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The Impact of COVID-19 on Teachers' Ability to Navigate the Delivery of APE Services

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For most of 2020, the landscapes of K–12 schools and universities across the globe were greatly altered, as many schools have moved courses to a virtual setting or to teach students with social distancing safety measures (Lu et al., 2020; Varea & González-Calvo, 2020). Of the academic areas that have been affected, physical education and special education are likely to suffer the greatest effect on the quality of their content and delivery. Special education provides services to students with disabilities who may need additional supports and accommodations

to meet their unique needs; however, online settings may be void of the needed supports. In addition, physical education largely focuses on physical activity and heavily relies on equipment for nearly every lesson (Barrett & Lu, 2020). Thus, an area that is likely to be severely affected is adapted physical education (APE), because this area is a subset of physical education that focuses on delivering individualized instruction to students with disabilities (Lieberman et al., 2020).

Physical educators have reported several barriers that interfere with their ability to effectively use technology within their

curricula that are unique to their discipline. Gibbone et al. (2010) reported that physical educators perceive that the unique constraints of a limited budget, limited training and large class sizes interfere with their ability to effectively integrate technology in their physical education classes. Given the recent impact the COVID-19 pandemic has had on educational delivery methods, it is alarming that there has not been substantial research dedicated to teaching physical education to students with disabilities using hybrid or online teaching models (Killian et al., 2019). According to a recent scoping review (Killian et al., 2019), only nine studies have been conducted since 2000 that focus on the implementation of physical education within an online setting. In addition, none of these studies focused on the implementation or delivery of APE services. Given the immediacy and impact of COVID, literature describing teacher practices that support student learning is both timely and needed.

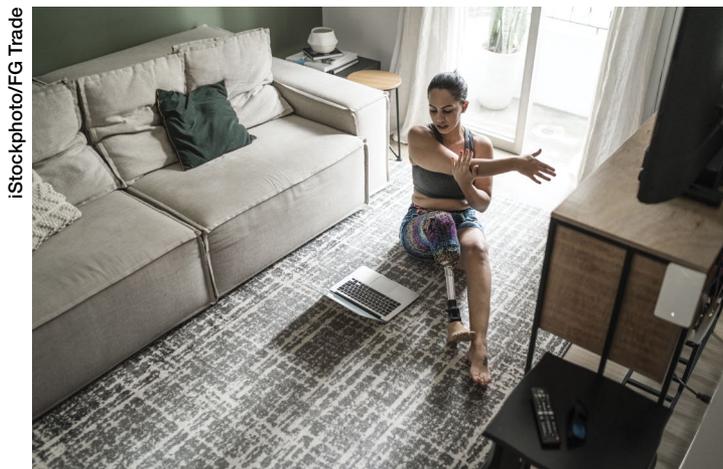
Contributing Authors and Purpose

This article aims to provide insight into the daily experiences and struggles of APE teachers during the COVID-19 pandemic from across the nation. More specifically, six APE teachers from across the nation have contributed to this article, sharing their perspectives and teaching experiences, including strategies used during the COVID-19 pandemic. The article describes challenges and successes they experienced while conducting their responsibilities, including the following: (a) monitoring and implementing individualized education programs (IEPs) and (b) writing and monitoring goals and objectives.

Among the group of APE teachers represented in this article, each has received an APE teaching award at either the state, regional or national level. For example, three of the APE teachers who authored this article have been recognized by SHAPE America – Society of Health and Physical Education as a national APE teacher of the year. Prior to the COVID-19 pandemic these APE teachers' positions varied. Some provided direct services to students with disabilities primarily in one school setting, and others are itinerant or serving as an APE consultant for multiple school districts. Each of the contributors' overarching goals as an APE teacher focus on providing curricular lessons aligned to the general physical education standards to meet individuals' unique needs, as well as providing the necessary skills the students need to engage in lifetime physical activity in the community with the maximum potential level of independence possible.

