Physical education teachers' online teaching experiences and perceptions during the COVID-19 pandemic

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Abstract

Problem Statement: A newly discovered infectious disease, known as COVID-19, has spread across the world with alarming speed. This resulted in shifting from face-to-face to online instruction and provoking stress and anxiety for many physical education teachers. **Purpose:** Grounded in transformative learning theory, we examined physical education teachers' perceptions and experiences online teaching during the COVID-19 pandemic. **Method:** The participants in the present study consisted of four male and four female teachers who were all certified in teaching PE from several different regions of the United States. A semi-structured interview was employed. Five participants teach at the public elementary school and three participants teach at the public middle school. The following questions guided this study: (a) what are the perceptions of physical education teachers when they are requested online teaching?; (b) what are the experiences of physical education teachers when transitioning from face-to-face physical education to online teaching? and; (c) Did your perspectives change after online teaching? The data were analyzed by open, axial, and selective coding. **Results:** The following themes emerged from the analysis: (a) Not excited about online teaching: Lack of technological knowledge; (b) Benefits and challenges of online teaching; (c) Main goal: engage in physical activity; (d) Marginalization: physical education is not valued and; (e) Longing for face-to-face physical education. **Conclusions:** The findings of the current study showed that participants expressed unfavorable perceptions of online teaching during the COVID-19 pandemic. The results of this study revealed that all of the participants looked forward to teaching face-to-face physical education because they missed in-person relationships and interactions with their students.

Keywords: online physical education, transformative learning theory, school, teaching

Introduction

A newly discovered infectious disease, known as Coronavirus 19 (COVID-19), has spread across the world with alarming speed. As a result, the impact of COVID-19 led to dramatic changes in many venues such as economy, society, and education. With regards to education, for example, many countries mandated temporary school closures, forcing teachers and students to stay away from school in an attempt to reduce the spread of COVID-19 (UNESCO, 2020). The U.S. Department of Education (2020) indicates that since the middle of March 2020 most K-12 public schools in the U.S. have shifted from face-to-face to online instruction. Although online instruction has been incorporated in education over the last few decades (Krause, Franks, & Lynch, 2017), this unexpected and abrupt transition provoked stress and anxiety for many teachers.

As online education has grown in popularity, an increasing number of studies have been carried out to examine teachers' online teaching experiences and perceptions (Sword, 2012; Hur, Cullen, & Brush, 2010). Some evidence suggests that online teaching provides teachers with an opportunity to grow professionally because it helps them develop technological skills, understand instructional design, and diversify online teaching content (Conceicao, 2006). According to Sword (2012), online teaching promotes critical thinking and creative ideas as it requires a number of new instructional approaches. For example, Stone and Chaney (2011) pointed out that online teaching had a positive impact on face-to-face instruction as it helped teachers integrate instructional technology and strategies. Similarly, McDonald (2002) posited that "in addition to reaching learners at a distance, distance education formats are increasingly being used to enrich, improve, and expand face-to-face instruction, thus resulting in a 'convergence' of educational practices" (p.12). Barbour and Kennedy (2014) found that online teaching encouraged teachers to adopt a new role of facilitators, assisting students to develop problem solving skills, stressing critical thinking, and encouraging collaborative interaction among students. As a result of such benefits and advantages, some studies found that teachers showed a positive attitude toward online teaching (Trust, 2018; Casey et al., 2017). In contrast, other literature has observed that teachers report

negative experiences and perceptions of online teaching. For instance, Hixon and Buckenmeyer (2009) reported that teachers expressed concerns about online teaching for the following reasons: (a) lack of training, (b) lack of technological knowledge and skills, (c) lack of support from their schools, and (d) lack of technological devices. In other studies, teachers were found not to favor online teaching because they felt it is too time-consuming (Kopcha, 2012), and difficult to instruct and manage class (Inan & Lowther, 2010), and challenge to holding students accountable (Archambault, Freidhoff, & Kennedy, 2016).

