The Physical Educator Vol. 78 • pp. 119–137 • 2021
https://doi.org/10.18666/TPE-2021-V78-I2-10866

PEDAGOGY

I Need Help! Physical Educators Transition to Distance Learning During COVID-19

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Abstract

During the spring of 2020, school districts across the United States were required to shift to distance learning modalities due to the COVID-19 pandemic. The pandemic forced schools to close their doors to face-to-face instruction and quickly shift to an online format. While online education is prevalent in the United States, it only serves about 2% to 4% of the total K–12 population. Literature related to K–12 online physical education is sparse and there are concerns regarding accountability. This study used a grounded theory approach and collected data through open-ended questions as part of an online survey. Data clearly indicate that physical educators need assistance in the transition to distance learning, especially in developing plans for teaching motor skills and online pedagogies. Many of the teachers in this study expressed frustration with how their school leadership handled the shift to distance learning, partially due to the marginalization of the subject matter. Physical educators need the tools to expand their pedagogical technological knowledge as well as resources to advocate for themselves and their subject during adverse situations in schools. The shift to distance learning has the potential to have positive outcomes, as teachers were forced out of their comfort zones to learn new technology skills that may translate to enhanced learning in the face-to-face environment. Future studies should focus on development of distance learning pedagogies and seek to understand how to support teachers during crisis learning situations.

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During the spring of 2020, the COVID-19 pandemic came to the forefront and caused a majority of the school districts in the United States to shift to remote learning. That shift required state departments of education, school districts, schools, teachers, parents, and students to make significant adjustments to the delivery of learning. School districts rushed to adapt to guidelines from local and national institutes of health. At the same time, teachers had to change their mode of instruction, including the use of learning management systems (LMS). Teachers have increasingly used LMS, such as Canvas, Google Classroom, Schoology, and Seesaw, in their face-to-face (FTF) classes (Cheung & Slavin, 2013; Sorensen, 2016), systems which had yet to be utilized in such a widespread manner. Additionally, parents were suddenly thrust into the position of managing their child's distance learning experience while working from home.

Distance learning in the United States is complicated. Full-time online schools, most of which are charter schools, enrolled approximately 375,000 students during the 2018–2019 school year (Digital Learning Collaborative [DLC], 2020). There are also hybrid programs, typically run at the district or school level, for which students are not on campus 5 days per week. These hybrid programs serve an unknown number of students due to the complexity of data reporting (DLC, 2020). Additionally, the largest category of distance learning is supplemental online courses, typically run by state virtual schools, but not every state has one. Total enrollments in these supplemental programs are over 1 million, but could be much larger (DLC, 2020). While online education options are prevalent, prior to the pandemic these programs served a relatively small percentage of the overall K–12 student population in the United States (DLC, 2020).

Online Learning in Physical Education

Resources and research specific to online physical education (OLPE) instruction are scarce. One document that offers guidance is SHAPE America's (2020) *Guidelines for K–12 Online Physical Education,* which provides information on appropriate practices, assessment strategies, and sample lessons. A couple reviews of online and blended physical education (PE) literature (see Daum & Buschner, 2018; Killian et al. 2019) ultimately conclude that research

is limited and more substantial research is required to examine this mode of PE delivery to expand understanding and determine best practices. OLPE courses tend to be cognitive in nature and focus on health-related fitness concepts (Daum & Buschner, 2018). While there is some guidance in the OLPE literature, there is a difference between online education when it is a choice versus the distance learning shift due to the pandemic.

When it is a choice, there are benefits to offering PE online such as meeting the needs of nontraditional students (i.e., homeschooled children), those recovering from illness or injury, and students enrolled in work-study programs. At least 31 states have policies that allow PE credits to be earned through online courses (SHAPE America, 2016b); however, students in all 50 states have access to online education (DLC, 2019). During the 2016–2017 academic year, health and fitness courses made up approximately 8% of total course enrollments at state-run virtual schools (DLC, 2019). Prior to the pandemic, OLPE was a widespread option; however, it was not available to all students.

