

THE USE OF STUDENT MOTIVATIONAL FACTORS TO INFLUENCE STUDENT
ENGAGEMENT IN A REMOTE SECONDARY PHYSICAL EDUCATION CLASS

by

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A Dissertation in Practice

Submitted in Partial Fulfillment of the
Requirements for the Degree

Doctor of Education

Graduate School of Education

College of Professional Studies

Northeastern University

Boston, Massachusetts

June 8, 2021

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Acknowledgements

“Success is no accident. It is hard work, perseverance, learning, studying, sacrifice, and most of all, love of what you are doing” – *Pelé*

When I say I will complete something, I will, yet this journey was one filled with many nights of wanting to give up. It was through the motivation of being told “you’re just a gym teacher, you don’t need a doctorate” that pushed me the most. I, we, are more than “gym” teachers, and it is time we prove it. A huge thank you to all of my family and friends who made sure I did not give up and instead pushed to be part of the small percentage of people who accomplish this high honor.

I would also like to thank all of my students, past, present and future, who continue and will continue to push me to be a better teacher. I love you all!

I want to thank Dr. Melissa Parenti for being one of the most supportive advisors for most of my journey, and Dr. Karen Reiss Medwed, for stepping up and continuing to support me until the end. A special thank you to Dr. Wendy Crocker, your coffee conversations always helped me to take a step back to breathe and find a laugh through all the stressors that came with accomplishing a doctorate; Lord Stanley and I will miss these conversations.

Finally, to every colleague that provided support and words of encouragement, thank you! You all are deeply appreciated.

Dedication Page

To WHS Class of 2022, you may officially call me Dr. Glenny.

Abstract

Engagement in a physical education course is critical to student health and academic performance. The purpose of this Action Research study was to investigate and improve engagement in secondary remote physical education classes, by utilizing student motivational factors. Participants and data collected in Cycle 1 consisted of students providing feedback on their physical education engagement through a modified BREQ-III survey, as well as interviews with the student researcher. Additionally, the wellness department at Stanley Public High School reviewed the physical education curriculum as it aligned with student feedback on student motivational factors. Action steps in Cycle 2 that were designed, implemented, and evaluated included the wellness department examining student feedback in a focus group setting to design and implement frameworks that would increase student engagement in a remote physical education setting. Additionally, students provided further insight through a pre- and post-survey, as well as a focus group, with students, was utilized to determine the effectiveness of the frameworks at increasing student engagement. Findings included student's motivation through identified to intrinsic regulation, having a desire for autonomy and choice while still being held accountable to engage remotely, and needing physical education to be a time in which students can disconnect from video conferencing and implement movement into their day. Implications to the organization include engaging students more in the curriculum decisions within the wellness department in order to increase engagement while continuing to collect data from students and teachers to keep the curriculum aligned with student needs and national physical education standards. Additionally, the need for more added movement breaks throughout the day of high school students should be explored.

Keywords: engagement, remote physical education, personal health, self-determination,
autonomy

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Section One: Introduction

The purpose of this Action Research study was to explore motivational factors that influence student engagement, among high school physical education students at Stanley Public High School, while learning and engaging remotely from home. The effort to ensure and increase engagement levels while remote is paramount, as physical education impacts one's academic performance and lifelong physical fitness.

This report begins with an introduction to the research related to student motivational factors that influence engagement in physical education to provide context and background to the study. This introduction includes an overview of the problem of practice that the research will address, the research purpose, research questions, description of the research context and participants, and a brief synopsis of the research design.

The Results section of the report outlines the research results. In this section, the ways in which the participants describe and interpret their experience of the issue are described.

The Literature Review will provide descriptions and critique of existing perspectives from the literature on the topic.

The Contextualization section contrasts and comments on the differing perspectives presented in the results section and the literature review. The implications of the research study will be described including specific examples of how findings were used in the practice setting and suggestions for areas of future investigations.

Problem Statement

The current problem of practice focused on best practices to increase student engagement within a remote high school physical education class, utilizing student motivational factors. Student engagement in class relates to a student's level of exercise, through formal and

structured lessons, rather than assessing their daily physical activity, which can include day-to-day movements (Hawkins & Look, 2006). During the study, the use of a daily points rubric that has been created and implemented from concepts of Hellison's model of personal and social responsibility is explored. Don Hellison is widely known and respected for the work he has developed based on levels of responsibility (Severinsen, 2014). Further motivational factors such as choice in activities, negotiation, and personalization of lessons will be explored to help boost the motivation of students to engage in their remote physical education class.

There is an assumption that physical education is an easy class, if students just show up (Partridge, King, & Bian, 2011), but students need to be taught that their engagement in physical education has an influence on their academic performance and lifelong physical fitness. Because of the lifetime impact physical education can have, it is important that motivational factors are examined and most effective methods of engaging students remotely are implemented. Prior to COVID-19, schools were able to offer virtual physical education experiences to allow for students to take additional academic courses, different electives during the school day, and or meet the needs of students who were insecure with participating in physical activity in front of their peers (Rhea, 2011). Students in an online physical education class enjoyed being able to pick physical activities that they were able to do at home, in their neighborhoods, and other community environments in order to receive their daily physical activity and physical education credits. Additionally, these students reported being able to refine and improve athletic skills they possessed, while remotely engaging in physical education (Williams, Martinasek, Carone, & Sanders, 2020).

Purpose of Research

The purpose of this Action Research study was to explore motivational factors that influence student engagement, among high school physical education students at Stanley Public High School, while learning and engaging remotely from home. The effort to ensure and increase engagement levels while remote is paramount, as physical education impacts one's academic performance and lifelong physical fitness.

Research Question(s)

1. What motivates students to participate in physical education in remote learning settings?
2. What activities produce the most engagement in a remote physical education class?
3. How does a student's perception of their personal health affect their overall engagement level in physical education?

Context

The context of this study are students and the physical education and health department at Stanley Public High School, located outside of Boston, Massachusetts. Stanley Public High School is a diverse school that educates just fewer than 700 students in grades 9 through 12. Students are required to complete four semesters of wellness for graduation. Within the wellness requirement the following three courses are required for students to take: Health and Wellness, Personal Fitness and Wellness, and Project Adventure. Aside from the three required wellness courses, students must pick one additional wellness elective to satisfy their graduation requirement. Due to the COVID-19 pandemic, all physical education classes were forced to move to a remote learning model of education, where students engage in class at home via a Zoom platform and Google Classroom. Students provided a crucial component to the research, by providing insight into what motivates students to engage in their physical education course. The wellness department, including the coordinator of the wellness department, used student

input to generate frameworks and assessments to keep students engaged in remote physical education settings.

Participants/Collaborators/Stakeholders

The first group of stakeholders within the Action Research study were the students, as internal stakeholders. The student input was valuable in the contribution of what students would like to see within their remote physical education experience, in order to make it more meaningful and produce higher levels of engagement. Aside from internal student stakeholders, the use of reviewing various literature regarding motivational factors in remote physical education, increasing student engagement, and reaching all learners was utilized as an external stakeholder to the study.

An additional group of internal stakeholders involved in the Action Research study were the wellness teachers. The teachers needed to listen to student input and utilize their expertise with the physical education standards and grade level outcomes, to determine frameworks that could be implemented within the department to ultimately reach all students, while improving student engagement.

Lastly, the Stanley Public High School wellness committee will bring in outside participants to provide feedback on the implementation of frameworks done at Stanley Public High School.

Positionality

The student researcher, in this study, was an insider within Stanley Public High School, as one of three high school physical education teachers in the Wellness Department. The department, as a whole, consists of 11 physical educators, two secondary health teachers, and a coordinator that oversees the entire department. The student researcher is actively involved

within the school community; building a strong rapport with students and families, as she coaches both the freshman girls' volleyball team, middle school girls' volleyball team, and the boys' intramural volleyball team. Additionally, she is an athletic site manager at both basketball and hockey games, where she interacts with families, ensuring a safe and fun atmosphere during athletic competitions. Lastly, the student researcher works closely with students in the Class of 2022, and their families, as she is the advisor for the grade, planning class fundraisers and events for all four years of the high school experience. The rapport that has been built within the school community will help to recruit and engage with other insider participants. Additionally, the student researcher is actively involved with the state association for physical education (MAHPERD); currently serving as the Vice President Elect for Adapted Physical Education. Her involvement with the state board will be beneficial when collecting fieldnotes on the impact of transitioning to a remote physical education setting across the state of Massachusetts in the wake of the COVID-19 pandemic.

Synopsis of the Research Design

As the COVID-19 pandemic caused schools to turn to remote learning settings, physical educators had to quickly transition in order to work through problems of engaging students remotely, adding activity to the daily lives of students, and still holding students accountable through various assessments. Action Research is used to find solutions to daily problems (Stringer, 2013) thus, making it the best methodology to be utilized. As teachers worked to improve their remote lessons, collecting qualitative feedback from students and colleagues would be integral, as the data collected would come directly from stakeholder experiences and expectations of the physical education program. Additional information on qualitative, Action Research can be found in Appendix 1.

Section Two: Results

The purpose of this Action Research study was to explore motivational factors that influence student engagement, among high school physical education students at Stanley Public High School, while learning and engaging remotely from home. This chapter presents Cycle 1 results and findings, the action steps created to guide Cycle 2 data collection, as well as the Cycle 2 results and findings, as they relate to student motivational factors that influence engagement in remote physical education classes.

Cycle 1 Results/Findings

Cycle 1 data collection from the modified BREQ-III survey, taken by 22 students, indicated a strong influence of identified regulation on one's motivational influence to engage in physical activity, as well as integrated regulation having a positive impact. Both forms of regulations relate to the individual's personal values and the being of one's self (Markland & Tobin, 2004). From the short answer reflection portion of the modified BREQ-III survey, coding and themes were applied to determine patterns among student responses. Themes emerged in relation to the students having a need for physical education in their day, as a fun opportunity to be active, make friends, and learn life lessons such as: trust, teamwork, and personal physical and mental health concepts. One response detailed the benefits as, "you are much more happy throughout the day, you are much healthier, you feel good about yourself walking around, and in a rare case you would be more likely to survive from a dangerous situation than someone who is not fit" (survey, 2020). The physical activity break in the school day is also critical, as brief bouts of vigorous physical activity have been shown to boost test scores in academic classes (Phillips, Hannon, & Catelli, 2015). Similarly, students responded to the break in the day, with a student survey response stating, "it is good to get up and be active in school for at least one

period, instead of just sitting in a classroom all day” (survey, 2020) and another student stated that physical education “helps me not be as restless in class” (survey, 2020).

Similar to feedback from student interviews, themes emerged from interviews, as well; including explicit expectations made by the teacher utilizing a daily points rubric. One student stated, students had to “simply do what is asked” (T. Willis, personal interview, February 28, 2020). Additionally, students expressed fairness through the consistent use of the daily points rubric as one stakeholder directly stated: “you [the teacher] have to see that person [the student] doing something in order to really assess and give them a grade” (A. Henry, personal interview, March 10, 2020).