As the expansion of online education, online physical education (OLPE) has been offered most commonly to secondary level students, allowing them to gain credits for physical education (PE) class (NASPE, 2014). However, the effectiveness and quality of OLPE remains in question (Daum & Woods, 2015). SHAPE America (2016) reported that less than half of the U.S. states (19 out of 44 states) required certified teachers to teach OLPE and approximately 40 states allowed individuals to teach OLPE before they were certified to teach PE. In addition, according to Daum and Buschner (2012), OLPE tends to offer limited content, usually focusing on fitness and wellness, weight training, and one specific sport (e.g., golf). Moreover, PE should encourage an increase in the amount of time that students engage in physical activity. However, one study showed that most OLPE classes at the secondary level failed to meet the national guidelines for time spent on PE (Daum & Buchner, 2012). Hager and colleagues (2012) found that students who took online based physical education showed 8% lower physical activity levels than students who took face-to-face PE.

Transformative learning theory is based on how an individual's point of view is shaped and changed as a result of critical reflection, experience, and development (Mezirow, 1981). Transformative learning theory was developed in the late 1970s by Jack Mezirow. It grew out of his work exploring the impact of postsecondary education on women in terms of finding and managing their careers (Mezirow, 1981). Since then, the theory has been extended and used to examine various areas, such as education (Henderson, 2010), andragogy (Cranton & Taylor, 2012), and psychology (Lee & Brett, 2015). According to Cranton (2006), transformative learning is a "process of examining, questioning, validating, and revising our perspective" (p.23). Zull (2006) indicated that transformative learning occurs when an individual critically reflects on previous ideas, values, or feelings and actively constructs new perspectives.

Numerous studies on online education have used the framework of transformative learning theory to investigate the way that online teaching can shift the paradigm of instruction (McDonald, 2002), change the way that teachers interact with students (Brinthaupt et al., 2011), and foster students' engagement (Baran, Correia, & Thompson, 2013). More recently, Graham (2019) examined perceptions and experiences of online teaching by interviewing 12 community college faculty members. The results of the study reported that online teaching enhanced the interactions between faculty and students as well as facilitating active learning (Graham, 2019).

The purpose of this study was to examine PE teachers' experiences and perceptions of online teaching during the COVID-19 pandemic. The following questions guided this study: (a) what are the perceptions of PE teachers when they are requested online teaching?; (b) what are the experiences of PE teachers when transitioning from face-to-face PE to online teaching? and; (c) did PE teachers' perspectives change after online teaching?

Methods

Participants

The participants in the present study consisted of four male and four female teachers who were all certified in teaching PE from several different regions of the United States. Five participants had a bachelor's degree and three participants had a master's degree. Years of teaching experience ranged from 10 to 32 years ($M=17.8$, $SD=15.6$). Five participants teach at the public elementary school and three participants teach at the public middle school. For confidentiality purposes, the authors assigned a pseudonym to each participant.

Procedures and data collection

The university's institutional review board (IRB) granted permission to conduct this study, and all of the participants provided informed consent. Initially, the first author gathered a list of 30 PE teachers from the multiple school districts in the United States. Emails were sent to the PE teachers inviting them to participate in this study. Also, detailed information about the study was posted in several PE related groups on Facebook for approximately three weeks including Physical Education Resources, Online Physical Education/Technology, and Physical/Fitness Education for Physical Education Teacher. A total of eight PE teachers contacted the first author and they were invited as participants. All participants were requested to shift their teaching from face-to-face PE to online teaching from the middle of March 2020 to May 2020. The instruction was delivered synchronously and asynchronously.

The main sources of data were formal semi-structured interviews. Eight of the participants were formally interviewed over the telephone. The interview conducted between June 2020 and July 2020. The interviews ranged from 45 to 55 minutes and were audio recorded for transcription. All of the interviews were transcribed verbatim. The interview guide consisted of five demographic questions such as gender, years of teaching experience, degree, teaching place, and teaching grade level and 15 open-ended questions. The interview questions focused on the participants' experiences and perceptions of online teaching during the

COVID-19 pandemic. Examples of interview questions included: (a) how did you feel when you were requested online teaching?, (b) what were some benefits and challenges of online teaching?, and (c) did your perceptions changed after the online teaching experience?.