Teaching online is significantly different from teaching in FTF environments. Perhaps the most obvious is the way teachers and students interact. Some OLPE teachers have expressed that maintaining communication with students is the biggest challenge of teaching online (Daum & Buschner, 2012). One reason physical educators choose to teach online is for the flexibility it offers (Williams, 2013). OLPE teachers have also noted feeling that they get to know their students better because of the one-on-one contact (Daum & Buschner, 2012; Williams, 2013) that is not always afforded in the FTF environment because of large class sizes (Thompson et al., 2019). However, OLPE has some significant accountability concerns, especially in the psychomotor domain (Daum & Buschner, 2018; Killian et al., 2019). Teachers and professional development opportunities should consider the literature related to OLPE to help guide the design of distance learning experiences.

Professional Development in Physical Education

School districts scrambled to support their teachers in the shift to distance learning; some of that support came in the form of professional development. It is unclear what that professional development focused on; however, the literature related to professional

development for in-service PE is well established. Unfortunately, professional development for physical educators is not always effective, does not affect teaching practice, and often neglects the specific needs of physical educators (Armour & Makopoulou, 2012; Armour & Yelling, 2004). Administrators might be overlooking their physical educators, viewing PE as unequal to other subjects and not affording the same resources as "core" subjects (Stevens-Smith et al., 2006). School districts need to be cognizant to support all their teachers; physical educators often feel isolated and do not have the same opportunities as their peers (Kougioumtzis et al., 2011). It is clear, however, that physical educators must have meaningful professional development to advance as educators.

Theoretical Framework

Given the lack of a literature base and the exceptional circumstances because of the massive shift to online learning due to COVID-19-related events, we used a grounded theory (Glaser & Strauss, 1967) approach to guide this study. Grounded theory is typically used to research phenomena that lack sufficient theoretical foundations (Vollstedt & Rezat, 2019). The strength of grounded theory is in the quality of methodology and data analysis by constant comparative analysis through open and axial coding (Strauss & Corbin, 1998). Given the exploratory nature of this study, the purpose of this study was to explore the types of support physical educators need and their concerns about a continued shift toward distance learning. Specifically, this study sought to examine two questions:

1. What types of support and/or professional development did PE teachers think they would need to develop their competencies related to distance learning?
2. What concerns did PE teachers have if they had to continue to teach via distance learning in the fall of 2020?

Method

A questionnaire was developed and sent to PE teachers in California, New Mexico, and Texas near the end of the 2020 school year. The questionnaire contained selected response demographic questions and two open-ended questions. The open-ended questions allowed teachers to respond to the types of support they received

during the transition to distance learning and the concerns they had about returning to teaching in the fall of 2020.

Participants

A convenience sample of PE teachers from Arizona, California, New Mexico, and Texas were recruited for this study. These states were selected based on relationships between SHAPE America affiliates in each state and Dr. Josiah Johnson, Dr. David Daum, and Dr. Jason Norris. Additionally, California and Texas represent two of the most populous states and have diverse populations. The California, New Mexico, and Texas SHAPE America affiliates sent an email with the survey to their membership. The Arizona affiliate organization agreed to provide the link to the questionnaire to its membership, but it is not clear if that was successful as there were not any responses from Arizona. Two hundred thirty-four responded and 226 participants completed survey questions (n = 215 completed all questions). Eight participants were excluded from the study because they declined to participate or they were not current PE teachers. Teachers had an average of 17.44 (SD = 9.89) years teaching experience and taught in a variety of grade levels (Middle School, n = 82; Elementary, n = 43; High School, n = 56; K–6, n = 20; 6–12, n = 8; K–12, n = 8; Elementary and High School, n = 2) in suburban (n = 137), urban (n = 53), and rural (n = 23) settings. Slightly less than half of the teachers worked at a Title 1 school (yes, n =109; no, n = 96; not sure, n = 22). A majority of the respondents were female (n =134; males, n = 79; nonbinary, n = 3) and earned a master's degree (bachelor's, n = 83; master's, n = 127; PhD/EdD, n = 1). PE class sizes ranged from small to very large. Small classes (n = 7) contained 20 students or less. Medium classes (n = 54) had between 21 and 30 students. Large classes (n = 56) had between 31 and 40 students, and very large classes (n = 106) had 41 or more students.