Lastly, the theme of individualization came from the daily points rubric, as students believed the rubric allowed for teachers to adjust lessons to fit personal skill levels of each student. One student expressed that working towards their personal goals while meeting the expectations of the teacher would be a “completion” (A. Ferrari, personal interview, February 26, 2020) and thus result in a passing grade for physical education. Individualization has been seen as a pivotal aspect of increasing student engagement (Domville, Watson, Richardson, & Graves, 2019), thus should be something to consider when exploring frameworks to be implemented in Cycle 2 data collection. The feedback of being able to participate in modified activities was expressed in various forms by nine of the twenty-two participants; these accommodations range from allowing students to go for a walk to relieve stress, focus on a workout provided by a coach, and providing options of activities for students to engage.

In regard to personal health, Pharez (2016) indicates that when students understand the importance and relevance to physical education, students can see the impact the course has on their overall health. Most students surveyed perceived themselves to be healthy, active

individuals, but did not perceive physical education to be the primary reason for their overall good health. Seven students did indicate the mental health benefits of physical education during the day, as it is a break from academics.

Cycle 2 Action Step(s)

Following Cycle 1 Data Collection, student feedback indicated a desire for choice and personalization within their physical education experience. Due to the impact of COVID-19, and the inability to focus primarily on the impact of student choice in an in-person model of physical education, the data collection shifted to determine how motivational factors influence engagement while engaging in remote learning. The end goal of Cycle 2 data collection was for the physical education teachers to be able to implement techniques in order to enhance engagement levels within their physical education classes, while students learn and engage remotely from home. The implemented techniques were student driven from student interviews and focus groups.

Action Step(s) Goals and Objectives

The first objective of the study was to determine what motivates students to engage in physical activity, specifically in their physical education courses. After determining the motivational factors, the wellness department worked to determine how the student feedback could be implemented in order to reach all students, with the end goal of positively engaging students in a meaningful, remote physical education curriculum, that still aligned with the Shape America standards and grade level outcomes (SHAPE America - Society of Health and Physical Educators, 2014).

In order to achieve maximal participation, frameworks for the teacher to implement within their teaching, with the goal of increasing student engagement was written, applied, and

reflected upon. The final outcomes of the study were expected to provide a more positive experience for students, while also helping to create a wellness program that students look forward to attending and engaging with while learning remotely.

Action Step(s) Activities

1. In fall 2020, the first steps of data collection that occurred were student interviews, focus groups, and a pre-survey in order to generate data regarding the aspects of physical education that motivates students to participate in a remote physical education setting, including activities students enjoy participating in most. These positive aspects to physical education were essential to ensuring students are being provided units in which they want to engage, during class time. Additionally, there was an importance on gathering insight on physical activities in which students could engage in, while at home, with potentially limited access to sports and fitness equipment.
2. The data collected from students was then presented to the wellness department, where a discussion took place to determine how the department could make modifications to the current methods of delivering the curriculum, in order to reach all learners in remote settings. Conversations were had about activities that could be done with little or no equipment.
3. The wellness teachers met three times to develop a series of frameworks to implement in order to increase engagement in remote physical education settings. These frameworks were based on student suggestions, teaching experience, and research informed best practices for engagement in physical education and in online physical education settings.
4. Wellness teachers implemented the frameworks.

5. Students participated in focus groups to reflect and discuss their experiences and levels of engagement in remote physical education after the implementation of the frameworks. Additionally, students engaged in a post-survey of the modified BREQ-III.
6. Wellness teachers met to discuss and refine frameworks based on personal experience from implementation and from the student feedback.
7. Student researcher shared frameworks and implementation with the community through a presentation at the school districts wellness committee meeting.

Participants/Collaborators/Stakeholders Experience

The first group of stakeholders within the action steps of Cycle 2 data collection were the students, as internal stakeholders. Their input was valuable in the contribution of what students would like to see within their remote physical education experience, in order to make it more meaningful and produce higher levels of engagement. Aside from internal student stakeholders, the use of reviewing various literature regarding motivational factors in remote physical education, increasing student engagement, and reaching all learners will be utilized as an external stakeholder to the study.

An additional group of internal stakeholders involved in the Cycle 2 action steps are the wellness teachers. The teachers needed to listen to student input and utilize their expertise with the physical education standards and grade level outcomes, to determine frameworks that could be implemented within the department to ultimately reach all students, while improving student engagement.

Cycle 2 Evaluation

Evaluation of the implementation of frameworks came in the form of reflective focus group discussions. Leitch and Day (2000), express that a good reflection leads to greater self-

knowledge and self-change; so, in order to ensure positive outcomes, students and wellness teachers outlined successes, challenges, and questions regarding the implementation of the frameworks as methods of increasing student engagement in online remote learning settings. Wellness teachers also took time to reflect on the entire process of hearing student voices, implementing some student suggestions, and change in student engagement levels.

Cycle 2 Results/Findings

Cycle 2 data collection from the modified BREQ-III survey was taken by 12 students at the beginning of the semester, and eight students at the end of the semester. Both the pre- and post-survey results were consistent with Cycle 1 survey data, indicating a strong influence of identified regulation on one's motivational influence to engage in physical activity. Identified regulation to engage in physical activity in order to achieve personally valued outcomes (Markland & Tobin, 2004). The close second self-determining influence was intrinsic regulation; the involvement in physical activity for the enjoyment and satisfaction (Markland & Tobin, 2004).

Data from the short answer responses went through a coding process and themes were applied to student responses. Although one respondent reported "it's [remote physical education] not the full experience that we used to have in person" (post-survey, 2021), most students reported positive feedback on the experience. Themes that emerged from the open response data included the ability of the teacher to make accommodations to meet the needs of students, as well as a time to disconnect from other schoolwork and move.

Several students indicated confusion, boredom, and a lack of motivation while engaging in physical education remotely on Zoom. One student wrote, "I don't see the point of it [remote physical education]. It makes absolutely no sense for me" (pre-survey, 2020); while

another student responded, “I would stay in bed and because we didn’t have to have our cameras on, I just wouldn’t do anything” (post-survey, 2021).

Aside from the pre- and post-survey data, 10 students met in a focus group to discuss their experiences in the remote physical education setting. In general, the students reported being pleased with the semester of remote physical education, with one student stating, “it [remote physical education] was simple and it was relaxing” (Student #5, focus group, March 5, 2021). When the group was asked about their thoughts on why some students may have struggled with engaging in remote physical education, the students discussed “those students are just lazy” (Student #5, focus group, March 5, 2021), with the discussion ending with one student’s lack of empathy “I don’t know what we can do for kids that get Cs and Ds in gym, I think that seems like a them problem” (Student #2, focus group, March 5, 2021).

During the focus group, the group of students looked at two different activity logs, a BINGO choice board, and the use of fitness videos to engage remotely. Although the assignments were positively perceived by the students, many indicated generally being active outside of physical education so, having additional physical activities that needed to be completed seemed redundant to the students. One student reported, “I was already working out and walking a lot” (Student #9, focus group, March 5, 2021). When a physical activity log was compared with a wellness log that aligned with a personal goal, the students indicated liking the additional freedom in activities in which they could engage in for physical education credit. One student pointed out that the wellness log allowed for students to do “some physical activity...or any other aspect of activity to improve your wellness” (Student #9, focus group, March 5, 2021) and another pointed out that “30-minutes of physical activity seems like a chore” (Student #5, focus group, March 5, 2021), but by being able to have a personal wellness

goal the log “felt like something you want to do... I want to achieve this” (Student #5, focus group, March 5, 2021). The physical activity and wellness logs both allowed for student choice and more freedom in the activities they chose to engage in, but the BINGO choice board made students feel like they were being held more accountable for their engagement in class. One student discussed, “for the BINGO, it kind of ensures that you’re getting it all done... you can’t get a BINGO without doing that for something, for stress management, and also doing something that’s like yoga or some physical activity” (Student #1, focus group, March 5, 2021). BINGO provided options for physical activity, as well as general wellness, and in any direction to achieve BINGO, students were required to engage in a variety of activities, not just within the physical domain.

The overall consensus of the group was clearly stated by one student, “it’s apparent that people like doing things, or learning about different things in different ways. So, I think a choice is always the way to go” (Student #3, focus group, March 5, 2021). Based on the survey data, teachers were able to accommodate student needs during remote learning thus, should also have been able to incorporate more choices in the activities in which students chose to engage.

Lastly, when reviewing the implementation of the frameworks (see Appendix 4, Figure 1) to increase student engagement in the remote setting, students specifically discussed goal setting, autonomy and choice, and self-determination. Students indicated the desire to set personal goals and work towards achieving them, but indicated that “I kind of wanted that [personal achievement on fitness goals] before the log and then the log came, like, I think that’s why I was so inclined to do it” (Student #9, focus group, March 5, 2021). The same student continued on to state, “a lot of it is self-determination, like, kids wanting to get fit or do

the assignments or workout in general” (Student #9, focus group, March 5, 2021). One student rebutted, stating, “if it [self-determination] was implemented, you would see more students getting good grades and like passing the class” (Student #5, focus group, March 5, 2021).

In regard to all of the frameworks, generally put, choice was given to students, but further choice could be explored in the sense that students select which log or assessment they choose to engage with and submit. Goal setting was evident on the wellness log, which students leaned more in favor of as an assignment. When it comes to implementing self-determination, students indicated that not all students are self-determined to engage in physical activities and adding an activity log may not be the solution to creating a self-determined student with one student making the case, “I wanted to do the work in gym because I was self-determined, not necessarily because, like, seeing the workout log made me, like, so determined to get in shape” (Student #9, focus group, March 5, 2021).

Section Three: Literature Review

Physical education is critical for a student's personal health, both in the present and long-term, as well as a course to provide students with mental breaks throughout the school day that yield positive outcomes to academic success. Both intrinsic and extrinsic forms of motivation have an effect on whether or not a student engages within their physical education class. This comprehensive review of the literature explores the health benefits of physical education, as well as personal, student motivational factors and the external influence the teacher has on the physical education experience.

Physical Education and Lifelong Benefits

The value of physical education is seen by 92% of high school students (SHAPE America, 2017), but so many children are faced with health concerns due to obesity. Physical education is oftentimes the only physical activity some students engage with during their day. Aside from creating physically literate members of society, physical education provides students with opportunities to improve personal health, as well as have a positive effect on student academics. The ability to reach all learners, with a physical education experience, is pivotal to ensure all students have access to the health and academic benefits physical education can have on a student.