Data Analysis and Trustworthiness

Data were analyzed using the procedures outlined by Corbin and Strauss (2014) for open, axial, and selective coding. Initially, five authors read and reviewed transcripts independently to identify distinct emergent themes for categorization. As Glaser (1992) suggested, authors completed this process by reading transcripts and descriptions line by line. As a result, the initial set of codes was developed by labeling and coding words and phrases found in transcripts. Then, four authors compared and discussed the initial set of codes to refine, align, and categorize the themes. Particularly, the constant comparison method was used to scrutinize meaningful themes and generate connections among themes. Finally, selective coding was conducted, the emerging themes were further defined, compared, and identified to frame a higher level of themes and construct meaning. During this phase, four authors discussed their analysis until constructive themes were obtained.

Trustworthiness of the data was established in several ways. Member checking was employed which involved asking the participants to review the transcripts of the interview and provide additional thoughts or information (Lincoln & Guba, 1985). Six participants responded that the results were accurately described by their online teaching experiences. They also provided minor edits. In addition, with five authors involved in the research, peer scrutiny of the research ensures that authors design the study and analyzed the data correctly.

Results

The following five themes emerged from the data analysis: (a) Not excited about online teaching: Lack of technological experiences and knowledge; (b) Benefits and challenges of online teaching; (c) Main goal: Engage in physical activity; (d) Marginalization: PE is not valued and; (e) Longing for face-to-face PE.

Not excited about online teaching: Lack of technological experiences and knowledge

After transitioning from face-to-face to online teaching due to the COVID-19, the participants in this study reported that their initial thoughts about online teaching were unfavorable. Amy stated, "I was not excited. I was a bit nervous. I thought that is not PE for me". Noah also noted, "I was not excited and concerned about the transition". All of the participants were not excited about online teaching due to the lack of technological experiences and knowledge. Susan stated, "This is the first time I've had to do this...my experience with technology is very limited. I would not call what you say... I'm not very savvy at all". Chris also shared, "I am a veteran teacher who really did not do too much technology. Every so often we would show a video, like a yoga video or something like that, to follow along with. Other than that, really did not have anything through technology". A lack of technological knowledge was discussed by Amy "Very little computer knowledge. Usually if I needed something online or on the computer and I would call someone in the library". Although some participants were familiar with using technology and had some technological knowledge, there was a gap between knowing technology and applying it into online teaching.

Noah noted,

I have a fair amount of experience using different applications and different sites. For example, I have my on YouTube channel so I create videos for my classes. I edit a lot of videos, and things like that, using different software. I have maybe 6 out of 10 levels of knowledge for google classroom. I know how to navigate it, I know how to use it, but I do not know a lot of tricks or specific functions that allow me to effectively teach my classes.

Benefits and challenges of online teaching

All of the participants indicated some benefits of online teaching. It was found that some students who lack skills and confidence were motivated in online PE. Gloria explained, "The benefit that I found was that kids who are a little bit more shy in the gym, a little more afraid to perform in front of others... when they're home and they're comfortable with their brothers and sisters, they're more willing to show me what they know without being shy". Chris elaborated,

I found that some of my kids who were quieter during regular class, they seemed to really step it up doing things from home. They were on their own and not around the other kids so for them it may have been super positive and they didn't feel other kids were judging. Some of the kids that weren't participating much in the classroom were commenting that they enjoyed including their family in things so for those kids it seemed to have really pumped them up.

In addition to the benefits for students, this experience helped the participants improve online teaching skills and provide them an opportunity to be better PE teachers. Noah explained,

My ability to create resources and share them online has grown. My ability to access some of these video platforms like Zoom and google meet has grown. My efficiency for creating instructional videos and exercise videos has grown significantly. My philosophy on my PE teaching has also grown. It has

solidified some aspects of my mission statement for what I want to achieve in teaching. It has made me what is really important.

