Implementation and Effectiveness of a CSPAP-Informed, Online Secondary Methods Course With Virtual Field Experiences During the COVID-19 Pandemic

Collin A. Webster, Jongho Moon, Hayes Bennett, and Stephen Griffin
University of South Carolina

This study examined the implementation and effectiveness of a comprehensive school physical activity program (CSPAP)-informed, 15-week physical education secondary methods course, adapted from its previous in-person format to be completely online for fall 2020 during the COVID-19 pandemic. The participants were 15 preservice physical education teachers (PPETs) and three course instructors. Each PPET taught six virtual physical education lessons to middle and high school students learning at home. Multiple data sources including focus groups, individual interviews, and course artifacts were analyzed to address research questions centered on the fidelity of course delivery, adaptations made to the course during implementation, and the PPETs’ approach to lesson planning and teaching. The findings showed a high level of implementation fidelity, and few adaptations were made to the course. Three themes were identified with respect to the PPETs’ pedagogical approach: personalization, inquiry-based instruction, and resilience. This study provides a case example of trying to prepare PPETs for professional roles in the COVID era.

Keywords: comprehensive school physical activity program, implementation science, physical education, physical education teacher education, preservice teacher, RE-AIM framework

The onset of COVID-19 created a need for physical education teacher education (PETE) programs to redesign their professional preparation practices in ways that align with new public health guidelines and university protocols. A major challenge is the conversion of courses, previously taught in-person, into fully online or hybrid formats (O’Brien et al., 2020). Exacerbating this challenge are obstacles specific to any course that normally includes field experiences, such as those conducted in local schools and other community-based settings. Even before the current pandemic, the logistics involved with facilitating field experiences extended well beyond the usual demands of teaching in a college classroom (Allsopp, DeMarie, Alvarez-McHatten, & Doone, 2006).

The present study focuses on a semester-long (15-week) secondary methods course that was converted from an in-person format to a fully online format following the COVID-19 outbreak. In its former version, the course entailed a series of class meetings at the university campus and some homework assignments during the first few weeks of the semester and field experiences in local schools and other community settings for the remainder of the course. Field experiences were informed by the comprehensive school physical activity program (CSPAP) framework, which encompasses five components: (a) physical education (PE), (b) physical activity (PA) during school, (c) PA before and after school, (d) staff involvement, and (e) family and community engagement (Centers for Disease Control and Prevention, 2019). The CSPAP-informed professional preparation in PETE programs has gained attention in recent years, based on the perspectives that CSPAPs can provide school-aged youth with increased opportunities to meet recommended levels of daily PA, and PE teachers are positioned to champion CSPAP initiatives (e.g., Castelli, Carson, & Kulina, 2017; Kwon et al., 2018; Webster & Nesbitt, 2017; Webster, Nesbitt, Lee, & Egan, 2017). During the course, preservice PE teachers (PPETs) completed several assignments targeting different CSPAP components. The assignments included individually planning and teaching PE lessons and working with classmates to plan and implement PA promotion strategies in other contexts (e.g., afterschool programs, back-to-school/open house events, and school lunch periods).

The new, online version of the course was developed over the summer of 2020 and implemented in the fall of the year. Its planned scope and sequence are similar to the original version of the course: following several weeks of synchronous and/or asynchronous learning through class meetings and assignments, PPETs begin their field experiences. However, due to numerous issues related to COVID-19 (e.g., more stringent school district policies, afterschool program closings) and the novel aspects of the course (e.g., online delivery, virtual teaching), the decision was made to circumscribe field experiences to only the PE and family and community engagement components of the CSPAP framework. While this limited the breadth of PPETs’ CSPAP experiences, the course instructors felt the increased emphasis on family and community engagement could be a potential strength of the revised course. Delivering PE to students in their homes was viewed as an opportunity to more deeply concentrate on the family and community engagement component of the CSPAP framework and use it as a lever for supporting students’ PE learning and PA participation. The idea was for PPETs to try to identify and strengthen links between standards-based PE and resources students had in their homes and communities to learn the lesson content and engage in

The authors are with the Department of Physical Education, University of South Carolina, Columbia, SC, USA. Webster (websterc@mailbox.sc.edu) is corresponding author.
PA. This notion is consistent with conceptualizations of the CSPAP framework that highlight synergistic qualities across components and suggest that PE learning and PA participation can be mutually reinforcing (SHAPE America, 2015; Webster, Rink, Carson, Moon, & Geaudrault, 2020).