Brad serves students with multiple disabilities at a separate day public school. His students range between the ages of 3 and 21 years. He conducts assessments to determine eligibility for APE services and implements appropriate portions of the students' IEPs. Jen provides direct services and consultation to students with

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disabilities at the middle school and high school levels in a variety of settings. Ashlie provides direct APE services to students from Grades K–12 across 10 schools and serves as a consultant for general physical educators. Dave provides direct APE services to students with disabilities and serves as a consultant to general physical educators teaching students with disabilities within their classes. Heidi provides services to students aged 3 to 5 in a variety of preschool programs. She is also part of a transdisciplinary team consisting of occupational and physical therapists with the responsibility to conduct formal assessments and collaboratively implement instruction. Her job consists of working with general physical educators to adapt content, instructional strategies and equipment so that students with disabilities can access the physical education curriculum. Table 1 provides an overview of the contributors' APE teaching positions.

APE Teaching During COVID

As a response to COVID, the educators moved to virtual settings in March 2020, when the COVID-19 pandemic required that educators move quickly to virtual settings. APE teachers, like all other educators, had to find ways to continue to teach students and provide effective services. Many of the contributing authors have developed and used YouTube to curate videos that highlight workouts, skill breakdowns or how to use equipment frequently found in the home. Oftentimes videos were selected for individuals and would help them to work on progressing toward their individualized goals and objectives. Many of the contributing APE teachers also address students' individualized needs through one-on-one live sessions with the families and students via Zoom, Google Meet or Microsoft Teams. During these sessions, families often required extra support from the educators to use the technology prior to being able to access the educational experience. Though the one-on-one live sessions appeared to be time consuming for many of the APE teachers, they also offered an opportunity to teach families strategies that support their child's growth and development.

To provide APE services during distance learning, Brad supports families by placing educational resources, including Google Classroom and Padlet, in one location for them. Brad also developed websites through Google Sites. This allowed him to organize all of the physical education content so that families would only need to go to one location. Google Sites includes weekly prerecorded video

Table 1.
Demographic Information on the Adapted Physical Educators Highlighted

Name	State	Years of Experience	APE Service Delivery Pre-COVID-19	Type(s) of Teaching During COVID-19	Student Caseload Number
Brad	MD	17	Teacher	Virtual	56
Dave	GA	26	Teacher and itinerant	Face-to-face and virtual	70
Heidi	CA	23	Teacher	Virtual	35
Jen	MN	10	Teacher and itinerant	Face-to-face, virtual, and hybrid	47
Ann	IA	40	Consultant	Face-to-face, virtual, and hybrid	NA
Ashlie	NC	16	Teacher and itinerant	Virtual	50

Note. NA=not applicable.

lessons and YouTube videos. The videos allow for subtitles and translations that provide greater access to diverse families. In addition to Google Sites, many other platforms, or learning management systems, were used by the APE teachers to provide regular instruction and feedback to the students. Table 2 provides descriptions of the platforms utilized to provide services to students with disabilities in a virtual setting.

Although many of the authors of this article have experienced virtual teaching, three also provide services via a face-to-face or hybrid delivery model. For instance, Dave’s school district has offered students two models of learning since the beginning of the pandemic: a face-to-face model and a virtual learning model. Thus, Dave provides in-person APE services while following the school district COVID-19 policies. APE classes were structured in such a way to ensure social distancing, each student used individual pieces of equipment during lessons, and the equipment was sanitized following each class.

Navigating the IEP Process. As mandated by the Individuals with Disabilities Education Act (IDEA, 2004), APE teachers are to follow the same guidelines and regulations as special educators in accordance with students’ IEPs (Lieberman et al., 2020). According to Dragow et al. (2001), IEPs serve to direct and monitor

all aspects of a student’s special education program. The IEP document describes the educational needs of a student, the goals and objectives that direct his or her program, the educational programming and placement, and the evaluation and measurement criteria that were developed during the IEP creation process. (p. 359)