However, most of the participants expressed concerns about the lack of content for online teaching. Gloria mentioned, "I've been doing a lot of research on how to teach the online PE course content and a lot of research on what other teachers are doing...But my experience and confidence in the beginning was zero. I didn't have any idea on how to do this". Jon also commented, "My challenge has been to figure out, with that knowledge, how to make it meaningful and relevant content for my middle school students". Additionally, some participants explained that their lessons were geared toward activities that did require less equipment and space. Gloria mentioned, "I think that the hardest part was the equipment, trying to find lessons where you could use the equipment at home that they commonly have at home to teach the lessons". Mia also elaborated,

Some of the biggest changes were maintaining that idea of the space. We took lessons that we were originally teaching in our gym, in our space, and modified it for a home, living room and backyard. Also, a lot of activities had to change from interacting with someone else and now you kind of have to do it on your own. The way we delivered it clearly changed. Having to record instructions or give them in the text if we could not use the video.

To overcome limited online teaching content, the participants collaborated with their colleagues. Amy shared, "I worked with my fellow PE teachers daily. There were about four of us that got together, and we would share ideas by figuring out things went well and what we were doing wrong and getting it fixed".

Main goal: Engage in physical activity

The results of this study found that the main goal of online teaching during the COVID-19 pandemic was to promote students to engage in physical activity. Mark explained, "The main goal for this distance learning is to provide opportunities for students to be physically active". Chris also echoed, "The main goal was to keep the students active. 30-35 minutes a day to be physically active and engage in physical fitness". As a result, some participants expressed that online teaching prevented them from including fundamental values in PE such as sportsmanship, cooperation, and standard-based PE. For example, Gloria explained,

I don't want physical education to become all about fitness and workouts. I think that's okay, but, really, what PE is good for with my little kids... teaching them sportsmanship, and cooperation... those important things are life skills, not necessarily how to cheer somebody on when they're doing push-ups. That's the part we're missing. We don't have that social interaction.

Jon also shared the difficulties of embracing the various domains during the online teaching,

Maintaining the understanding that PE is all about physical literacy and not just about physical activity has been a challenge as well. A lot of students and parents have restored kind of back to that idea that PE equals physical activity and physical activity equals PE, which is not necessarily a concept. Physical activity plus reflection on learning on conceptual thinking equals physical education. Not exclusively physical activity equals PE. There must be affective and cognitive domains that foster student's learning in PE. Students can do and learn physical activity; however, PE should address more than it.

Marginalization: PE is not valued

Most of the participants experienced marginalization while conducting online teaching during the COVID-19 pandemic. Gloria mentioned, "Because physical education is not as valued as other academic subjects, our principal told us that nothing was mandatory for art, music, and PE, and that we would not be teaching full lessons". The participants expressed that parents and students did not consider PE as important. Chris said, "Kids and their parents see PE was less important than other subjects". For example, Mia indicated, "I'm just really disappointed in the lack of participation with the kids. I have 217 kids that I have in my classes and I'm getting maybe 110 to 130 kids within a week. So, I'm barely making half of my class right now". In addition, Noah shared, "The parents and the kids really felt overwhelmed with the whole situation and the amount of work they had to do. They were really concentrating on the core subjects". Formal assessments were also omitted amid the COVID-19 pandemic. Most of the participants noted that they were not required to assess students. Mia explained, "We didn't have any formal assessments because we were not allowed to do it. It was just an assignment that was going home with the workout, and they just have to right it back to us telling how it went for them. That's what we were told that we were doing". Susan said, "For us, the overall district was not giving grades. It was encouraged and not expected. I was just checking them off". Particularly, several participants expressed frustration in holding students accountable without conducting the assessment. Mia explained,

It has been really tough. I know that we have been directed by our district to keep track of who has been engaged with materials we are providing. It is not about the quality of the work. It's been frustrating. Assessment is an important process for PE to keep it valued.