Physical Health and Wellness

The Centers for Disease Control and Prevention has indicated a steady rise in childhood obesity (Fryar, Carroll, & Afful, 2020). Unfortunately, negative perspectives and experiences with physical activity and physical education can lead to a lifetime of inactivity and poor health (PublicHealth, 2015). Students need positive experiences in physical education, in order to understand how to be physically fit and healthy for their lifetime. One step in achieving positive

outcomes is ensuring students see the importance and relevance (Pharez, 2016) physical education can have on their life. When students find enjoyment and relevance of their physical education, not only are they more likely to participate, they also have been shown to have an increased involvement in physical activity outside of school (Domville, Watson, Richardson, & Graves, 2019). Additionally, by teaching students how to identify unhealthy behaviors in their personal lives, students are more likely to initiate change for the better (Foley, Mahrshahi, Shrewsbury, & Shah, 2019). One study found that students were more inclined to participate in community sports and fitness activities due to the impact of physical education through improving student confidence (Brooks & Magnusson, 2006).

Physical education is able to take the small steps needed in order to help support students. As with all subjects, physical education needs objective outcomes, and to keep it simple, these outcomes need to focus on physical activity and health (Brusseau & Hannon, 2015). Gu and Solomon (2016), add on to emphasize the enjoyment, importance, and usefulness of the curriculum in order to develop the knowledge, attitudes, motor skills, and competency levels to be successful within various forms of physical activity.

Academic Improvement

Physical activity can have positive effects on brain developments as they relate to academic performance. Physical education is only a small period of time during a child's school day, so by implementing movement brain breaks in addition to physical education the student reaps the benefits. It is important for classroom teachers to also incorporate activity with their classroom content (Pharez, 2016). By reducing the sedentary time at desks and by adding brief bouts of vigorous physical activity the overall school setting will improve.

In one study relating to math, test scores showed improvement with only 20-minutes of vigorous physical activity (Phillips, Hannon, & Catelli, 2015). Within the same study, it is important to note that the physical activity was fitness based, although traditional sport skills are just as important to teach students. Additionally, it is important for aerobic physical activity to be emphasized in physical education (Phillips, Hannon, & Catelli, 2015).

Reaching all Learners in Remote Settings

Many students who are enrolled in virtual classes need credit recovery or have an academic schedule that does not allow for additional courses, or electives. For physical education, remote learning proves to be valuable for athletes and musicians, expansion of choice in the physical activity in which they enroll, or to support students who may be less coordinated and uncomfortable to perform physical activities in front of their peers (Rhea, 2011). The major disadvantage with implementing remote physical education to be implemented is the assessment of student learning (Kooiman & Sheehan, 2013) when not face-to-face with a physical education teacher. Much of what is taught and assessed in physical education requires assessment of psychomotor movement skills, which need to be seen to be accurately and fairly assessed. Furthermore, online courses have proven to be efficient for self-directed students (Jeong & So, 2020), but do raise concerns for students who lack the self-drive to engage without being fully monitored and directed by a teacher.

Many teachers are stuck in the past models of education and are struggling to expand the curriculum beyond just the cognitive and fitness components to physical education (Kooiman & Sheehan, 2013). Just as the delivery of curriculum in-person, all domains of learning need to be implemented and students need to be held accountable for these learning outcomes (Daum & Buschner, 2014) during remote learning. If national and state standards for physical education

can still be incorporated into remote physical education classes, the curriculum should still be successful when carried out remotely, but often times these courses are still inadequately designed (Kooiman & Sheehan, 2013).

When designing a physical education course, a shift towards incorporating more wellness domains, rather than just the physical domain can help broaden the curriculum while still meeting physical education standards. An emphasis on teaching the importance and value in physical activity on overall health is an important element to an online physical education course (Marilyn, Jacalyn, Joyce, & Connie, 2006). Additionally, in virtual physical education settings, various health activities can be incorporated, as it helps students understand the health concerns they may be faced with (Jeong & So, 2020). When feasible a hybrid model of teaching has been proven to be ideal as it is student centered and allows for more autonomy and choice (Allen & Seaman, 2012).

Conclusion

When students are provided the opportunity to engage in physical education, students are taught the importance and relevance (Pharez, 2016) physical education can have in their personal lives. Healthy habits are formed (Domville, Watson, Richardson, & Graves, 2019) while the potential to continue activity outside of school increases due to an increase in confidence (Brooks & Magnusson, 2006). Additionally, by allowing students a break from more traditional, desk learning, student test scores are positively impacted through short bouts of physical activity (Phillips, Hannon, & Catelli, 2015). It is important that physical education teachers work hard to reach all students in order for all to have access to these benefits. Wellness concepts, aside from just the physical domain, have proven to be pivotal in remote learning and provide students with success as it relates to personal health (Jeong & So, 2020). In order to ensure all students are

reaping the benefits, a hybrid model of teaching (Allen & Seaman, 2012), to provide additional support should be considered.

Autonomy and Choice in Physical Education

Gutherie, Lutz Klauda, and Ho (2013) define autonomy support to that as being “related to the children’s intrinsic motivation, self-esteem, and beliefs about their intellectual competence” (Gutherie, Lutz Klauda, & Ho, 2013, p.10). The need to break up a student’s day is fundamental, not only for health reasons, but to allow for the fun students require. In an effort to add autonomy and choice into physical education, the benefits of equitable playtime, effects of gender and the improved outcomes on both an athletic standpoint and general fitness standpoint are reviewed from the literature.

Equitable Playtime

Physical education is not only a break from the long day at a desk, but students are given the opportunity to play and socialize with their peers. In one study, 45% of students enjoyed the sports-based games included within the physical education curriculum (Singh, 2013). Røset, Green, and Thurston (2020) found that students viewed the benefits of physical education to be more recreational rather than educational; meaning students found engagement in physical education to be their fun, playtime. Physical education provides students with the opportunity to engage with peers and take a break from traditional school lessons taught at a desk (Røset, Green, & Thurston, 2020).

Additionally, students enjoy being able to choose the activities in which they participate. For physical educators, there are still frameworks and standards that need to be taught to but allowing for some choice helps increase student participation. When studying a group of female students in physical education, girls often require more choice in the activities offered in physical

education (Mitchell, Gray, Inchley, 2015). The lack of choice was a major factor in student responses for not wanting to participate in the provided lessons. For one teacher, allowing students a choice day, on Friday, allowed students to apply skills learned during the week in activities they chose to engage with (Pharez, 2016). For some students, the individualization of activities is pivotal for maximal engagement. Individualization may indicate activities being modified to fit individual fitness needs or by allowing the choice of activities in which to engage (Domville, Watson, Richardson, & Graves, 2019). Additionally, the added enjoyment of music into a physical education class helps motivate students to engage at higher levels (Sau-Ching Ha & Heung-Sang Wong, 2002).

Equity in game play is important within physical education. For many students, when teams are unfair, students tend to be less engaged. Additionally, prior to sending students off into gameplay, it is important that all students understand the game rules and understand the expectations of following the rules in order to ensure a good time is had by all (Domville, Watson, Richardson, & Graves, 2019).

The Effects of Gender

When it comes to gender in a physical education class, girls tend to gravitate to single-gender teams, yet are less performance-oriented in their participation as compared to games of mixed-gender teams (Slingerland, Haerens, Cardon, & Borghouts, 2014). For female students with a higher competency level, grouping students by gender can be detrimental as it undermines the competency level of the girls (Slingerland, Haerens, Cardon, & Borghouts, 2014). On the other hand, some girls have heightened anxieties around performing physical activities around male peers and peers they may not be acquainted with (Mitchell, Gray, & Inchley, 2015). Additionally, in a mix-gender physical education class, the female students often feel as though

the boys took more control of the activities (Guadalupe & Curtner-Smith, 2020). It is important for physical educators to ensure that there is a balance between gender, skill level, and friend groups when creating physical education activities. The comfort and confidence levels increase as students feel safe in a judgement free area among their peer groups. Boys felt more competent in physical education, and the perception girls had of lacking competency led to feelings of vulnerability and embarrassment (Stormoen, Urke, Tjomsland, Wold, & Diseth, 2016) which need to be overcome in order to produce higher levels of engagement.

Improvement of Athletic and Fitness Skills

Physical education provides many opportunities for physical growth in both personal fitness and athletic abilities. Louth and Jamieson-Proctor (2019) determined that one's self-efficacy and well-being correlate with and are influenced by experiences, perceptions, attitudes, and beliefs. Thus, when planning a physical education lesson, or unit, teachers need to ensure that the lessons foster positive impacts that help students achieve personal goals. When physical educators modify games to finetune various motor skills, students are more engaged (Van Acker, Costa, Bourdeaudhuij, Cardon, & Haerens, 2010). As students perceive competence in a skill, they are more likely to engage (Gu & Solomon, 2016), implying the need for clear instruction and breakdown of skills, as important factors to lessons provided by physical educators. Brooks and Magnusson (2006) expressed a positive impact on self-improvement in skills, rather than losing in gameplay activities. One study found that girls felt as though they were not taught the skills needed to be successful, but also tended to compare their abilities to others with higher competency levels (Mitchell, Gray, & Inchley, 2015). Because physical education classes included students with wide ability ranges, students should be grouped with those that have similar ability levels. By grouping students on ability, the teacher is able to more easily

individualize instruction, while students are not feeling a lack of success compared to the students who have higher competency levels.

As physical education aims to support students for a lifetime, students not only learn how to be active, but learn additional healthy habits. One study found that when students are placed in a leadership role to help educate others, they are able to improve their personal health and activity levels (Gutuskey, McCaughtry, Shen, Centeio, & Garn, 2016). Physical education needs to foster environments where students are able to learn and apply skills. When students feel a responsibility to also help others, they are able to preach lessons learned to help improve the fitness and health of others. Therefore, the importance of ensuring physical education is enjoyable, important, and useful (Gu & Solomon, 2016) to each individual student is essential, as it leads to physical active lifestyles for a lifetime. Unfortunately, in a virtual physical education setting, students lack the social interaction (Kooiman & Sheehan, 2013) and leadership characteristics they would be able to display when in-person learning, thus proving to be a more crucial component to include in the curriculum.

Conclusion

In order to ensure physical education provides an enjoyable, important, and useful (Gu & Solomon, 2016) experience for all students adding more autonomy and choice to the curriculum is essential. The physical education experience must include modifications to games (Van Acker, Costa, Bourdeaudhuij, Cardon, & Haerens, 2010) and clear, breakdown of instruction (Gu & Solomon, 2016) for a positive experience. Additionally, the inclusion of a choice activity (Pharez, 2016), individualization of content (Domville, Watson, Richardson, & Graves, 2019), and the addition of music into lessons (Sau-Ching Ha & Heung-Sang Wong, 2002) can complement the positive outcomes for physical education students.

The Influence of the Physical Education Teacher

The student-teacher interaction in a physical education course is much different than that of a classroom teacher. A physical educator must ensure that students feel welcomed and safe in order to participate, in what some may view as vulnerable activities, based on their physical competence and athletic abilities. Additionally, physical educators must select units of instruction that are developmentally appropriate and valuable to the student body. The literature also points to the need for clear, constructive feedback in order to help students succeed.