Given that the new version of the course was implemented for the first time (i.e., piloted) in the fall of 2020, an evaluation of its online delivery is paramount to planning for the possible continuance of virtual programming in the future. Digital technologies have increasingly become an integral part of pedagogical practice over the past several decades (Digital Learning Collaborative, 2020; Evergreen Education Group, 2016; Kooiman, 2017). From this perspective, virtual platforms for course delivery may continue to gain ground in their legitimacy as a viable alternative to brick-and-mortar education, irrespective of COVID-19. The evaluation of the course was based on an implementation science approach. Implementation science research has been defined as “scientific inquiry into questions concerning implementation—the act of carrying an intention into effect” (Peters et al., 2013, para. 2). According to Fixsen, Naoom, Blase, Friedman, and Wallace (2005), such research is “useful in the extent to which it improves practice and advances our conceptual and theoretical understanding (generalizable knowledge) of important factors involved” (p. 74). The specific approach used in this study aligned with the RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance; Glasgow et al., 2019) framework. “Reach” refers to the number of individuals who are willing to participate in a program. “Effectiveness” has to do with the impact of the program on important outcomes. “Adoption” focuses on the nature and extent of program initiation. “Implementation” deals with the fidelity of program delivery to program design and the strategies and adaptations used to implement the program. “Maintenance” is the degree to which a program is sustained or institutionalized following adoption.

This study explored two components of the RE-AIM framework: implementation and effectiveness. These two components were considered most appropriate to this initial evaluation of the course. In terms of reach, it is notable that all school professionals who were asked to assist with the course and invited to participate as coaching teachers agreed to do so and provided continued support throughout the semester. However, other details specific to assessing reach (e.g., participant representativeness, comparisons between participants in different conditions) were not evaluated, given that the focus of this study was on a single course with no comparison group and the aim was to understand elements of the implementation process in-depth rather than to produce generalizable results. Additionally, with respect to adoption and maintenance, there was no intent at this early stage in the course’s implementation in having the participating school professionals initiate or sustainably integrate any elements of the course as part of their own work. Therefore, the purpose of this study was to examine the implementation and effectiveness of a CSPAP-informed, online secondary PE methods course with virtual field experiences during the COVID-19 pandemic. The research questions were

(a) What was the fidelity of course delivery to the course design, and what adaptations were made to the course during the semester?

(b) What characterized PPETs’ approach to planning and teaching PE lessons, and how and why did this approach change across field experiences?

Methods

Participants and Course Details

A total of 15 PPETs (12 undergraduates and three graduates) and three course instructors (a faculty member and two doctoral graduate assistants) from a PE program at a state’s flagship public university in the southeastern United States participated in this study. All of the PPETs were pursuing initial licensure to teach K–12 PE. The course is the third in a series of three methods courses and directly precedes the final semester (i.e., the student teaching internship) in the PPETs’ programs of study. There were 28 class meeting days across 15 weeks.

Based on the course syllabus distributed prior to the start of the semester (August 18), the learning objectives were for the PPETs to be able to (a) effectively plan and teach two PE units (one for middle school students and one for high school students) online using synchronous and asynchronous approaches and (b) effectively plan and virtually deliver strategies to reinforce and extend middle and high school students’ PE learning through supplemental PA, based on the CSPAP framework. From August 20 through the beginning of October, PPETs were required to participate in five online synchronous class meetings via Zoom and complete several assignments asynchronously via Blackboard. The content to be covered included curriculum approaches, teaching styles, assessment practices, motivational strategies, and the CSPAP framework, with particular emphasis on the family and community engagement component and special considerations for urban, rural, and nontraditional settings and online PE (Webster et al., 2021; Bruseau, Erwin, Darst, & Pangrazi, 2021; Carson & Webster, 2020; Rink, 2020).