All school districts represented by the APE teachers who contributed to this article provide families with the ability to hold IEP meetings virtually; others also allow families an option of face-to-face meetings. Since the COVID-19 pandemic has resulted in many school districts using a virtual learning model, many schools are creatively adapting to ensure that they are still meeting students’ IEPs. Some of the APE teachers have noted positives related to moving IEP meetings to an online setting, such as finding them to be far more structured and allowing for itinerant staff to regularly attend these meetings. However, others have noticed that the online setting has made specific types of goals more difficult to assess or unattainable because the educational setting is the students’ homes. For example, affective goals focused on effective communication or behaviors with peers are no longer attainable. Thus, many districts are creating contingency learning plans or distance learning plans

Table 2.
Description of Platforms Used to Deliver APE Services

Platform	Description	How APE Teacher(s) Are Using It
Seesaw	Student-driven portfolio including pictures, drawings, and videos.	Provides for interactive activities and parent/teacher feedback. It supports teacher–parent communication.
Microsoft Teams	A chat-based hub that promotes collaboration through sharing of documents and holding online meetings.	To schedule routine meetings, conduct virtual IEP meetings, and provide virtual lessons.
Canvas	A pay-to-use service typically acquired by the local education agency that allows for sharing files, creating assignments, and grading.	A hub for resources for each class so families can use it. Can be used by family for attendance, grades, assignments, resources, links to virtual teaching lessons, and a means to communicate with the teachers.
Padlet	A free online notice board that can be used to post links, videos, images, and documents in a stream.	To share notes and videos and allow students upload their own videos to the page for either peer or teacher review.
Google Classroom	Free online service developed to streamline the process of sharing files between teachers and students (assignments, assigning grades, and study materials that include links, videos, images, and documents).	To store resources and provide instruction and feedback.



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to continue to meet students' unique needs. These contingency plans do not decrease the rigor or eliminate the IEP but rather temporarily adjust it to be more relevant and attainable.

Many of the contributing APE teachers are also using Google Site or Google Forms to monitor goals and objectives for their students. For example, Brad set up a unique Google Site page for each child. This provides families with their current objective or goal, as well as videos that show the family how they can practice at home and access to questionnaires (Google Forms) for families to share what they observe, ask questions or share their concerns. When using Google Sites, it is suggested that web pages be hidden in the navigation, allowing only those who have been given access the ability to see the child's progress. In addition to monitoring goals and objectives, some are conducting assessments via virtual settings. For example, Heidi has conducted approximately 20 assessments with students with disabilities to evaluate eligibility for APE services since the pandemic moved her instruction to a virtual setting. It is especially difficult to determine the appropriate least restrictive environment (LRE), a mandate within IDEA that requires that students with disabilities are educated with typically developing peers to the maximum extent appropriate (IDEA, 2004; Wilson et al., 2020), for students with disabilities when assessing them within a virtual context. Students can be observed in their virtual physical education setting, but this may not provide enough information to see how the student is functioning in physical education and make a recommendation for their LRE. Although there is great pressure on teachers and districts to continue to conduct assessments, some assessments may not be appropriate while students are not meeting in person. If this is the case, it is recommended the IEP team document issues related to assessing students in a virtual setting and wait until students are meeting in person before deciding on key aspects of education for students with disabilities, such as LRE and eligibility for APE services.

COVID Successes. Through delivery of APE services during the COVID-19 pandemic, the contributing APE teachers have seen an array of new successes and barriers. For example, virtual teaching has promoted an increased incorporation of cognitive concepts into daily planning of lessons (e.g., components of fitness, rules, strategy) because of the increased access our students have to technology resources. Two primary benefits during COVID include (a) a greater connection with

families and (b) the increased knowledge for technology. Through this pandemic, many teachers are growing in their ability to learn and organize the technology and offer an enriched experience for their students. Providing families with multiple means of access to instruction (e.g., prerecorded videos, one-on-one instruction) offered the flexibility to support family schedules for receiving the educational services. Flexibility is an important characteristic for an APE teacher; thus, it is in their nature to diversify the educational access for their students and families during these uncertain times. Some parents relied heavily on an individual web page for their child, others relied on the recorded videos, and yet others chose to engage in live sessions with the APE teacher. Many of the APE teachers are finding that they are now communicating on a more regular basis with families. For example, Ann and a team of educators communicate with families to understand their circumstances and equipment needs and then drop off customized APE equipment bags to students' houses for use during virtual lessons. Because of this increased communication, families are understanding the "why" behind some of their APE lessons and goals, as well as noticing an increase in certain skills or movements that they did not notice before.