A Welcoming Learning Environment

In any environment, it is important to build a positive working relationship in order to achieve maximum success and a willingness to participate. Gray, Treacy, and Hall (2019), found that the way in which teachers spoke to their students influenced student engagement levels. Similarly, being in a class with peers that could be trusted, also helped increase student engagement (Gray, Treacy, & Hall, 2019). As an educator, it is important to have a positive outlook on student abilities, believing that if a student applies himself or herself, they are capable of achieving great success. Zhu, Urhahne, and Rubie-Davies (2018) found that when a teacher perceives their students with positive judgement, the student is more likely to perform with greater success than when a teacher has a negative judgment towards student achievement levels. An appreciation for students and the work in which they contribute daily, by the teacher, is essential to student success. Additionally, students with a higher level of expectancy to do well in physical education have been seen to have more positive personal behaviors and overall better health (Gu & Solomon, 2016). Another study found that girls who felt appreciated by their physical education teacher were more likely to be involved in activities and had a more positive perspective of the course (Shen, McCaughtry, Martin, Fahlman, & Garn, 2012). Teachers need to

find balance in the appreciation of all students. When teachers display a level of favoritism towards certain students, the impact this action has can be detrimental to the performance and participation of some students, as they feel ignored (Mitchell, Gray, & Inchely, 2015). As teachers listen to all students, support each individual, and value the performance by all, the level of engagement and feelings of enjoyment by students increase (Mitchell, Gray, & Inchely, 2015).

Aside from listening and supporting students, teachers can display appreciation for a class by their own physical actions within the classroom. One study found the students enjoyed when their physical education teacher was involved in the class activities (Domville, Watson, Richardson, & Graves, 2019). Teachers can help foster engagement through their own participation, but also by individualizing the physical education experience. All teachers are expected to make modifications and extensions for different students, and this is no different in physical education. Teachers should help students create personalized goals and work towards achievement of the goals through careful selection of activities students can engage with (Pharez, 2016). As teachers support students in achieving personal goals, teachers often need to be involved in demonstrations and activities in order for students to find maximal success.

Physical Education Unit Selection

As physical educators design their curriculum, national standards and grade level outcomes are always considered. Furthermore, quality physical education is student-centered, developmentally appropriate, has a focus on physical activity and motor skill development, and promotes a lifetime of personal wellness (Brusseau & Hannon, 2015). Along with the standards and outcomes of a quality program, many physical educators turn to their personal favorite units to teach, as these units may be personal favorites from their childhood or are activities the teachers have gravitated towards during adulthood to maintain their personal fitness.

Unfortunately, when teachers pick personal favorite units, they are not always able to empathize with the needs and desires of their students (Esslinger, Esslinger, & Bagshaw, 2015). Dolittle (2016) provides six frameworks to help increase student engagement; the frameworks include: (1) providing a variety of activities, (2) varying instructional tasks, (3) use instructional tools and technology, (4) attention to students, partnerships, and teams, (5) vary the location of where physical activity happens, and (6) student-directed learning (Dolittle, 2016). Therefore, the emphasis on what the physical educator may want to do versus what students will enjoy most may have to shift. In order to help better engage students, involving them in the choice of units can be beneficial (Gilbert, 2019). Student choice in physical education can also be seen in various ways, going back to Dolittle (2016) frameworks, students could have choice in the activities, the tools used to achieve success in the activities, and even their partnerships and teammates. Additionally, choice in equipment and pace of progression (Lieberman & Houston-Wilson, 2018) can also be determined by the input of students. Aside from choice, a process of negotiation with students can help encourage student voice in the physical education curriculum. Guadalupe and Curtner-Smith (2020), found that through negotiations between students and teachers, students still wanted to engage in a variety of activities ranging from skills, sports, and health related fitness. By incorporating negotiations into the physical education choice of units, students felt as though they had a shared level of power with their teacher and were able to increase performance and personal fitness levels (Guadalupe & Curtner-Smith, 2020).

In addition to providing students with choice, the format in which units are presented to students can impact engagement. For physical education there are five primary teaching models: traditional, teaching games for understanding, game sense, cooperative learning, and the sports education model. One study found that by teaching the games for understanding model, students

were encouraged to make personal choices about what and how they learned the physical education lessons (Gray, Treacy, & Hall, 2019). Even with the teaching games for understanding model, teachers should be incorporating both team and individual sports, as well as personal fitness (Singh, 2013), into the physical education curriculum. Within the addition of personal fitness, students should be encouraged to design personal fitness goals to work towards. Once goals are created, students should use personal choices to help achieve goals (Sau-Ching Ha & Heung-Sang Wong, 2002). Additionally, one study found that many boys enjoy having games and performance-based activities, but the sporting aspect to physical education does not always meet the desires of female students (With-Nielsen & Pfister, 2011). As each unit progresses, the activities taught should be differentiated in order to meet individual needs (Pharez, 2016) and support the achievement of personal goals.

Teacher Feedback

In order for students to grow and learn, teachers must be able to provide effective feedback. In order to provide students with effective feedback, teachers need to understand student ability levels and listen to their needs (Reeve & Halusic, 2009). By understanding ability levels and individual needs, teachers can also make suggestions of modifications and extensions to various activities. Additionally, when providing feedback to students it is important to emphasize the importance in participation in physical activities (Brooks & Magnusson, 2006), even when constructive criticism is necessary to help students improve a specific skill.

When giving feedback, the information can be delivered in a variety of formats, one format being electronically, is through data from smart watches. In one study, after a six-week intervention, it was found that students do positively respond to the feedback from the devices and physical activity time increased (Nation-Grainger, 2017). Verbal feedback, formally and

informally, is also crucial to the development of skills. As students notice teachers encouraging them to not give up and keep trying new skills, students are able to build confidence and lead to engagement in additional skills (Domville, Watson, Richardson, & Graves, 2019). However, the feedback is provided to students, teachers need to ensure that they maintain a supportive bond with their students. When physical education teachers provide students with praise and appreciation, students are more likely to engage in activities and increases their self-confidence (Brooks & Magnusson, 2006).

Specifically, for virtual physical education to be successful, the teacher needs to be able to design a course that meets the needs of the student and then be able to adjust the curriculum based on progress made by each student (Kooiman & Sheehan, 2013). In these remote settings for physical education, use of videos to capture the psychomotor movements of students can be beneficial. Jeong and So (2020) found that students benefit from feedback given on their physical performances, as well as being able to see feedback based on the performance of peers; yet downside to video assessments becomes the time needed for a teacher to then provide individualized feedback to all students. The lack of ability to provide the individualized feedback has been found to be a factor in why students struggle with online learning (Borup, Graham, & Davies, 2013).

Conclusion

The literature has proven that when a teacher believes in a student's ability, he or she is more likely to succeed. Favoritism is detrimental to student success (Mitchell, Gray, & Inchley, 2015), rather a teacher needs to have a positive outlook on student abilities in order to create a trust between peers (Gray, Tracey, & Hall, 2019) and with the teacher. By ensuring physical education content is student-centered and developmentally appropriate (Brusseau & Hannon,

2015), a promotion of lifelong personal wellness is generated. Teachers should realize that a personal favorite unit may not align with the needs and desires of their students (Esslinger, Esslinger, & Bagshaw, 2015) thus, incorporating student voice in the decision making of unit selection is critical. Once the curriculum is designed, physical educators need to be prepared to provide students with effective feedback in order to improve skill abilities and alter content to fit the needs of their class (Reeve & Halusic, 2009). Lastly, praise and appreciation of student successes and progress need to be made clear by the student in order to maintain a supportive bond (Brooks & Magnusson, 2006).

Summary

When designing a remote physical education curriculum that is student-centered and aims to increase student engagement, the literature makes it clear that a physical education experience should be enjoyable, important, and useful (Gu & Solomon, 2016). This is achieved through autonomy and choice in the unit selection (Pharez, 2016), individualization (Domville, Watson, Richardson, & Graves, 2019) of content, and the addition of music to motivate movement (Sau-Ching Ha & Heung-Sang Wong, 2002). Additionally, it is the role of the teacher to ensure that students feel heard (Reeve & Halusic, 2009) and supported through praise and appreciation (Brooks & Magnusson, 2006).

By incorporating choice and fun into the curriculum, student engagement should be expected to increase. When a student's perception of the course is important enough to thoroughly engage, the transfer to daily living, and the transfer into the future, will also be positively impacted. Pharez (2016) stresses the importance of ensuring students see the importance and relevance physical education can have on the lifetime of each student. Additionally, one cannot expect students to be able to sit at a desk for lengthy periods of time,

making movement breaks a crucial part of the day for children and adolescents. By adding more movement breaks, a school can expect to see positive improvements on general academic performance (Pharez, 2016) and test scores of the students (Phillips, Hannon, & Catelli, 2015).

Section Four: Contextualization

The purpose of this Action Research study was to explore motivational factors that influence student engagement, among high school physical education students at Stanley Public High School, while learning and engaging remotely from home. The study set out to answer the following three questions: (1) what motivates students to participate in physical education in remote learning settings; (2) what activities produce the most engagement in a remote physical education class; and (3) how does a student's perception of their personal health affect their overall engagement level in physical education? This chapter will include an analysis of the organizational context, how the findings are situated within the literature, and implications from the study for the future of physical education at Stanley Public High School, as well as implications for other professionals in the field of physical education.

Context Analysis

The context of this study were students and the wellness department at Stanley Public High School, located outside of Boston, Massachusetts. Stanley Public High School is a diverse school that educates just fewer than 700 students in grades 9 through 12. Starting in the school year 2019-2020, students are required to complete four semesters of wellness for graduation. Within the wellness requirement the following three courses are required for students to take: Health and Wellness, Personal Fitness and Wellness, and Project Adventure. Aside from the three required wellness courses, students must pick one additional wellness elective to satisfy their graduation requirement.

In order to determine best practices for teaching physical education to students in remote settings, the wellness department has maintained fieldnotes of discussions with students and department meetings. These discussions and meetings were based around areas of concern and

improvement needs, as well as positive outcomes from remote engagement. Additionally, students provided personal insight on their experiences of remote physical education through surveys and focus groups. All feedback and fieldnotes were used to generate frameworks (see Appendix 4, Figure 1) to increase student engagement, while reaching as many students as possible in the remote learning model of education. The generated frameworks included goal setting, autonomy and choice, self-determination, resiliency, and a transfer to the real world and future settings. All findings from the implementation of the frameworks are outlined in the following sections.