Data Sources

A quantitative and qualitative questionnaire was developed based on prior research in OLPE (Daum & Buschner, 2012). The survey from Daum and Buschner (2012) was used as a framework based on its specificity toward understanding the experiences of OLPE teachers, which is directly relevant to this study. Additionally, PE and educational technology experts reviewed the survey, which

determined content, face, and construct validity of the questionnaire. This manuscript focuses on data from the open-ended responses from the questionnaire and the quantitative data will be published separately. Given the volume of responses and qualitative responses, the open-ended responses were split from the quantitative data. The open-ended questions allowed the teachers to describe in detail their experiences during the transition to distance learning, providing a rich source of qualitative data. The first question covered the types of support teachers received from their school districts during the transition to distance learning. The second covered teachers' concerns about continuing to teach remotely in the fall of 2020.

Data Analysis

We analyzed qualitative data using the constant comparative method (Strauss & Corbin, 1998) to analyze data inductively. We used open and axial coding methodology (Babchuk, 1997; Creswell, 2002) to conceptualize the data and then categorize. To establish credibility and trustworthiness of the data, Dr. Johnson and Dr. Daum, who are familiar with the constant comparative method, worked independently to develop their own codes and then met to discuss. They then discussed overlap and discrepancies and created a single revised codebook before coding the entire data set. They placed the open-ended responses into categories specified by the codebook and organized the responses into themes. Dr. Norris, who has experience in qualitative research, served as the peer reviewer and reviewed all codes in the data set to confirm findings and highlight any discrepancies.

Results and Discussion

Five themes emerged from the data: professional development, instructional technology, distance learning pedagogy, equity issues, and the marginalization of PE. Teachers discussed the need for more professional development related to educational technology and training specific to teaching PE online. The instructional technology theme discussed the need for technology-related support and training. Conversations around how to teach PE online are presented in the distance learning theme. Similar but related issues are discussed in the final two themes of equity and marginalization. There were concerns about students being able to participate in distance

learning in the fall because of the lack of resources and specific supports. Some students lacked resources and parental support, while others were responsible for caring for younger siblings. This section also discusses the status of PE with administrators and parents.

I Need Help With Professional Development!

Before COVID-19, professional development for instructional technology was related to its use in FTF settings (Karlin et al., 2018; Mouza & Barrett-Greenly, 2015). Once the transition to distance learning happened, teachers required additional training in using instructional technology for distance learning in synchronous and asynchronous settings. In this study, teachers overwhelmingly responded that they needed more professional development to align their curriculum with standards and create cohesive units containing engaging lessons that encourage active student participation.

Twenty teachers expressed an interest in PE-specific development or criticized the professional development they received because it was geared toward classroom teachers. As discussed, professional development in PE has its issues, with one participant mentioning that her district had not provided PE-specific professional development since 2005. A middle school teacher said she needed professional development for "technology programs/apps that are great to use for PE distance learning lessons and how to use them for PE . . . not programs/apps that are best for classroom teachers and how to use them in core content areas" when asked about the supports she needed to improve her distance learning competencies.

Teachers cited a need for professional development to assist them in aligning their distance learning lessons to curriculum standards, including instruction and assessment in the affective, cognitive, and psychomotor domains. Teachers mentioned that it was easy to instruct and assess the affective and cognitive domains. A high school teacher said, "I do not want my role to be turned into providing lots of written work and to stray away from what we focused on when students came to school." Even though teachers desired to do more than written assignments, some expressed the difficulties of developing lessons focused on the psychomotor domain. Others expressed concerns about developing lessons related to standards that require playing games and sports.

Fourteen teachers suggested it would be easier for them to align their curriculum to state standards if their districts would provide professional development on the use of and access to premade third-party materials such as curriculums, lesson plans, and videos they could load into an LMS. Premade lessons would reduce teacher workload and free up more time for reviewing assessments and providing feedback to students. However, premade assessments do not consider external and contextual factors. Teachers need to consider the students' and community's sociocultural background, and premade lessons may not account for those factors.

Teachers also criticized low participation rates from students and said they wanted ideas on what worked for other teachers. Teachers wanted professional development to help engage students at home while minimizing the amount of screen time students experience per day. Screen time is already an issue for students (Raistenskis et al., 2015) and online learning has the potential to add a significant amount of screen time to a child's day. Teachers created lessons based on videos from the internet that were often based on aspects of health-related fitness. Eleven teachers expressed a desire for professional development in project-based learning and social-emotional learning, which would provide variety for their students.