Longing for face-to-face PE

All of the participants strongly craved to teach face-to-face PE. The primary reason was rooted in the enjoyment of interaction with students. Chris commented, "We're making the best of it, but it's not what I was signed up to do. I don't want to keep doing this because I miss kids and the way I've been teaching". Moreover,

the participants perceived that online teaching was not as effective as face-to-face PE. Susan explained, "I don't think my perceptions or feelings have changed about it. PE is such a hands-on class, like a lot of feedback, instant feedback, and the kids don't necessarily get that through online". Jon also noted, I feel like it's much, much more difficult to teach fundamental movement skills, to teach movement concepts without being able to be in the physical space with enough children to facilitate a scenario. Watching videos cannot take you so far... I think we're definitely missing a very important and in-person component.

Discussion

Grounded in transformative learning theory, the purpose of this study was to examine PE teachers' experiences and perceptions of online teaching during the COVID-19 pandemic. The results of this study indicated that participants' initial feelings about online teaching were negative. They used phrases such as "not excited", "worried", and "overwhelmed" to describe their feelings. The participants' negative perception was mainly driven by the lack of technological experiences and knowledge. According to Bodsworth and Goodyear (2016), a lack of experience with online technology has been found to evoke negative perceptions by PE teachers toward its use and integration in their teaching. Although other forms of technology have been incorporated into PE teaching, such as pedometers, heart rate monitors, and video feedback, studies have reported that most PE teachers have not extensively used technology for their instruction (Potdevin et al., 2018; Krause, Franks, & Lynch, 2017). Ertmer (2005) suggested several ways to shift teachers' beliefs and perceptions of using technology, including (a) personal experiences (adopting and accepting the use of technology), (b) vicarious experiences (observing other professionals or teachers' use of technology), and (c) social-cultural influences (the culture of community use of technology). In addition, technological knowledge plays a critical role in enhancing online teaching. The results of this study showed that most of the participants indicated a lack of technological knowledge which caused them to feel unprepared and nervous to take on online teaching. According to Krause and Lynch (2018), although various technological knowledge and skills are required in online teaching, knowing the basic technology is not sufficient for PE teachers to effectively instruct online classes. Mishra and Koehler (2006) stressed the ability of technology integration and implication in online teaching. In other words, PE teachers should be able to understand how the various technological tools and platforms can be utilized in their online teaching rather than knowing the functions of the technology.

The result of this study indicated some benefits of online teaching. For example, participants of this study observed increased participation from students who described as "unskilled" or "afraid to perform in front of others". As the students were given tasks to perform at their home, this environment may have enabled them to feel safe which facilitated their participation. In addition, the participants indicated that this online teaching experience helped them provide professional and personal development opportunities. Specifically, the participants were able to learn and develop technological and pedagogical skills.

However, all of the participants were faced with challenges due to the limited online teaching content. According to Krause and Lynch (2018), the lesson content should be properly refined when applied in online teaching. Despite the participants' knowledge of the content in PE, it was difficult for them to find, design, and alter the content that they have taught in face-to-face for online teaching. In addition, the results of this study showed that the content of the online teaching was constrained significantly due to the lack of equipment and space. The participants were required to develop and implement content that took place at students' home where equipment for physical activities and sports are limited. This resulted in restraining the scope of the content. For example, in line with a previous study (Daum & Buschner, 2012), the main lesson was found to be fitness as it requires little equipment. Although some participants provided other lessons such as dance, locomotor skills, and manipulative skills, all of the participants consistently mentioned that the content of the online teaching was insufficient. To enhance the content, the participants collaborated with other colleagues. It is noticeable that collaborative work could be a significant factor in improving content in online teaching (Angeli & Valandies, 2013). Such collaborative work between teachers can serve as a vehicle to bring diverse resources, knowledge, and experiences to develop a variety of content (Krause & Lynch, 2018).