Finding 1: Self-Determined to Engage

The BREQ-III survey data displayed that most students understood that being active resulted in a healthier lifestyle. Students explained that by engaging in exercise it can “calm you down and make you feel happier” (pre-survey, 2020). Others believed that perception of their personal health could impact personal engagement in physical education, writing, “I think people who are more fit would be more apt to engage in physical education than those who aren’t [fit]” (post-survey, 2021). Several students submitted positive perceptions of their personal health and its effect on engaging within their physical education class. One student wrote, “I think my personal health has made me feel more inclined to do the workouts in class” (pre-survey, 2020) while another similarly wrote, “my personal health is okay right now, which I think positively effects my engagement/participation in my physical education course” (pre-survey, 2020). Regrettably, not all students felt the same positive thoughts on their health and engagement in physical education. One student explained that their weight may have impacted their engagement and as a result felt “kind of a shame to workout with people I don’t know” (pre-survey, 2020). Another student explained that they “participate in PE class most of the time, even though my

personal health isn't great" (pre-survey, 2020). The data seems to indicate that personal health has some impact on engagement, specifically towards feeling comfortable moving around unfamiliar peers, but may not be the biggest factor to influence engagement.

On a scale of self-determination, identification regulation lays in the middle of the scale with the definition involving "a conscious acceptance of the behavior as being important in order to achieve personally valued outcomes" (Markland & Tobin, 2004). When examining the results of the survey results even further, students reported being mostly determined through identification regulation, but do find intrinsic motivation to be a close second when engaging in physical activities. Similar statements in the literature found that students are more likely to engage when activities are perceived as being enjoyable and useful (Gu & Solomon, 2016). In the post-BREQ-III survey, taken by students, during Cycle 2 data collection, one student made it clear that they found engagement to be both enjoyable and useful by writing, "when I was not doing exercise in the beginning of the school year it was really difficult to feel motivated, but now, even with 10-15 minutes of moving my body, I feel refreshed and energized and I really enjoy that part of my day" (post-survey, 2021). Furthermore, when a student recognizes the importance on their health and well-being, as well as the implications physical education has for their future, the student is more likely to engage (Pharez, 2016).

During Cycle 2 data collection, one student stated during the focus group, "people that were most successful weren't motivated by the log itself, they were motivated beforehand" (Student #9, focus group, March 5, 2021). In an effort to ensure students do have the self-determination during and outside of physical education, to engage in physical activity, it is important to ensure students find relevance and enjoyment during class (Domville, Watson, Richardson, & Graves, 2019). Unfortunately, not all students are self-determined to participate,

while one student honestly wrote, “I would stay in bed and because we didn’t have to have our cameras on, I just wouldn’t do anything” (post-survey, 2021). One could argue that the student may have been able to be more motivated should students have been required to have cameras on while engaging remotely. The same student did indicate daily stressors with the on-going pandemic and the fact the course met in the morning to also have a negative impact on wanting to engage while on Zoom. Additionally, personal health has some implications as to whether or not the student is ready to engage in class. An additional argument that could be made based on the student input is, when students are placed within classes of their closest peers, students would be willing to engage, despite the status of their personal health, as students feel more comfortable being surrounded by their friend group.

Finding 2: Choice with Accountability

Summed up perfectly by one student, “I feel like everyone likes to have a choice” (Student #4, focus group, March 5, 2021), proved to be another on-going theme in the findings from the current study. Students pointed out that choice was needed in the activities in which students were expected to engage in, which seamlessly aligns with student choice (Gilbert, 2019) in the literature. Several students reported already being active outside of physical education, one student writing, “I don’t like having to participate in exercises online because I exercise anyways” (pre-survey, fall 2020). When examining the students who are active outside of physical education, one could argue that engaging outside of class is a trait that is learned when engaging in activities that student’s value and see importance within their daily lives (Domville, Watson, Richardson, & Graves, 2019). Another student, in the focus group, stood up for a classmate who struggled to find the choice in physical education. The student explained that he thought the teacher was being flexible, while he observed a classmate’s criticism during class

“because they were not doing their work in gym class... I’m [the student] doing it after school [outside of physical education time]” (Student #5, focus group, March 5, 2021). Not only do students want choice and flexibility in the assignments, it is evident that the students are overwhelmed with a multitude of assignments across all classes, that flexibility should also be considered and granted for when remote assignments are completed.

Choice and flexibility can still come with accountability. Through the study, students were given the opportunity to complete a physical activity log, tracking 30-minutes of physical activity for physical education credit, a wellness log that worked towards a personal wellness goal, and or the choice of a BINGO choice board, as asynchronous work to complete after, and in some cases in place of, the Zoom lesson. When students discussed accountability, the activity logs provided students with a feeling of less accountability, as one student expressed that students could “take advantage of, like, how much freedom it gives and lie on the logs” (Student #9, focus group, March 5, 2021). Whereas, the BINGO choice board was noted to be an activity that held the students more accountable for doing the activity. One student explained how BINGO was “good in the way that it gives you examples and different things to do instead of thinking of them on your own” (Student #3, focus group, March 5, 2021). Not only did students get a choice of pre-planned activities, “it kind of ensures that you’re getting it all done... you can’t get a BINGO without doing that for something, for stress management, and also doing something that’s like yoga or some physical activity” (Student #1, focus group, March 5, 2021). By implementing the BINGO choice board, physical educators are able to meet more standards, incorporate different domains of teaching (Daum & Buschner, 2014), as well as incorporate more wellness (Jeong & So, 2020), and health-related activities that add the additional

significance to an online physical education course, as outline in the literature (Marilyn, Jacalyn, Joyce, & Connie, 2006).

Lastly, students offered a wide variety of units (see Appendix 4, Figure 2) in which they would have enjoyed engaging in while remotely. As Esslinger, Esslinger, and Bagshaw (2015) found, not all physical units selected by the teacher resonate with students, thus making student voice heard in unit selection important. From the survey data and focus group discussions, students wanted to see more team sports added to the remote curriculum. The suggested team sports included basketball, football, softball, floor hockey and general sport skills. In a remote setting, during a pandemic, team activities present a challenge, but the breakdown of skills could still be incorporated, and students could practice the skills outside of a full-game play situation. Additional unit suggestions, made by the students, included individual activities (i.e. boxing, yoga, dance, boxing, and archery), general fitness (i.e. basic fitness, anatomy, personalized exercise routines, jumping rope, bodyweight exercises, cardiovascular endurance training, and tracking step count), health and wellness (i.e. diet/nutrition, general health, wellness concepts), and mental health (i.e. stress relief techniques, mindfulness, and meditation). Not only would these units be something the students want to engage in, but much of the lessons would also have a more health focus (Jeong & So, 2020) which may currently relevant (Pharez, 2016) to the students' personal wellness; and all of the suggested units could provide a transfer to the future of creating a physically literate individual. The drawback to some of these suggestions includes the use of equipment, which not all students have access to. During the focus group discussion on units that could be implemented, one student clearly stated the teacher must "find something that every kid can participate in" (Student #4, focus group, March 5, 2021). The same student explained that a walking unit could be a great addition to the remote curriculum as "not every kid

has a basketball hoop, or, like, a pickleball net in their backyard...[but] every kid has a pair of sneakers” (Student #4, focus group, March 5, 2021). It is paramount that students have access to the equipment needed to be successful, otherwise engagement levels will certainly decline.

Finding 3: A Need for Movement

School policies during the study required students and teachers to connect on Zoom, although physical education was able to provide some movement on Zoom. The majority of the physical activity time occurred through the autonomy and choice activities students chose to engage in while away from the computer screens. In the current study, one student reported on their remote learning experience as “it’s sometimes hard to find motivation” (pre-survey, 2020) with another student reinforcing the same idea writing “it was a struggle to stay focused while learning at home” (post-survey, 2021). When the discussion continued in the focus group of students, the opportunity physical education offered as a time to not be on Zoom was appreciated by one student weighing in, “so, like, for one hour of your day, you don’t have to look at your computer” (Student #7, focus group, March 5, 2021). Another student concurred, stating, “looking at the computer gets so old. So, to do something actually just active is just nice to do once in a while” (Student #8, focus group, March 5, 2021). The literature suggests students need brief bouts of physical activity (Pharez, 2016) in order to excel in other academic courses. Similarly, students found that “based on the stretching and exercises we do in gym class, it helps me focus later in the day because I let out all of my energy” (post-survey, 2021). Another student pointed out the benefit of being “time away from a screen and also keeps me from sitting at my desk all day” (pre-survey, 2020). All student feedback has implied that students feel the need to move more, which physical education is able to provide. Additionally, through student feedback and the literature, physical activity during the day positively impacts other subjects.

The overall consensus was students need a break from traditional learning to get movement time added to their day. Aligning with the literature, this movement break did allow students to find more focus when they returned to learning for other classes. Through the hybrid model of teaching physical education, similar to that in which Allen and Seaman (2012) found to be ideal in centering student voice, autonomy, and choice, students are able to learn concepts on Zoom and then apply skills during asynchronous time, by selecting activities that met their needs yet focused on the concept discussed on Zoom. Further investigations could be considered to determine how more shorter bursts of physical activity during all classes can increase attention and engagement across the school.

Conclusion

When reexamining the research questions, the study set out to find what motivates students to engage remotely, specific activities that students find most enjoyable to engage with while learning remote, and if student health perceptions influence engagement levels. Based on the received student feedback, it can be determined that the teacher influences the engagement level of students based on their accommodation and flexibility within unit instruction, as well as the rapport the teacher is able to build with the student. By allowing students more choice in the activity in which they choose to engage and by allowing students to have the ability to use preselected, structured, physical activity for physical education credit, engagement levels are positively influenced. Students reported a positive sense of flexibility in the option to use physical activity and wellness logs to track their own activities, while feeling a higher sense of accountability through the use of BINGO choice boards. Additionally, the study resulted in an outline of unit suggestions (see Appendix 4, Figure 2) in which the students suggested to lead to the highest levels of student engagement.

As for student health perceptions and the influence one's health may have on engagement, the study was able to determine that most students perceived themselves as healthy individuals. For some students, their health was not perceived as positively and one survey response reported a sense of "shame" (pre-survey, 2020) when having to work out and engage in front of peers they are less familiar with. Further research would need to be done to determine if engagement actually decreased with the negative perceptions of personal health.

When students realize the importance and value of engaging in physical activity throughout their day, they are more likely to be motivated to participate on their own. By providing students with concepts needed to be successful in engaging in activity, in a hybrid model of learning, students have proven they are capable of determining activities in which they find personal enjoyment in, in order to meet the course outcomes during remote, asynchronous time. Additionally, students must be provided the opportunity to disconnect, get up from a desk, and find time for fun, play, and movement in order to regain focus on other content areas.

Implications for The Organization

Student voice, a must, to be continued at Stanley Public High School. When you ask a physical education teacher about remote engagement in physical education, the first thought that comes to mind is that it is impossible, you cannot see your students, and there is no way of teaching team sports. In reality, when you include the students on the decisions of what remote engagement in physical education can look like, the impossible becomes endless possibilities. Students in this study were able to provide insight into what motivates them, what activities they enjoy and can engage with remotely, as well as how content can be assessed by the teacher. Once student voice is heard, the physical educators are able to use their knowledge to construct content that meets the needs of the students.