Within professional development, teachers expressed a desire to collaborate with their peers. An elementary teacher expressed an interest in informal peer professional development. She wanted to videoconference with colleagues who could teach her how to use technology in her classes. Teachers also had an interest in sharing lessons and finding out what other teachers in the profession were doing. A K–8 PE teacher said, "I want to know what other schools did for PE. How did they assess? What did they assess? . . . What did other schools do???" PE teachers are often isolated on their campus (Kougioumtzis et al., 2011), and a middle school teacher said, "I would like to collaborate with other PE teachers; my department had NONE." Other teachers wanted time to collaborate with and feedback from administrators and instructional technologists who have experience teaching online.

I Need Help With Technology!

Using technology to deploy distance learning lessons was difficult for some teachers, and teachers identified the need for more

assistance in using LMS, fitness apps, video editing, and videoconferencing applications. One high school teacher seemed desperate in his desire for more training; he wanted "everything possible!!!! Breakout rooms, Pear Deck, more online interactions, music, video, anything and everything." While retraining teachers on the spot in an unfamiliar aspect of education is a tall task, there is a clear need for more technology assistance.

LMS are the backbone of online learning. They are the portal that allows teachers to post lesson instructions, content, and assessments for students to access at home. LMS also have built-in tools for grading and communication, which can reduce teacher workloads. Teachers did receive professional development on LMS, but problems arose when schools used multiple LMS or grading programs separate from the LMS. Another issue was when schools transitioned from one LMS to another midsemester.

Some teachers suggested the district house a repository of premade videos that teachers could load into their LMS, while others were interested in creating videos. Related to videos, a middle school teacher said she was "well versed in tech. I used video, apps, and Google to provide information, assignments, and communications prior to the shutdown. I would like more training on producing YouTube videos for my students." While videos are a great teaching tool, they do have a downside; another teacher raised concerns about students posting videos on social media to mock teachers.

Teachers livestreamed their PE classes during the shutdown, and they expressed an interest in using videoconferencing systems, such as Zoom and Google Meet, to teach more live sessions. Teachers saw these synchronous teaching tools as a benefit; however, they were unsure about managing large classes on the platforms and needed help with their livestreaming endeavors. They also had issues with training matching the available technology. For example, a high school teacher mentioned that "Zoom doesn't do well with my internet and teacher Chromebook. That means I can't use Zoom effectively. For interactions with my students, I can still use Google Meet. However, most trainings are using Zoom." It is not too big of a stretch to assume students also had these same issues with their school-issued technology not working well with their teachers' technology expectations.

Teachers were also interested in learning about and using fitness apps and mobile technology for their distance learning classes. The use of fitness trackers could provide students with accurate data on their activity levels (Brooke et al., 2017), and teachers expressed the need for training on the use of fitness apps for their distance learning classes. Beyond apps, teachers were also interested in subscriptions to health and PE websites. For example, a middle school teacher would "like access to physical education–specific websites and platforms that focus on the multiple aspects of physical education and not just fitness." The teachers in this study were desperate for technological assistance, resources, and ideas.

I Need Help With Distance Learning Pedagogy

The teachers in this study wanted to make PE meaningful during distance learning. Teachers were worried about developing relationships with students, engaging students (including attendance), providing timely feedback, and students completing their PE lessons. Teachers wanted their students to do more than just be active, focusing on cognitive domain activities, health lessons, and bodyweight exercise activities. They wanted ideas on how to convey the importance of PE to students and parents and how to increase student engagement.

The lack of space and equipment in online and FTF settings was a significant concern for teachers. One high school teacher exemplified this point, saying, "Most kids don't have access to PE equipment at home, so we have to assign basic activity (walking/running/bike rides) and bodyweight exercises." Teachers questioned how they would provide equipment if students were going to continue distance learning in the fall. Teachers were also concerned that space constraints would limit the types of activities they could assign their students. For example, an elementary teacher wanted to know "how to teach state standard–aligned lessons in tiny spaces without any equipment and how to get students to exercise when they are stuck in small apartments without the ability to go outside." Physical activity is a defining characteristic of PE programs (SHAPE America, 2016a). However, as the participants identified, they struggled to conceptualize how to teach concepts other than fitness due to space and equipment limitations. They were also concerned about student

engagement in activities with limited space and equipment. A K–8 PE teacher said, "Kids had no room to move during our online PE class. Kids did not have equipment at home. Meetings online became stale and repetitive."