Soon after face-to-face instruction resumed, Dave received several similar comments from families. Specifically, their acknowledgment of how effective face-to-face instruction is at improving social competence and building positive interpersonal relationships among peers, even with social distancing safeguards in place. From the authors' experiences, several parents also noted that their child desperately missed their classmates and peer facilitators during the school closures. Jen had similar experiences with seeing a great deal of benefits from working in a face-to-face setting. For example, she found that face-to-face learning helped provide students the opportunity to build meaningful relationships and gain a sense of belonging, which did not appear to be attainable in an online setting. Because all of the authors teaching in a face-to-face setting are also offering hybrid or online alternatives, it is possible that the smaller sizes of face-to-face classes has led to great educational outcomes in physical education, because it has been demonstrated that smaller class sizes in physical education yielded significantly increased time during which children are physically active (Kirkham-King et al., 2017).

COVID Barriers. Although there have been some successes with teaching physical education during the COVID-19 pandemic, many

have encountered bumps along the way. Though the contributing APE teachers engaging in face-to-face or hybrid models were able to adapt and provide modifications for specific needs, they had to follow strict policies and restrictions, which led to new barriers and solutions. Physical education and APE schedules in both hybrid and face-to-face instruction have been adversely affected. The educational system is and should always focus on student safety first. School systems have responded to the COVID-19 pandemic with new policies that keep student “cohorts” together and limit peer interaction. This has resulted in dramatic changes in the schedules and frequency of physical education classes, including APE delivery of services. For example, in some districts, the schedule for physical education has changed to offering it daily for 6 weeks and then not again for 12 weeks. This is problematic, because this schedule does not reflect how motor skills are learned or maintained (Clark, 2007; Lemos et al., 2012; Pan & McNamara, 2020). Indeed, physical activity is key to attention and focus, social-emotional learning and positive mental health and is fundamental to learning readiness (Ash et al., 2017; van der Niet et al., 2015; Wilkins & Burmeister, 2015). Although motor skills and exercise are increasingly necessary, the competing priorities within the schools have been difficult to navigate for many general and adapted physical education teachers.

Equipment use, equipment sharing and equipment disinfection presented a variety of challenges. Some districts allowed students to return to face-to-face learning but physical education equipment was not allowed. Other districts allowed minimal equipment for use with varying disinfection protocols. As a consultant for an entire county, Ann has found that physical educators have quickly figured out which equipment was easiest to disinfect (i.e., ThunderStix© instead of pool noodles). Other teachers use dual equipment sets and shopping carts to manage equipment: one cart for class use and the other cart full of equipment to be disinfected (see Figure 1). Although creative solutions have been identified, it is still difficult to provide students who share specialized physical education equipment (e.g., switch-activated bowling ramps, beep balls) with consistent access. The virtual education model also prevented students at home from utilizing the specialized equipment that supports their engagement and growth.

Another barrier encountered has been the lack of information on technology provided to families at the beginning of the pandemic

when a quick switch to teaching in virtual settings occurred. Many parents had little to no experience with regularly using technology, especially for learning purposes. Fortunately, many of the contributors’ school districts were able to provide the families with laptops and hotspots; however, many families did not know how to use them or even turn them on. Thus, educators took on the new role of “technology support” in which they were teaching families how to navigate the technology so their child can access the curriculum. Families were asked to learn how to use their email address, surf the web and access Zoom, Microsoft Teams or Google Meet links. In the school building, the school is required to ensure that the students are safe and have had a meal. Now the schools are also required to ensure that students can access the technology that offers the educational experience.

