principles of high-quality online teaching: Guidelines for evaluating K-12 online teachers.*** Retrieved June 15, 2015, from http://www.sreb.org/programs/edtech/pubs/PDF/Essential_Principles.pdf
35. Swan, K., Garrison, D. R., & Richardson, J. C. (2009). A constructivist approach to online learning: The Community of Inquiry framework. In C. R. Payne (Ed.), ***Information technology and constructivism in higher education: Progressive learning frameworks*** (pp. 43-57). Hershey, PA: IGI Global.
36. Thompson, L., Jeffries, M., &Topping, K. (2010). E-mentoring for e-learning development. ***Innovations in Education and Teaching International, 47***(3), 305-315.
37. Ultanir, E. (2012). An epistemological glance at the constructivist approach: Constructivist learning in Dewey, Piaget, and Montessori. ***International Journal of Instruction, 5***(2), 195-212.
38. Vygotsky, L.S. (1978). ***Mind in society.*** Cambridge, MA: Harvard University Press.
39. Wiggins, J. (2007). Authentic practice and process in music teacher education. ***Music Education Journal, 93***(3), 36-42.

Nell Faucette, Physical Education Program, Department of Teaching and Learning Professor**,** University of South Florida. E-mail: faucette@usf.edu

Peg Nugent, retired Professor, Argosy University Online. E-mail: pegnugent2@gmail.com