The practicum portion of the course (i.e., field experiences) was scheduled to take place during October and November. Each PPET was required to teach six virtual PE lessons (one per week) and two health education lessons via Microsoft Teams to students at one middle school and one high school from a local school district (PPETs used Microsoft Teams to teach because the district had adopted this platform for all of its schools to use for virtual teaching). There was also one online synchronous class meeting scheduled between Weeks 4 and 5 of the practicum as a touch point for the PPETs and the course instructors to debrief and share suggestions. The school district is located in an urban, metropolitan area, and both schools have diverse student populations (over 60% non-White) with all students eligible for free lunch. Six PE teachers (three middle school and three high school) gave the PPETs access to their classes. The middle school classes all were seventh grade, and the high school classes mostly were ninth grade. All classes were compulsory for students.

The expectation was for the PPETs to develop two PE unit plans (three lessons per unit, one unit for middle school students, and the other for high school students), submit a lesson plan before teaching each lesson, and submit a reflection after teaching each lesson. The PPETs were provided with templates to create the unit and lesson plans. The criteria for planning and teaching focused on objectives-based instruction aligned with state or national standards, task presentation and other communication skills (e.g., set induction, lesson closure, showing respect, and sensitivity), management skills, content development, teacher feedback, motivational strategies, technology integration, leveraging home- and community-based resources to support students’ learning, and an assessment of students’ learning. The PPETs’ reflections were guided by questions that focused on how well they taught
toward their lesson objectives, differentiated instruction for high- and low-skilled students, and used various pedagogical skills. Due to anticipated challenges with teaching PE lessons virtually to students learning from home, the course instructors decided to have the PPETs plan and teach in alignment with performance indicators that focus on physical fitness activities/knowledge, PA participation, individual performance activities, and personal responsibility. There was little integration of content related to games and sports or social responsibility.

Data Sources

Following the approval of the institutional review board at the University of South Carolina to conduct the study, the researchers invited the PPETs to participate in one of two scheduled focus group interviews at the end of the course. The PPETs were informed that participation was voluntary and had no bearing on their course grade, GPA, or academic standing. They also were encouraged to be truthful and candid in their responses and to be respectful of their classmates’ opinions. An external evaluator (the second author), who is a trained and experienced qualitative researcher, conducted and video recorded the focus groups via Zoom using a semistructured interview format. The course instructors were not given access to the videos. Six PPETs participated in the first focus group, which lasted 51 min, and three PPETs participated in the second focus group, which lasted 45 min. The questions focused on the PPETs’ approach to lesson planning and teaching, perceived successes and challenges, and key takeaways from participating in the course. Focus group videos were transcribed verbatim for analysis.

The external evaluator also conducted and video recorded an individual interview with each course instructor using Zoom and following a semistructured format. These interviews ranged from 33 to 45 min and consisted of questions similar to those asked in the focus groups in order to understand the instructors’ perspectives on the same topics and issues. Like the focus groups, interview videos were transcribed verbatim. Additionally, the following artifacts from the course were used as sources of data: the course syllabus and any updates (there were two revised versions of the syllabus during the semester); the PPETs’ lesson plans (90); the PPETs’ reflections (76); the instructors’ observation notes/feedback to PPETs, based on watching and evaluating the PPETs’ lessons (72 sets of notes); video recorded online synchronous class meetings (eight); video recorded optional online synchronous support meetings for students (four); video recorded online synchronous instructor planning meetings (five); emails from the lead instructor sent via Blackboard to the class (35); video recorded lectures (five); asynchronous assignments (four); and quizzes (four).