Other barriers to virtual instruction noted by the authors included (a) the inability to easily change their observational vantage points in virtual learning environments, (b) a decrease in their ability to effectively utilize prompting techniques (e.g., gestural prompting, partial physical prompting, visual prompting and positional prompting), (c) relationship-building difficulties, (d) an inability to properly assess students’ motor and fitness skills, and (e) scheduling issues. Scheduling has been very difficult for many of the contributing APE teachers, with some having to schedule both face-to-face and virtual learning experiences. In addition, it is more difficult to “pull” students out of their synchronous classes. This leaves a very limited amount of time, usually in the afternoon, for all service providers (e.g., occupational therapists, physical therapists) to deliver their services. Thus, this has led to many competing priorities within the schools.

Technology Resources

During this period, many of the contributors focused their time on locating and creating technology resources that increased their ability to communicate with families and provide a stimulating educational experience for their students through visual supports and gameplay. Dave produced unique instructional videos using smartphone apps. This has been one of the most rewarding successes for him during the COVID-19 pandemic. When school closures first occurred, Dave and a colleague prioritized learning how to use smartphone apps that would assist them in delivering engaging instructional videos for their students. The first app they utilized was the Veescape Live Green Screen app. The app offers a chroma keying feature (also known as layering). It removes colors from a video, typically green, a contrasting color. Used as a background, it can be replaced with another picture or video clip (e.g., a beach scene). Using this special effect technique enhanced their virtual activities with engaging environments. For example, they created several thematic and developmentally appropriate e-learning movement videos, such as an underwater swimming adventure, an outdoor hiking experience, a canoeing expedition and even a roller-coaster exercise routine. Several parents have informed them that these virtual lessons have facilitated daily exercise in their homes and, as an added benefit, the engaging backgrounds have given their children a welcomed means of escape during the months of sheltering in place. Table 3 provides an overview of key resources used by the contributing APE teachers to continue to provide high-quality APE services.

Conclusions and Recommendations

This article aimed to provide a glimpse of how six APE teachers are navigating the COVID-19 pandemic and still providing quality



Figure 1.

Carts designated for disinfected equipment

Table 3.
Overview of Free Resources Used to Deliver or Enhance Instruction

Resource	Description	How APE Teacher(s) Are Using It
Wheelofnames.com	A website that allows for random selection on a spinner of words (names) or pictures	To choose teams, roll the dice, pick an exercise, determine the student who should engage in the activity or answer a question
Translate.it	A Google service that offers live transcription and translation for communication accessibility	To support communication during live virtual sessions for individuals with hearing impairments or have a primary language other than English
Lessonpix.com	An online service for the development of picture communication symbols, schedules, boards, and gaming features	To develop game boards, schedule boards, first-then boards, and as individual pictures to enhance communication
Pinkoatmeal.com and Teacherspayteachers.com	Websites that offer free and paid resources for movement activities, including brain break cards, task cards, fitness games, visual supports, and thematic activities	To present various movement activities during synchronous, video-recorded or asynchronous APE lessons
iMovie	A video editing software	To create and edit videos for lessons. Allows you to add titles, music, and effects to video lessons
Flipgrid	A Microsoft video sharing tool that allows one to upload videos to promote discussions and videos to respond to the discussion	To create topics (grids) for students to interact in by uploading their video responses. These responses can be either demonstrations of physical activities or explanations

services. More specifically, this article presents an overview of these educators' successes and barriers encountered during this time. Many scholars have begun to advocate for preparing pre-service physical educators to teach in an online setting, because many are underprepared to utilize the technology in a virtual scenario (Barrett & Lu, 2020; Varea & González-Calvo, 2020). The hope is that this article will provide a starting point for conducting more research around providing APE services in an online setting. In addition, physical education teacher education programs need to begin to address teaching physical education and APE within virtual and socially distanced settings, so that the field is prepared to transition if similar events occur. There has also been discussion among school systems that virtual education can replace emergency school closures; for example, snow days. Although nothing at this time can replace face-to-face interactions that APE teachers provide to students with disabilities, it is important for these professionals to be able to serve their students in any setting. APE teachers need to also continue to use curricular standards and IEPs to drive their content and delivery during this unique period. Websites, apps and videos can be great resources but should not shadow the purpose and goal of either general physical education or APE.

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