The five generated frameworks of goal setting, autonomy and choice, self-determination, resilience, and the transfer to real worlds settings and the future (see Appendix 4, Figure 1), can all continue to be applied in remote learning, as well as in-person engagement in physical education. Students expressed a desire to achieve personalized goals and these goals can easily be created and aligned with the national physical education standards. In addition, course outcomes can be achieved through different variations of content; meaning skills do not always have to be learned and applied in the same unit, yet students can have more autonomy and choice in the application of specific skills in a variety of content areas. During a pandemic, when schools were shut down, students proved they are resilient and will continue to do what they need to do in order to achieve success more independently. Students are clearly grasping concepts needed to maintain a healthy lifestyle outside of school, but further insight may be needed to determine if students are able to take the concepts into their future. Further discussions on where students see themselves in 10 to 15 years could help in the unit selection process, as units that are beneficial down the road could prove to be an important element, currently missing from the curriculum.

In an effort to continue the progress made at Stanley Public High School, surveys should continue to be given to students at the beginning and end of each semester. The purpose of these surveys will be to collect data on student needs and desires from their physical education course. Data will help determine necessary changes the wellness department should consider, in order to meet the motivational factors that influence student engagement in class. A continued effort to allow students to select courses in which they engage will also be beneficial in ensuring students are receiving content that best fits their desires. Additionally, during the remote learning, the wellness department met frequently to discuss the successes and challenges each teacher was

having with their classes. It is recommended that department meetings continue with the sharing of successes and challenges the teachers are facing in order to continue the support of each other in an effort to progress the department in the right direction.

At this time, it is suggested that the wellness department continue to create a curriculum that is designed around remote engagement. A pandemic is not the only time in which such a curriculum may be warranted, as noted in the literature, remote, online, physical education may be necessary to allow students the opportunity to enroll in additional electives, as well as an opportunity for credit recovery. The study was able to determine which units' students found most interesting to engage with, while remote. The five themes of instruction: health and wellness, mental health, general fitness, individual activities, and team sports were generated from student discussions and included sub-units that could be further designed by the wellness department (see Appendix 4, Figure 2). Because Google Classroom is already utilized by the school, the wellness department should consider designing a Google Classroom capable of running itself, which then one teacher or the coordinator could monitor for student progress. By designing a Google Classroom that can ultimately run itself with some monitoring, the remote option of physical education could still be provided to ensure all students are receiving the necessary physical education instruction to lead to a healthy and fit future.

Lastly, not all students are enrolled in physical education every semester, so it is recommended that academic teachers be made aware of the fact that students do need movement breaks to better maintain their focus. Oftentimes elementary school teachers incorporate brain breaks into their lessons; this concept is one that secondary teachers may want to explore as students have reported the need for movement after being required to sit at a desk for long periods of time.

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Appendix 1: Research Design

Qualitative Research Approach

Qualitative research is based on the collection of observations, interviews, documents, media, and other artifacts that are carefully analyzed and subjected to the researcher's interpretations (Miles, Huberman, & Saldaña, 2013). This study was designed to implement interviews, focus groups and surveys to collect data through a qualitative research approach. Both students and wellness teachers were asked to participate in interviews with the student researcher, focus groups with like stakeholders, and the student stakeholders were asked to participate in a modified pre- and post-BREQ-III survey.

Interviews and focus groups were audio recorded and the audio was transcribed for data analysis. The student researcher analyzed the transcripts with round one coding consisting of highlighting key phrases to code based on the research questions; these key phrases were part of round one In Vivo coding. Round two coding of the transcripts utilized a codebook, compiled by the student researcher, that consisted of descriptive codes that could be used across multiple interviews and focus groups. The codebook generated across all cycles of data collection proved to be a valuable resource for organizing data into major categories (Saldaña, 2016), especially as the reported data aligned with the self-determination theory, as well as the frameworks generated by the wellness department. Survey data was compiled into pie charts and data tables to compare and contrast submissions from student stakeholders.

Action Research Methodology

Stringer (2013) explains Action Research as the ability to find solutions to daily problems. Through attempting to find solutions, the spiral of looking, thinking, and acting help to guide the way to new solutions to a specific problem. Action Research allowed a preliminary

investigation to happen on assessing student engagement within the Stanley Public High School physical education courses. Following the original investigation, and through preliminary review of the current daily points rubric for assessing participation, it was determined that the current model is subjective to the teacher bias, despite students finding the rubric to be beneficial in providing clear, objective expectations, as well as providing some individualization opportunities. Students also voiced wanting more choice in the activities in which students engage in during class time. Further review of current assessments and unit topics taught has been done to determine modifications that could be made in order to meet the desire of most students.

Within Action Research, reflection also plays a large part of finding different successes. Reflection happens during all stages of the action research spiral and can be done in three different types: content reflection, process reflection and premise reflection (Costello, Conboy, and Donnellan, 2015). Throughout my research, I collected fieldnotes regarding different experiences of remote learning from a teacher's viewpoint, as well as through informal discussions with my classes. Following the collection of any valuable fieldnotes, time was taken to reflect on the implementation of the generated frameworks, as well a reflection was done through observation of student engagement. Additionally, the wellness department took time to reflect on the process and the assessment tools created through the study and took time to discuss the valuable input provided by students. As put by Leitch and Day (2000), a good reflection leads to greater self-knowledge and self-change. The reflections were done throughout the entire study in order to attempt an improvement in the overall physical education experience for students, while giving teachers and students frameworks to follow when designing curriculum for remote learning.

Data Collection and Analysis: Cycle 1

Participants

The stakeholders involved in the research consisted of students in grades nine through twelve at Stanley Public High School, located just outside of Boston, Massachusetts. The sampling of students involved in the study were selected based on comparable case selection (Miles, Huberman, & Saldaña, 2013) as the students were primarily registered in the researcher's physical education classes. Student stakeholders not registered in a physical education course taught by the student researcher, received a similar remote physical education experience taught by one of the other wellness teachers involved in the study.

A total of 22 students provided feedback through the BREQ-III survey, with additional open response questions focusing more on physical education and not just general exercise. Additionally, three students were involved in interviews to provide insight on their physical education experiences. Criteria set for students to engage in the study included the need to be enrolled in physical education, as well as being an English-speaking student. The sampling of student participants was random, set on a voluntary basis, as long as the student met the criteria previously stated.

Aside from student involvement, the wellness department, specifically the three physical education teachers and wellness coordinator at the high school, were involved in examining student feedback from the spring 2020 to generate frameworks that could be implemented in fall 2020 in order to increase engagement in remote learning for physical education. The role of the teachers was also to ensure the curriculum still aligned with the physical education national and state standards, as well as aligned with the curriculum outcomes implemented in a typical school

year, with in-person learning. All wellness teachers were provided the opportunity to be involved in the study, should the individual choose to participate.

Procedures

An IRB Application was submitted after obtaining written permission from Stanley Public High School to collect data, and the necessary consent forms were constructed. IRB Approval was received which allowed Cycle 1 interviews to begin.

Parental consent forms were created for students, as most students involved were minors. Additionally, student assent forms were created for students to sign, upon parental consent being granted. Lastly, consent forms for the wellness teachers were also created. All forms were distributed with recruitment letters and fliers and were then received with the signature of parents and or guardians for participants who showed interest in being involved in the study. Semi-structured interviews, utilizing an interview protocol of predetermined questions generated by the student researcher, were audio recorded and lasted roughly thirty-minutes. Three students were interviewed in Cycle 1; interviews were transcribed and underwent two rounds of coding and themes were determined by the student researcher.

The study began Cycle 1 data collection while students were engaged in in-person physical education classes. The main focus of the study, at the time, was increasing engagement in physical education classes. Because the study started as an in-person study on engagement in physical education, interviews with students had already been conducted, utilizing interview protocols designed by the student researcher. For Cycle 1 data collection, only the survey was sent to students, no further interviews were needed. The utilized BREQ-III survey included Likert scale questions that were valuable to the study on self-determination, but lacked the focus specifically to physical education courses. In order to make the survey align more with physical

education, five short answer questions were added to the survey in Cycle 1 data collection. The short answer questions included: (1) What do you see being the benefits to participating in a physical education class?, (2) How do you perceive your personal health and the effect it has on your engagement/ participation in your physical education course?, (3) In what ways has your physical education teacher made accommodations in class, in order for you to achieve higher levels of personal engagement/participation during class activities?, (4) What would your ideal physical education course include for activities that you would learn about and engage in?, and (5) What would you want your physical education teacher to know about your experiences in physical education?. Roughly 100 students were given the opportunity to submit responses to the survey in a two-week timeframe, but only 22 students opted-in and provided feedback.

The wellness department at Stanley Public High School reviewed all student feedback from the spring 2020 semester, as well as teacher fieldnotes, to brainstorm changes that could be made to better improve the remote learning experience in the fall 2020 semester. The wellness department began to discuss frameworks, as well as units of instruction that could be done virtually, with limited to no equipment.

Data Analysis

After interviews were conducted and transcribed by the student researcher, the interviews went through two rounds of coding and themes were then extracted from the interviews. In Vivo coding was utilized in round one, to further be condensed through the use of a codebook in the second round of coding. The use of the codebook allowed for a consistent round of coding between all interviews; generating 19 codes that could be coded among all three student interviews. Through these codes, data was more easily able to be organized into major categories (Saldaña, 2016). Within the codebook, a short description was listed for the code, a detailed

description of the code's qualities, as well as typical exemplars from the data that represented the code (Bernard & Ryan, 2010) were included. The data was extracted from the codebook and compiled into a taxonomy, multimedia data display of the responses from all three student participants. The use of the data display assisted the researcher in reviewing data as it aligned with the research questions.

Cycle 1 themes emerged in relation to the students having a need for physical education in their day, as a fun opportunity to be active, make friends, and learn life lessons such as: trust, teamwork, and personal physical and mental health concepts. Additionally, through coding of the interviews, it was determined that students expected explicit expectations set by the teacher through the use of daily points rubrics and had a desire for individualization which could be extracted from such rubrics. Students believed the rubric allowed for teachers to adjust lessons to fit personal skill levels of each student, while still being explicit with instructions and being able to hold students to the same standard.

Data Collection and Analysis: Cycle 2

Procedures

With the forced shutdown of schools due to the COVID-19 pandemic, the study quickly shifted to examine engagement in the remote learning model of teaching. Upon the school building closure, additional IRB approval for Cycle 2 was granted to shift the study to engagement specifically in remote physical education classes. The modified permissions allowed for the ability to collect data through an electronic survey and interviews to be held on Zoom. Additionally, parental consent forms were modified for students, as most students involved were minors, in order to collect data virtually. Student assent forms were also modified for students to sign upon parental consent being granted. All forms were distributed with recruitment fliers and

were received by participants who showed interest in being involved in the study. Participants were allowed to scan their signed consent forms in and email them to the student researcher.