Data Analysis

The external evaluator analyzed the data for this study. A code list of pseudonyms was created and used to deidentify all data containing the participants’ names. To address the first research question (fidelity of the course delivery to the course design), a fidelity scale was developed for this study drawing from the implementation science literature (Fixsen et al., 2005; Meyers et al., 2012), the RE-AIM framework (Glasgow et al., 2019), and the Quality Matters Higher Education Rubric. Fidelity was assessed on a categorical scale (fully delivered, partially delivered, or not delivered) for seven areas of focus: (a) adherence (did the course content adhere to most or all of the course syllabus/objectives?), (b) dosage (did the course meet the planned amount of time?), (c) sequence/delivery/instructional processes (was the course implemented in a planned/proper sequence?), (d) content/resources (did the course provide teacher candidates with hands-on resources/materials for achieving the course objectives, and did the course content integrate with national/state PE teacher education standards?), (e) practicality (did the course provide teacher candidates with practical, hands-on learning and teaching experiences?), (f) communication/support (did formal or informal communication such as synchronous/asynchronous meetings or discussions/feedbacks occur to support teacher candidates?), and (g) evaluation/assessment (were the course’s essential formal or informal assessments conducted/implemented in an appropriate manner?). The data sources used to evaluate fidelity included all versions of the course syllabus, video recorded synchronous online class meetings, video recorded optional synchronous online support meetings, video recorded lectures, teaching analysis assignments, quizzes, and Blackboard emails from the lead instructor.

Research Question 2 (PPETs’ approach to planning and teaching) was addressed using qualitative analysis techniques consistent with recommendations by Patton (2015) and Lincoln and Guba (1985) to inductively and recursively identify prominent ideas, patterns, and ultimately, themes and subthemes in the data. Negative case analysis and peer debriefing were used as measures of trustworthiness (Creswell, 2009; Lincoln & Guba, 1985). Focus group and interview data served as the primary data sources to address Research Question 2. Other data sources, including all versions of the course syllabus, video recorded synchronous online class meetings, video recorded optional synchronous online support meetings, Blackboard emails from the lead instructor, lesson plans, and reflections, were used to substantiate, strengthen, and refine identified themes and subthemes.

Findings

Research Question 1: Fidelity of Course Delivery to Course Design

The external evaluator and the third author separately evaluated implementation fidelity. An interrater reliability score of 87.5% was reached. The ratings suggested an overall high level of fidelity between the course delivery and the course design. However, one reviewer rated “adherence” as fully delivered, while the other reviewer rated it as partially delivered. After discussion, the reviewers agreed to rate this item as partially delivered, based on evidence of some revisions made to the course during its delivery and limitations in the extent to which the course supported the second stated objective on the syllabus (i.e., for the PPETs to be able to effectively integrate PE with the family and community engagement component of the CSPAP framework; please see the following section presenting findings for Research Question 2 for further details).

In terms of course revisions, the original syllabus, which was distributed to students on August 18, was updated twice (September 28 and October 20). Both updates were specific to the course outline, which detailed the daily meeting format (synchronous or asynchronous), topics/activities, and assignments. The first update included a simple change in language. In the first version of the syllabus, the PPETs were informed that they should “work on” their lessons each week once field experience commenced. This language was used because, at that point in the semester, it was still unknown whether the PPETs would be using a synchronous format.
to teach their lessons or working in other ways to provide lesson material to students asynchronously. Later in the semester, the school district announced that all virtual instruction would be conducted synchronously. Therefore, in the second version of the syllabus, the language was changed from “work on” to “teach.” Although this was a minor change in semantics, it represents an important shift in focus from considering various asynchronous instructional approaches to concentrating more intently on the tools, skills, and strategies needed to successfully teach PE lessons online synchronously. Unfortunately, the uncertainty at the beginning of the semester about which virtual approaches (synchronous or asynchronous) the PPETs would be using to teach PE lessons made it difficult to prioritize which technological and pedagogical skills should be given the most focus in the early stages of the course. This resulted in limited preparation for synchronous teaching when the practicum started. In the second week of field experiences, the lead instructor worked with the director of information technology in his college to develop a class Team using Microsoft Teams, scheduled optional class meetings focused on learning to use the Team, and invited the PPETs to use the new resource as a tool to develop their technical and pedagogical skills for the practicum. However, few PPETs attended the optional class meetings or, based on user activity evidenced on the Team, explored the resource on their own.