Besides struggling with what content to teach, some teachers were concerned that PE turned into watching premade videos asynchronously or participating in synchronous learning via videoconferencing applications, such as Zoom. An elementary school teacher said, "I did yoga, and not all students were excited for it, so I had only 30–50% participation." Teachers wanted alternative ideas on how to conduct their distance learning, which limited the use of screens for learning. There are already concerns about screen time leading to an increase in sedentary behaviors (Raistenskis et al., 2015), and that would only increase if students are spending more time in video meetings instead of interacting FTF.

As identified, figuring out how and what to teach was a struggle for these teachers, but they also wanted help with implementing distance learning assessments. Teachers felt comfortable with assessments in the cognitive domain; however, they identified assessments in the affective and psychomotor domains as challenging. A middle school teacher said, "I am concerned on how I am going to teach and assess the game play standards required in eighth grade physical education." Activity logs and activity journals were common forms of assessments for these teachers (Daum & Buschner, 2012). However, they were worried that students were not doing what they claimed in their journals. Another issue raised about assessments was the class size and student load. One teacher mentioned they were responsible for assessing motor skills, and the only way to do assessments online would be through videoconferencing. The apprehension was not only about how to go about doing it, but also about the time it would take to individually assess students' motor skills given the limitations of live class sessions.

Teachers also had concerns about teaching FTF and hybrid classes in the fall, including having enough space due to likely social distance requirements, limited amounts of equipment, and time to clean equipment. Social distancing requirements would be difficult to achieve indoors with large classes. Outdoor spaces are not always an option in specific locations due to weather. Social distancing

requirements would also limit activities that can be done during PE and prevent students from sharing equipment. Centers for Disease Control and Prevention (2020) guidelines recommend disinfecting high-touch areas frequently, and teachers likely would not have the time to disinfect their gym and equipment between passing periods.

While much of the data discussed distance learning issues and the gaps in professional development and competencies, there were some positive replies. Some teachers felt confident during the shutdown. There were tech-savvy teachers in schools where every student was given a Chromebook at the beginning of the school year. The teachers had received prior training in using the LMS, and the students were already familiar with completing assignments online. Others reported they had learned enough during the spring semester to be ready for distance learning or FTF instruction in the fall. Four teachers expressed uneasiness about student hygiene, sanitation, and social distancing, and three teachers thought online would be a better option because they thought students would have difficulty following those public health guidelines.

Will Everyone Be Able to Participate in the Fall?

Another prominent concern of teachers was issues of equity. There is a digital divide in America (Reddick et al., 2020), and teachers reported some students did not have access to devices and high-speed internet at home. Some participants said that their school districts addressed these issues by providing laptops and tablets and mobile hotspots for students who needed devices and internet access. However, this solution was not 100% effective, as identified by one elementary teacher: "All students were given Chromebooks/hotspots if needed, but students were having difficulty accessing video with hot spots." Access and equity issues have to be a consideration for teachers planning distance learning lessons.

The inability of some parents to supervise their children's distance learning activities was another teacher concern. Not every parent can work from home and assist their children during the day. Some older children may have to look after their younger siblings, limiting their ability to work on their schoolwork. Parents and other caregivers may not understand the technology and will not be able to

help their children with online lessons. Another concern was being able to provide services for English language learners and special education students. Schools provide safe environments and healthy meals for some students. Students will be losing that if schools remain closed and all learning takes place online.

Another issue of equity is for teachers themselves. A middle school teacher wondered how she would balance teaching while monitoring her own children: "My partner is also a teacher and we have two children (first grade and fourth grade). It was very difficult managing us both trying to teach our students and teach our own children, especially because the younger one needs someone to sit next to her to assist movement through her assignments on the computer." Teaching full time while having kids at home who also need help with their schoolwork certainly was taxing on some participants.

Do People Even Care About Pe?

The marginalization of PE was a concern for returning to school in the fall. Teachers worried that COVID-related budget shortfalls would disproportionately affect PE programs. They also worried that the number of required minutes of physical activity per week would be reduced or eliminated or that PE itself would be modified or eliminated. These concerns led to apprehension about employment status during the 2020–2021 school year. This study was conducted prior to the passage of the next fiscal year budget in California, New Mexico, and Texas, where the participants taught.