During Cycle 2 data collection, the BREQ-III survey had slightly different short answer questions, allowing better alignment of the responses to experiences with engagement in remote learning settings. The survey in Cycle 2 was given as a pre- and post-survey at the beginning and end of the fall 2020 semester. Similar to Cycle 1 data collection, roughly 100 students were given the opportunity to submit responses, but only 12 students submitted responses to the pre-survey and eight students submitted responses to the post-survey. Cycle 2 data collection also included a 10-student focus group to discuss the frameworks and remote learning experiences.

At the start of Cycle 2 data collection, the wellness department at Stanley Public High School utilized all feedback from students in the spring 2020, Cycle 1 data collection, to generate frameworks that would be implemented, in the fall 2020 semester, with the intent of improving remote physical education experiences. The generated frameworks include goal setting, autonomy and choice, self-determination, resilience, and a transfer to real world settings and the future (see Appendix 4, Figure 1). Additionally, the wellness department maintained fieldnotes from informal discussions had with any of their physical education classes. These discussions were had to ensure students' needs were being met during remote learning, yet also aligned with the study. Fieldnotes from department meetings were also kept in order to track the successes and challenges the teachers faced during remote teaching. Additionally, meetings were a time when teachers were able to share and support each other through the shift to remote learning.

Data Collection

Cycle 2 data collection began in fall 2020 by having students complete a pre-survey of the modified BREQ-III. In total, 12 high school aged students responded to the pre-survey. In the

two-week timeframe that students were allotted to engage in the voluntary survey, the wellness teachers also engaged in informal discussions with their classes to check on the mental wellbeing of students, in order to collect any fieldnotes on student experiences with remote learning as it related to physical education, and other classes.

The data collected from the survey and fieldnotes were then used to finalize frameworks, implemented into the curriculum by the wellness department, in an attempt to increase student engagement in remote physical education settings. The finalized frameworks included: goal setting, autonomy and choice, self-determination, resilience, and a transfer to real world settings and the future (see Appendix 4, Figure 1). These frameworks also helped create assessments by the wellness department to engage and maintain accountability outside of the gymnasium setting. Many lessons included YouTube fitness and yoga videos for students to follow along with and review, as well as a BINGO choice board, physical fitness activity log, and wellness log. All activities were designed to engage students in personalized, choice, activities that helped students reach personal wellness goals, that could impact one's wellness for a lifetime.

As the fall 2020 semester started to wrap up, in January 2021, a focus group of 10 students met to discuss their personal experiences in a semester of fully remote physical education. The focus group also discussed the various assignments that were created and implemented, and how the activities helped to motivate students to engage, while still meeting the set frameworks. The focus group was guided through an electronic presentation to help guide the conversation, but for the most part, the students were able to easily share and discuss their experiences for the student researcher to observe and make note about, regarding the study.

Aside from the focus group, a post-survey was sent out to students to collect feedback following their full semester of remote learning in physical education. Similarly, to other survey

data collection in the study, students had two-weeks to opt-in and take the survey. Only eight students provided insight into their experiences on the post-survey. From fieldnotes, the focus group, and survey data, most students reported a Zoom burnout and the need to be away from the computer, thus presenting a potential decrease in the number of respondents for the post-survey.

Following all data collection from student stakeholders, the wellness department met again to discuss findings, successes, and challenges faced in the remote semester, as well as how these findings could help the department succeed in the future of physical education at Stanley Public High School.

Data Analysis

Data analysis for Cycle 2 data was carried out in a similar fashion to Cycle 1 data, utilizing two rounds of coding. The first round of coding was In Vivo coding, which was also color-coded based on alignment of data with the scale of self-determination. Following In Vivo coding, a codebook with 26 codes was created and used by the student researcher which, again, allowed data to be more easily organized into major categories (Saldaña, 2016). The codebook for Cycle 2 data was set up in the same format as Cycle 1 data, including a short description for the code, a detailed description of the code's qualities, as well as typical examples from the data that represented the code (Bernard & Ryan, 2010). Many of the code words and phrases were taken directly from the Likert scale questions of the BREQ-III survey, which then allowed for easier alignment with the scale of self-determination.

All data was then compiled using a flowchart of codes and themes that were acquired from the data set, as it aligned with each of the six forms of self-determination: amotivation, external regulation, introjected regulation, identification regulation, integrated regulation, and intrinsic regulation. One issue that was faced when aligning data with the scale of self-

determination was some phrases and codes seemed to overlap with more than one area of the self-determination scale. When data appeared to align with multiple areas of self-determination, the data was listed under both forms of determination on the flow chart, indicating that for some students the concept may fall higher or lower on the scale, when compared with their peers.

Ethical Considerations

In order to ensure all participants are protected, the student researcher designed and received IRB approval on written consent forms. These forms aligned with other typical forms that included the option to refuse to participate, ability to withdraw participation, protection of data storage and the protection of one's identity (Stringer, 2013). Additional ethical considerations in the current study included further protections for participants who were minors. Many of the student participants in the study were under 18 years old and required parental consent to participate. These students were protected in the study by only allowing those who submitted parental consent along with student assent forms to partake in interviews, focus groups and the survey. To ensure privacy, the student researcher allowed participants to select pseudonyms to protect their identity and ensure confidentiality regarding their role in the study.

Much of the data in the study was self-reported data, which may have impacted participant responses, as they fear the impact their contribution may have on their class grade and personal perception from others. Participants were allowed to remove themselves from the study at any time and were allowed to skip questions asked in an interview and or on the survey.

The student researcher secured documentation related to the research study to include audio-files, electronic correspondence, and interview transcripts for a period of 3 years. Transcripts and personally identifiable information were all assigned pseudonyms immediately and all references to data have been replaced with pseudonyms. All scanned and electronic files

have been stored electronically on the student researcher's personal, password-protected Google Drive. Paper files used in analysis were scanned and uploaded to preserve research integrity and then were shredded.

Trustworthiness

As one of the three high school physical education teachers at Stanley Public High School, I utilized my own personal classes to collect the data, as well as asked for support from the two other physical education teachers in my department, as well as my coordinator. Because I was researching within my own practice setting (Herr & Anderson, 2015, p.41), I am considered an insider within my Action Research study. By utilizing the support of the other physical educators within the Stanley Public High School physical education department, I collaborated with other insiders. Herr and Anderson mention that when collaboration happens, power relations tend to happen more smoothly (Herr & Anderson, 2015, p.45). My relationship with the other two, male, physical educators is very strong. We all come from the same undergrad program and have been working together for several years. The three of us share almost the same philosophies on education and physical education; and have always been willing to support one another with new curriculum ideas as well as changes and improvements within our department.

I also asked for the support of my students to provide insights on what helps motivate them to participate in their physical education courses. I believe that I have built a strong enough relationship with most of my students that there was minimal pushback in providing constructive feedback regarding their physical education experiences. Because of my personal engagements as an athletic coach, athletic supervisor, position on several school councils, and as a class advisor, I have had many parental interactions. These community engagements have helped to

build personal rapport with community members and the student body at Stanley Public High School; all helping to increase the trustworthiness of being able to collect reliable data.

As the study progressed, I maintained my own fieldnotes in a journal. These notes included reflections on interviews, lessons I taught that may have had higher or lower levels of engagement, and notes from potential data in the literature that could benefit the study.

Limitations

Sample size of the study is a major limitation. Because so many student participants are minors, parental consent may have jeopardized the number of students given consent to contribute to the overall data collection. Aside from being able to collect data from minors with consent, Stanley Public High School has only allowed for data to be collected outside of school hours. This limitation limited some student athletes from participating due to practice and game schedules. Many school clubs met before school, which also limited a group of potential participants. Additionally, due to the COVID-19 pandemic, the rapport and community built within a typical in-person physical education class takes on new meaning, oftentimes, lacking the same cohesion as in-person learning. COVID-19 brought on a new concept of “Zoom fatigue” which may have also contributed to a lack of interest to participate in further Zoom calls to provide insight into student experiences. Because many individuals are being asked to look at computer screens much longer than in the past, engagement in surveys that are electronically provided may also not have been a priority for students, as they reported needing a break from technology.

Appendix 2: Dissemination Plan

Author: Hillary Glencross

The Use of Student Motivational Factors that Influence Student Engagement in a Remote Secondary Physical Education Sports Class

Abstract

Engagement in a physical education course is critical to student health and academic performance. The purpose of this Action Research study was to investigate and improve engagement in secondary remote physical education classes, by utilizing student motivational factors. Participants and data collected in Cycle 1 consisted of students providing feedback on their physical education engagement through a modified BREQ-III survey, as well as interviews with the student researcher. Additionally, the wellness department at Stanley Public High School reviewed the physical education curriculum as it aligned with student feedback on student motivational factors. Action steps in Cycle 2 that were designed, implemented, and evaluated included the wellness department examining student feedback in a focus group setting to design and implement frameworks that would increase student engagement in a remote physical education setting. Additionally, students provided further insight through a pre- and post-survey, as well as a focus group, with students, was utilized to determine the effectiveness of the frameworks at increasing student engagement. Findings included student's motivation through identified to intrinsic regulation, having a desire for autonomy and choice while still being held accountable to engage remotely, and needing physical education to be a time in which students can disconnect from video conferencing and implement movement into their day. Implications to the organization include engaging students more in the curriculum decisions within the wellness department in order to increase engagement, while continuing to collect data from students and teachers to keep the curriculum aligned with student needs and national physical education standards. Additionally, the need for more added movement breaks throughout the day of a high school students should be explored.

Acknowledgements
 Dr. Karen Reiss Medwed, Dissertation Chair
 Dr. Chris Unger, Second Reader
 Dr. Gary Nihan, Third Reader
 Wellness Department at Stanley Public High School
 Students at Stanley Public High School

Research Design

- Qualitative Research**
- Interviews, focus groups, surveys & fieldnotes
 - All data was transcribed, if needed, and then underwent two rounds of coding
- Action Research Methodology**
- Attempt to increase student engagement in remote settings
 - Examined remote model of teaching, thought and discussed the roll out of the curriculum, modified curriculum and implemented frameworks, reviewed the frameworks, and along the way continued to ask for student feedback and the wellness department reflected on engagement levels in comparison to various activities

Implications for Practice

Health & Wellness	Mental Health	General Fitness	Individual Activities	Team Sports
<ul style="list-style-type: none"> General Health Determination of Wellness Goal & Motivation 	<ul style="list-style-type: none"> Mental Health Mindfulness Meditation Stress Management Techniques 	<ul style="list-style-type: none"> Basic Fitness Concepts Basic Anatomy & Physiology Goal Setting Prevention Exercise Habits Endorphin Exercises Cardiovascular Endurance (i.e. Jump Rope, Treadmill, Daily Step Count) 	<ul style="list-style-type: none"> Biking Yoga Dance Swimming Archery 	<ul style="list-style-type: none"> General Sport Skills Basketball Football Softball Floor Hockey

Note: Some units may require specific equipment in order for the activities in the activity equipment may be necessary to borrow or substitute or the wellness department could require a mini program for remote learning. The activities in the outlined curriculum that have an adjacent asterisk are units that would require additional equipment.