The second update to the syllabus was removing the second unit plan assignment. According to Instructor A,

Having a unit became a little bit meaningless during the course of the practicum and it was one of the big reasons why we decided to abandon having our teacher candidates develop a second unit plan. The other reason really was just the time of having to evaluate it and having our students to have to put that together in the middle of the practicum. It just was too much work, I think, at that point for everybody. (Individual Interview)

The instructor’s comment that having a unit became “meaningless” refers to COVID-19-driven schedule changes at the partner high school. One of these changes created a misalignment with the practicum schedule and resulted in a situation where it became impossible for the PPETs to teach more than two lessons to any class of students. Moreover, midway through the practicum, the school district transitioned from an all-virtual instructional format to a hybrid format, which caused an unexpected change to the length of the lesson periods and a reduction in the number of students participating virtually in the PPETs’ lessons. Schedule changes during the semester were more frequent than in previous years due to COVID-19, and this made planning beyond the scope of one or two lessons challenging, if not unrealistic.

The above-noted time investment needed for the PPETs to complete the second unit plan assignment and for the instructors to evaluate it also can be traced to the unique conditions brought about by COVID-19. The learning curve for the course participants remained steep throughout the semester, with a constant need to troubleshoot technology issues (e.g., using Microsoft Teams to teach), maintain open channels of communication with the middle and high school teachers, and adapt to schedule changes. For instance, with respect to technology issues and maintaining an open line of communication with the cooperating teachers, Instructor B said, “I know a lot of [PPETs] tried to have the students record their first lesson, “My quiz submissions were very disappointing, as only two students submitted the quiz. With the students that did submit, I was unable to see their answers (Teams issue).”

The PPETs agreed that removing the second unit plan assignment was a relief. Chuck said, “What our professors did for us I think kind of, for me it lifted a little bit of a burden when the instructors pulled off from making us do the other unit plan” (First Focus Group). Rather than plan a second unit, the PPETs revised their previous lesson plans based on the instructors’ feedback and made modifications in accordance with the change in grade level. As stated by Karson,

Dropping that second unit plan definitely made it lot easier to figure out how to progress my lessons because I was able to look at my first lessons and edit them and try and teach them a second time using the new methods. (Second Focus Group)

Research Question 2: PPETs’ Approach to Planning and Teaching

Three prominent themes surfaced in relation to the PPETs’ approach to lesson planning and teaching during the practicum. These included (a) personalization: developing strategies to engage students, (b) inquiry-based instruction: shifting from teaching content to teaching students, and (c) resilience: choosing success over failure. Each theme depicts not only the strategies the PPETs used to deliver virtual PE lessons, but also transformations in understanding what successful online synchronous teaching entailed in the context of the practicum. Therefore, the findings speak to both the implementation and effectiveness of the course within the RE-AIM framework.

Personalization: Developing strategies to engage students.

The first theme centered on the increasing efforts PPETs’ made to get to know their students personally and motivate the students to be engaged as active participants. Subthemes included teacher immediacy (calling students by name and using more inviting body language) and content relevance (getting information from students to connect to the lesson content and make the lesson more personally meaningful). In the early stages of the practicum, the PPETs approached their lessons more as technicians than as teachers. For example, Instructor A commented in his observation notes from the second week of the practicum, “Good job sharing objectives but take some more time to personalize. Tell students more about yourself and have them share more about themselves.” Virtual teaching punctuated the importance of making personal connections with students. According to district policy, students were not required to keep their cameras on during lessons, and it quickly became clear that creating an inviting learning environment was essential to getting students to participate at all.

In the last 2 weeks of the practicum, the PPETs had notably integrated more personalization strategies into their planning and teaching. Instructor B said, “Their body language kind of changed. I remember maybe for Henry’s first teach where he was more slouched back and almost kind of kept to himself, but for his last teach, he sat up more, he was engaged with the students” (Individual Interview). The PPETs wrote about these changes in their reflections. Chuck said, “I did a better job of getting to know each student. At the beginning of class, I had a brief (1 min) conversation with each of them, getting to know them a little, while also testing their knowledge on the lesson I was about to teach” (PE lesson reflection 5). Similarly, Jess wrote, “My past teaches I struggled getting my students active in my lesson but this time I asked my students more personal questions that allowed
me to relate them to our material which led to them wanting to be more involved” (PE lesson reflection 6). The use of more personalization strategies seemed to make a difference in the level of student engagement, as indicated in John’s final lesson reflection: “I feel I connected with students more in this lesson than ever before. They felt comfortable expressing concerns, opinions, ideas in the environment I created. I had intentional conversations outside of the lesson content that sparked student interest and allowed me to connect with them on a personal level.”