Some teachers made it clear they were unhappy and frustrated with how distance learning was handled at state, district, and campus levels. One area cited was a lack of clear, consistent communication from the people in charge. Teachers were unsure about the length of the initial shutdown and did not know if they would be returning to school in the spring or finishing via distance learning. Teachers also received mixed messages about restarting school in the fall. Some teachers were given plans about a return to FTF teaching, while others were told they would continue with distance learning. The plans were not always stable, and the mode of instruction was changed midstream. The lack of clear guidance made it difficult for teachers to prepare for the return to school.

Teachers also mentioned that school districts, administrators, and parents were treating PE differently than the core subjects. Large class sizes, double cohort classes, lack of space, and limited equipment are common PE problems (Barroso et al., 2005). An elementary teacher who was clearly frustrated said she had "no equipment, social distancing, masks and double cohorts (combined classes). This will be challenging with 600 teacher contacts a week," while another elementary teacher said she would be "using Google Classroom for 600+ students in 12+ classes." Having this many students would certainly make it challenging for teachers to maintain adequate contact and instruct all their students. Teachers also reported their district provided an online curriculum for core subjects, but PE teachers were left to independently develop their curriculum.

Teachers also thought administrators at the campus and district level, parents, and students did not think PE was important; for example, one middle school teacher said she "had a few parents not realize that PE was part of the distance learning. I'm worried that the subject might be marginalized as 'core' teachers assign too much work to compensate for lack of classroom time." However, it was not just about being included; a middle school teacher thought "parents [were] prioritizing other classes instead of equally providing time to all subjects." Additionally, some participants questioned the viability of teaching PE online. For example, a middle school teacher felt PE could not be

> successfully taught using the distance learning format. It is "physical education." It's hands-on. It's facilitating and demonstrating and directing and orchestrating and executing. It's keeping 30–40 students engaged in movement, and that requires being there in person. . . . them and you.

Unfortunately, FTF instruction will not be a reality for many students and teachers in the near future, so the profession needs to work together to develop meaningful OLPE lessons that satisfy all curriculum standards.

Conclusion

The COVID-19 shutdown highlighted some significant concerns for the PE profession, including access to quality PE-specific

professional development, large class sizes and student load, lack of equipment and resources, limited ability to collaborate with peers, and the perception that PE is not as important as other subjects (Armour & Yelling, 2004; Barroso et al., 2005). The participants in this study indicated they needed more professional development in instructional technology and OPLE pedagogy. They were concerned about teaching online, bonding with students in online classes, and creating engaging lessons when school resumed in the fall.

The shutdown could bring about some positive changes for the PE profession. A common issue the participants identified is how to cover all required standards while teaching large classes and, in some cases, every student in the school. One possible solution could be using hybrid and flipped classroom models in the PE setting (Killian & Woods, 2018). Teachers can use videos to explain the following day's activities, reducing instructional time and increasing active learning time in FTF settings. They can post skill instruction videos with checklists and practice schedules so children can develop skills at home. These new skills will allow teachers to create online modules that can cover curriculum standards in the cognitive domain, and they can save time posting automatically graded assignments through their LMS. However, if PE moves to more online and hybrid models, the profession must begin developing OLPE models that include all content standards, especially ones focused on motor skill acquisition.

Given that the pandemic-related shutdown started in March, the questionnaire was developed and deployed rapidly so it would reach teachers before they left for their summer breaks, which for many schools is toward the end of May or early June. This study was limited to collecting data from participants who were members of their state organizations, which does not include all PE teachers in their state; therefore, data are not generalizable. Additionally, it is likely many teachers did not respond due to the complexities of teaching online during a pandemic. Teachers were not asked to provide documents related to professional development or the development of their distance learning lessons, which eliminated triangulation on verification of the claims teachers made in the questionnaire.

Future studies should seek to expand upon the knowledge base related to teachers' and students' experiences in distance learning,

including a more in-depth analysis of the types of lessons and assessments teachers created to inform best practices. Researchers should examine the development and implementation of PE-specific professional development in the use of instructional technology and distance learning pedagogy. Additionally, future studies should focus on the development of best practices for distance learning in PE.

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