Unfortunately, PE has been undervalued for the last few decades (Richards, Templin, & Graber, 2014). According to Sparks and Wayman (1993), "physical educators teach a subject that tends to be defined as peripheral to the central functions of the school; that is, PE is a marginal subject" (p.387). The marginalization of PE has resulted in reducing budget, forcing isolation, and limiting administrative support (Barroso et al., 2005). Additionally, the marginalization has had a negative impact on PE teachers, including low self-efficacy, burnout, and wash-out (Carlson & Henninger, 2011). The results of this study showed that the participants experienced marginalization. The participants indicated that school administrators were less likely to advocate PE. For example, students' performance was not formally assessed as PE was not required during their online teaching period. As a result, it was difficult for the participants to ensure students' understanding and hold them accountable. Furthermore, as all of the school subjects were shifted from face-to-face class to online class, it was found that students and parents were more likely to focus on other core subjects (e.g., math, language art, and science). Consequently, participants observed a lack of student participation and a high rate of absenteeism in their classes.

The results of this study revealed that all of the participants looked forward to teaching face-to-face PE because they missed in-person relationships and interactions with their students. Although some interactions occurred via emails or online platforms, the participants felt disconnected from students. PE is unquestionably a hands-on subject in which benefits and learning are maximized when in-person interactions are established (Rink, 2013). According to Ennis and Zhu (1991), building relationships with students is an enjoyable, meaningful, and valuable aspect for PE teachers. It was found that PE teachers are motivated to teach when they create a good rapport with their students (Mousavi et al., 2012). However, this study reported a lack of opportunity to build relationships with students in online teaching. The participants indicated that online teaching is not as effective as face-to-face PE. For instance, it was difficult for the participants to provide effective and prompt feedback to assist students. According to Fredenburg, Lee, and Solmon (2001), appropriate feedback plays a vital role in improving skills, competence, and motivation for students in PE. Specifically, providing prompt and immediate feedback helps students prevent continued incorrect performances and reinforce correct performances (Mendes, Thomas, & Cleaver, 2011). It was found that the participants who particularly used the asynchronous delivery method had difficulty in providing effective feedback. The participants emphasized that online teaching may contain some benefits; however, the effectiveness and importance of face-to-face PE was solidified during the online teaching experience.

Some limitations should be considered in this study. First, no high school PE teachers were recruited in this study. The high school PE teachers' experiences and perceptions of online teaching may be different than elementary and middle school PE teachers. Second, despite the rich description of PE teachers' perceptions and experiences using semi-structured interviews, the sample size of this study is small. Future research about online teaching should recruit a greater number of participants. Finally, no novice PE teachers participated in this study. All of the participants in this study have more than 10 years of teaching experiences. Studies pointed out the different beliefs and perceptions of online teaching between novice and experienced teachers (Bailey & Card, 2009; Underdahl & Palacio-Cayetano, 2001). Thus, novice PE teachers' experiences and perceptions of online teaching may be different than experienced PE teachers.

Conclusions

The findings of the current study showed that participants expressed unfavorable perceptions of online teaching during the COVID-19 pandemic. This was due to the lack of technological experiences and knowledge. Some benefits of online teaching were found such as enhancing participation for students who lack skills and confidence in PE and helping the participants grow professionally and personally. However, the instruction was limited as the participants had difficulty in designing lesson content and using limited equipment and space. Additionally, the results showed that marginalization occurred as school administrators, parents, and students paid more attention to other subjects.

The results of this current study demonstrated that the participants lack technological experiences and knowledge. Therefore, it is recommended that more professional development or seminars should be available for PE teachers to enhance technological ability. These trainings should focus on technological skills as well as understanding how technology can be integrated into their teaching. Additionally, there is a need for the development of specific content and pedagogical practices designed for online teaching. Considering the recommendation of SHAPE (2014), it is vital to develop a comprehensive online teaching approach that can embrace three learning domains in PE, authentic assessment, and various lessons. Finally, as the marginalization intensified during the COVID-19 pandemic, school administrators' beliefs, value, and support on PE is vital.

Disclosure Statement

No potential conflict of interest was reported by the authors.

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