Despite the use of more personalization strategies as the practicum progressed, the PPETs never really were able to glean useful information about their students’ home and community environments. The idea was for the PPETs to use this information to understand what kinds of home- and community-based resources could be used to leverage students’ PE learning. Instructor A stated,

> My hope was that our teacher candidates would be able to learn about the home environments that the students were in . . . . Our students didn’t really gather that information from the students they were teaching. And part of that is that we didn’t provide [candidates] with a detailed list of different kinds of home-based resources or community-based resources and we left it up to our teacher candidates to try to figure out what those kinds of resources might include. (Individual Interview)

The PPETs agreed that there was not enough structure or guidance provided in the course to illustrate the application of the CSPAP framework to teaching virtual PE lessons or how to leverage resources in students’ homes and communities. Ashley said, “I know we talked about the CSPAP but I wish we would have talked about how it applied in lesson plans and how we could implement it in online settings” (First Focus Group). Lindsey added, “Trying to plan for that when you’re in the COVID stuff is impossible, because like you don’t even know what [facilities] they have, that are open, let alone the resources that they even have available at their house at the moment” (First Focus Group).

**Inquiry-based instruction: Shifting from teaching content to teaching students.** The second theme reflected the PPETs’ shift from spending most of the lesson talking about the content to asking students more questions about the content. Underpinning this theme were two subthemes: using wait time (giving students sufficient time to answer questions) and using the chat feature (encouraging students to use the chat feature in Microsoft Teams as an alternative to verbally responding to questions). Instructor C’s observation notes underscore the emphasis on learning to adopt an inquiry-based instructional style during the practicum: “Remember if the students don’t appear to be receptive to your questions, to rephrase or guide them to use the chat specifically. Be sure to give them enough time to respond, too . . . leaning into the discomfort of silence most of the time leads to someone speaking up.”

The PPETs’ use of more wait time and the chat feature increased as they gained more experience teaching virtually. According to Instructor A, “At the beginning of the semester, I saw a lot more teacher directed, it’s me teaching and you’re listening as a student. And as the semester progressed, I saw much more asking questions, waiting for responses. I did see an increasing use of the chat function” (Individual Interview). Sue commented on how there seemed to be a pronounced need to allow for extended wait time when teaching virtually:

> I would ask a question, open-ended question for the students to respond to, and give them the option to unmute themselves or reply in the chat box. You know, maybe sometimes I could have waited longer but there were quite a few times where I waited for a response for, you know, 30 secs to a minute, which I feel like is plenty of time and there was no response. But I think with a virtual lesson, like an awkward silence is not as big of a deal as it is in a in-person class. (First Focus Group)

Karson echoed this sentiment:

> At the very beginning when we were going through our presentations, it was like we were a motor boat ripping through it in like ten minutes. Just spitting information at the kids. Now, like we at least will bask in awkward pauses for a minute just waiting for responses because we understand like it’s okay to wait there. (Second Focus Group)

**Resilience: Choosing success over failure.** Theme 3 highlights the PPETs’ ability to stay positive in the face of obstacles, figure out solutions to problems using Microsoft Teams, develop other technological skills for virtual teaching, and try alternative teaching strategies throughout the practicum. In spite of the various challenges (e.g., getting students to be actively engaged in lessons, assessing students’ learning), limitations (e.g., teaching a narrow range of content), and concerns (e.g., not being adequately prepared for in-person teaching), the PPETs found a way to maintain a positive attitude about the field experiences. Lindsey stated, “I think, you know, all in all, despite the challenges and having to adjust to the online thing, any experience is good experience. I would have rather done this than sit in a classroom and just listen to lectures all day” (First Focus Group). Additionally, Chuck said, “Being able to adapt easily in different environments—I think that helped me out this semester whether it was technology, you know, kids not talking . . . I think that helped me be successful” (First Focus Group).

The PPETs continued to adapt their approach to planning and teaching as the practicum progressed and found strategies that worked better than what they had tried before. Aside from learning to use more personalization strategies and integrating the chat feature of Microsoft Teams into their lessons, the PPETs also developed their skills using other technology tools for virtual teaching (e.g., Microsoft PowerPoint, Microsoft forms). After figuring out how to use Microsoft Teams to assess students in his final lesson, Henry wrote in his reflection, “The students were also able to submit the cognitive and affective assessment into Microsoft teams . . . . This was my best lesson of the year and the first one where I received maximum participation from the students.” Julia reflected on her use of Microsoft Forms in her final lesson: “I also like how the use of Microsoft forms for the assessment allowed me to view [students’] responses in real time so that I could discuss their answers.” Amanda stated, “I am horrible with technology but now I can make a hell of a PowerPoint” (First Focus Group). The constant need to adapt also made the PPETs realize the importance of having a backup plan. Chuck recounted a specific instance where a backup plan would have helped: “I had an instance where the technology didn’t work, I couldn’t share my PowerPoint, so I was fishing, fishing, fishing. If I had a backup plan like a poster or piece of paper with stuff written on there, it could have worked” (First Focus Group).

**Discussion**

Borrowing from the field of implementation science, this study examined two components of the RE-AIM framework—
implementation and effectiveness—in relation to the inaugural delivery of an online secondary PE methods course in one PETE program. This study, though focused on a single case, identified several factors that warrant consideration in PETE endeavors that have aims bearing a resemblance to the course described herein. From this perspective, the current investigation represents an important step forward in building the knowledge base needed to successfully transition in-person field experiences to virtual platforms when conditions, such as a public health crisis, call for such efforts.

In terms of implementation, the factors that fostered success in the PPETs’ virtual teaching included the removal of the second unit plan assignment, the increased use of personalization strategies and inquiry-based instruction, and a positive mindset. By the middle of the practicum, the PPETs and course instructors needed some relief from the combined pressures of COVID-19 and academic work. Since the schedule changes at the partner high school diminished the integrity of planning and teaching units, removing the second unit plan assignment not only saved the PPETs and instructors time and reduced stress, but also made pedagogical sense, even though it negatively impacted the adherence rating in the fidelity evaluation. However, a more proactive approach to addressing student and faculty well-being should be used (O’Brien et al., 2020). It is important to consider the physical, mental, social, and emotional strain placed on PPETs and faculty by COVID-19 in the design and planning stages of PETE courses during the pandemic or under future circumstances that threaten to overwhelm the university community and its resources. In particular, when transitioning coursework from an in-person format to an online format, faculty should be wary of creating assignments that increase students’ workload (Armstrong-Mensah, Ramsey-White, Yankey, & Self-Brown, 2020).

The personalization strategies participants perceived as effective when teaching virtual PE lessons aligned with the principles of teacher immediacy and content relevance. “Teacher immediacy” is defined as how approachable teachers appear to students, while “content relevance” is defined as the degree to which students feel the lesson content satisfies their personal interests and goals (Mottet, Richmond, & McCroskey, 2006). Both immediacy and content relevance are influenced by teacher communication behaviors (Webster, 2010). Teachers communicate approachability to students when they enact verbal behavior, like using vocal variety, laughing, and using students’ names, and nonverbal communication behaviors, like smiling, leaning toward students, and gesturing with their hands. Communicating content relevance involves behaviors such as explaining or demonstrating how the lesson content is linked to students’ personal interests or helping students identify connections between what they are learning and what they already know. Immediacy and content relevance are important factors in students’ affective learning (Mottet et al., 2006; Webster, Mindrila, & Weaver, 2011). For example, Webster et al. (2011) found strong associations leading from perceived teacher communication of content relevance to affective learning in a sample of high school students in their final compulsory PE classes. In the present study, the PPETs discovered that virtual teaching necessitated prioritizing students’ effective learning to increase student engagement and participation. An increased focus on personalization strategies and teaching toward affective learning goals may be essential in preparing the PPETs for teaching online synchronous lessons.

The PPETs’ increased use of personalization strategies marked a notable shift from a pedagogical approach that was more teacher-centered to one that was more student-centered. This shift was further punctuated by another factor that supported the PPETs’ success with virtual teaching, which was an increase in inquiry-based instruction, specifically via the use of wait time and the chat feature in Microsoft Teams. Wait time is a hallmark of effective teaching (Brophy & Good, 1986), but it seemed to be especially important in the context of online synchronous instruction to reinforce expectations for students’ participation in lessons. The PPETs learned that using extended wait times often was necessary to draw students into the lesson and establish a pattern of teacher questions followed by student responses. The chat feature served as a way to entice students to participate using text and emoticons if they felt uncomfortable unmuting themselves. This participation option is unique to virtual teaching and presents teachers with an opportunity to increase students’ participation in ways that are not easily replicated within in-person learning environments. The PETE programs are encouraged to explore the multiple functions and possibilities of using chat to maximize the effectiveness of lessons taught synchronously online.

The PPETs’ ability to maintain positive dispositions and continue to explore alternatives in their approach to planning and teaching over the course of the semester is admirable. Although some PETE faculty foresaw numerous threats to their programming following the onset of COVID-19 (O’Brien et al., 2020), the present study underlines the importance of capitalizing on the PPETs’ enthusiasm and motivation for learning to teach, especially in novel situations where faculty lack experience, may have limited insights, and can offer little guidance. One way to do this is to involve PPETs in the process of converting in-person courses to online courses and making improvements to existing online courses. As future teachers, PPETs would gain valuable skills through helping to plan and revise the PETE curricula. The PPETs’ involvement also might help to ensure their professional development needs are met through course activities.

As noted earlier, the RE-AIM framework defines effectiveness as the impact of a program on important outcomes (Glasgow et al., 2019). Considering the course objectives, the data from this study suggest that some aspects of the course were effective, while others were not. The PPETs progressed in their PE lesson planning and developed skills specific to online synchronous teaching. However, the course offered few opportunities for PPETs to expand their online asynchronous teaching skills, and there was no evidence that PPETs improved in this area of professional practice. Furthermore, this study found that the PPETs made negligible progress in trying to link their PE lessons to students’ home and community resources. There is scant research on the family and community engagement component of the CSPAP framework (Chen & Gu, 2018), though Webster et al. (2021) highlighted factors specific to schools, the digital divide, PE, families, communities, and the student that merit consideration when PE is delivered online. As part of three recorded lectures on CSPAPs prior to the start of the practicum, the lead instructor reviewed these factors and quizzed the PPETs on this content. However, based on this study’s findings, the PPETs would have benefited from additional scaffolding to support their planning and implementation of strategies to leverage PE using students’ home- and community-based resources. Until research uncovers the complexities of family and community engagement in CSPAPs, identifying what is needed to support PPETs’ learning in this area of professional focus will likely continue to be a challenge.

The limitations of this study include its singular focus on a specific course and the small sample size. While this approach allowed for an in-depth analysis and understanding of a particular case, it may only represent the views and experiences of the
participants and therefore limits the generalizability of the findings. Nevertheless, this study lends important insights into possible directions for future practice and research related to online PETE programming and virtual field experiences. The practical implications of the study are for PETE faculty to (a) proactively address PPETs’ health needs (e.g., social, emotional, mental, and physical) in the design of online courses, (b) emphasize personalization strategies and teaching toward affective learning in methods coursework, and (c) incorporate a strong focus on resource optimization, including available technology and home- and community-based assets to support PE learning and PA participation. Also, to the extent possible, PPETs should be involved in course planning to better ensure their professional development needs are met. In future research, the viability of PPETs facilitating group/team-based activities and supporting secondary students’ social responsibility through online teaching merits attention, given the centrality of student–student interactions in many PE programs. Additionally, future investigations should include more case examples, cross-sectional studies with larger samples, experimental investigations, and the continued exploration of strategies to gather and incorporate information about students’ home and community environments into instruction. Through such research, it will be possible to develop the conceptual, theoretical, and practical knowledge that can secure PETE’s footing amid shifts to online alternatives for teaching and extend PPETs’ learning in education’s ever-expanding digital landscape.

References