Findings

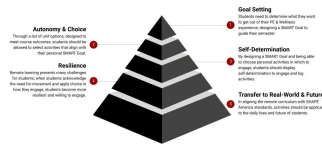
- Finding 1: Self-Determined to Engage**
 Survey data indicated students were more likely to relate to the higher end of the scale of self-determination, specifically, identified regulation to intrinsic regulation. Students who reported higher levels of self-determination to engage were seen as being more engaged in class activities.
- Finding 2: Choice with Accountability**
 Although students expressed interest in the physical activity and wellness log, students did report that it was easy to lie on the logs regarding activities they claimed to engage in during asynchronous work. When given a choice board of activities, students felt like they were being held more accountable to engage in the activities, while still having the freedom of which activity engage in for asynchronous work.
- Finding 3: A Need for Movement**
 Students reported wanting more time away from the computers during remote learning and wanted more autonomy and choice in the activities in which they chose to engage. Physical education can offer some movement through Zoom, but students preferred being able to take time away from their computer screens.

Background/ Introduction

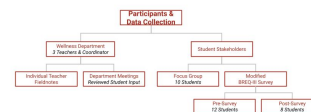
- Stanley Public High School, Massachusetts
- Just under 700 students
 - Grade 9-12
 - Must enroll in 4 semesters of wellness
 - 1 Semester Health & Wellness
 - 1 Semester Personal Fitness & Wellness
 - 1 Semester Project Adventure
 - 1 Semester Choice (Reach Out PE, Net/Wall & Team Sports, or Individual & Lifetime Activities)
 - Due to COVID-19, wellness courses were moved to a remote learning model

Problem Investigated

Explore motivational factors that influence student engagement, among high school physical education students at Stanley Public High School, while learning and engaging remotely from home. The effort to ensure and increase engagement levels while remote is paramount, as physical education impacts one's academic performance and lifelong physical fitness.



Participants/Data Collection



Appendix 3: Critical Reflection

Introduction

In an effort to find solutions to getting students off of the bleachers and engaging more in their physical education class, to a transition seeking a solution to doing the same while learning remotely, proved to be successful, while also having to overcome the many roadblocks that were presented. The following will reflect on how the relationships with the student stakeholders and the wellness department, as well as other external stakeholders, made it possible to achieve maximal engagement in remote settings. Additionally, the challenges faced in the study will be outlined with the solutions that helped find success. Lastly, this reflection will provide ideas for the future of Stanley Public High School and the physical education program, as students transition to a hybrid model of in-person and remote learning, to an eventual return to full in-person learning.

Relationships

As a physical education teacher who has had every student in the building at some point, as well as a coach in the district, I pride myself in having a strong relationship with my students. This connection I have built with the students and their families is something I thought would help me in the data collection process. I assumed that students, who typically are very open to sharing things with me, would be just as willing to share their experiences in their physical education classes. At the start of the study, students appeared to be more hesitant to share experiences in detail; rather everything the students shared seemed to have a positive twist to the experience. After reinforcing to the students that their input had no impact on their physical education grade and explaining how the data will be used to improve their experiences, students started to open up and discuss their experiences more freely.

Through the use of the BREQ-III survey, the data was able to be submitted anonymously, which also seemed to allow students to be more upfront with any adverse experiences they may have faced while engaging remotely. By the end of the study, even following my data collection, the bond with the students continues to grow. Students continue to reach out via email to setup meeting times to discuss when something in the curriculum is not working for them, or if they are not understanding material that has been taught. This continued communication from students will help the physical education program continue to improve by considering and implementing the feedback from the students. It will be important to continue building bonds with students and exploring additional ways to do so in a remote setting. In the focus group one student described her interaction with a teacher outside of physical education, explaining that the teacher would frequently ask the students about their day while on Zoom and “she’s [the teacher] always on there with her camera on. She’s always smiling” (Student #1, focus group, March 5, 2021). These types of interactions were noted by the wellness department as another student reflected, “every teacher does that...especially the gym teachers” (Student #5, focus group, March 5, 2021). This type of body language and communication will be important to continue building connections with students that in turn allow for more open communication regarding experiences and implementations the students would like to see in the gymnasium.

The relationship among all of the wellness teachers at Stanley Public High School has always been supportive and open to change. By including the entire high school department in the study, our team has grown to find solutions to problems together. The wellness department has worked to align curriculum even more among teachers to ensure students are receiving very similar experiences despite the teacher they are assigned. As a whole, the department has enjoyed sifting through student feedback, which also helped reinforce the positive impact the

department had during remote learning for students, during a pandemic. It will be interesting to observe and engage with the continued work ethics of the wellness department, as we continue to build on the frameworks created in the study and transition back to full in-person learning.

Patterns of Work and Organization

Through this Action Research project, the wellness department at Stanley Public High School was able to devote much of the department meeting time to improving the curriculum. Generally, department meetings are used to write, revise, and discuss curriculum, as well as new assessments to be implemented. Because the pandemic forced a transition to a model of teaching no one in the department was prepared for, the group was able to discuss weekly positives and challenges each colleague faced. Together, the department worked towards finding solutions, typically in regard to how to use the technology needed to teach remotely, but the team was also able to discuss fieldnotes of feedback from students on their experiences. Additionally, the data collected via the pre- and post-survey and focus group was able to be discussed by the department in order to adjust the remote physical education curriculum.

It is important to point out the support provided by the wellness department coordinator, who acts as a strong leader and maintains positivity among the department during the challenging times. The coordinator was able to support the department as the team brainstormed ideas for remote engagement in physical education. Additionally, the school administration was very supportive in allowing for students to have brief physical education check-ins and mini-lessons to occur on Zoom, which then allowed students to log off and engage in physical activities that aligned with Zoom lessons. This disconnect from Zoom allowed students the opportunity to take time away from the computer screen and engage in more choice physical activities during their full day of online learning.

Communication

The Action Research study has provoked conversations with all students, the wellness teachers at the high school involved in the study, as well as the remainder of the K-8 portion of the department. Additionally, student feedback regarding remote learning and the overwhelming amounts of work being assigned by all teachers was shared with the administration at Stanley Public High School. Through the feedback received in the study about general academics the administration at Stanley Public High School was able to share feedback in a faculty meeting and help guide faculty and staff on how to improve their remote teaching models, while finding ways to reduce the asynchronous homework being assigned to students.

As a board member of the Massachusetts Association of Health, Physical Education, Recreation, and Dance (MAHPERD), I was able to help run monthly teacher support groups for other Massachusetts secondary physical educators. In these monthly meetings, I was able to share assessment ideas that were having a positive impact on the remote learning at Stanley Public High School. Similar to wellness department meetings at Stanley Public High School, I was able to work through problems other teachers were facing in order to help support each other in order to find success through technology, assessment when teachers cannot physically see their students, and other concerns teachers brought to the meeting. These meetings also provided me with the opportunity to take additional notes and bring information back to my department on how to teach and engage students remotely, from ideas that were working in other school districts.

Difficulties and Solutions

The biggest difficulty faced throughout the study was finding a solution to engage students remotely, who appeared to be disengaged in all classes and non-responsive to emails

from their teachers. The pandemic, itself, presented a huge stressor to both teachers and students alike, but teachers had to show up to do their jobs, while students were not always as responsive. Through phone calls and emails home, some families were able to assist in reengaging their child. Once a student started showing up to virtual Zoom meetings, it was much easier to then have a conversation with the student in a breakout room to determine the best solution to providing additional supports. Many times, students reported just feeling overwhelmed and not having an idea of where to begin once they had fallen so far behind. For physical education, it was easy to talk through wellness ideas that the student could try implementing in order to get back on track with all classes. By allowing more of an individualized approach to remote physical education, more students began to be more responsive and willing to engage. In previous school years, physical education focused on just the physical domain of wellness. Since the shift in our department to a wellness approach to teaching, we have been able to implement more variety of activities into our curriculum, which has also given more opportunity for student choice when trying to re-engage students.

Another difficulty faced in the study was having to always communicate virtually, whether through email, phone calls, or Zoom video conferencing. By the end of the day, Zoom fatigue had set in for everyone so, trying to coordinate additional meetings to discuss the study was a struggle. Luckily, the wellness department was able to use already scheduled department meeting time to work through the data and implement change. Being a class advisor with a supportive co-advisor and colleagues, I received a lot of help in recruiting students to be a part of the focus group. Without the support of my students, willing to share their input, the study would have lacked the student voice and all changes would have only be decided and reflected upon by the wellness.

What's Next

By concluding the Action Research study at Stanley Public High School, a more open form of communication with the students has been built and will hopefully continue to grow. By including students in the study and really taking the time to listen to what the students had to offer, allowed for a shift in the curriculum that met the needs of our students. From the curriculum suggestion from students, five overarching units of instruction with sub-units to be included in each (see Appendix 4, Figure 2), have been drafted from just the student suggestions; this input is enough content to fill an entire course. Far too often, students who are disengaged are viewed as one who just does not want to participate or do not care, but upon further investigation and communication, it can be quickly determined that some disengaged students just do not see the relevance of the lesson and may actually have other desires that could be implemented in order to achieve the same outcomes. Again, having a more wellness approach to physical education allowed for more autonomy and choice to be had by students, thus, resulting in higher levels of engagement, as noted in this study. A continued open communication with students will help foster a program that stays relevant to the students' needs, while also ensuring national standards for physical education are met.

Lastly, through the strengthening of the wellness department, the group of teachers should continue to connect and find ways to support one another while implementing new concepts to the curriculum. When the department took the time to step back and review the peaks and valleys to remote learning, the team was able to work towards more success and better support for the students. It is recommended that department meetings start with a sharing of positives and challenges each teacher has faced in between meeting times, and together work to ensure each teacher is feeling supported. For me, during the pandemic, it was a good feeling to

know others were also struggling; but as a team we were able to support one another and find the successes our department needed in order to keep our students engaged.

The generated outcomes from the study, goal setting, autonomy and choice, self-determination, resilience, and a transfer to real world settings and the future (see Appendix 4, Figure 1) can all continue to be applied in remote, hybrid, or full in-person learning, in order to boost student engagement. As time progresses, the necessities of the students' need and desires may change so, it is suggested that the wellness department continue to reevaluate the frameworks to ensure the physical education program is staying up to date with the needs of all students.

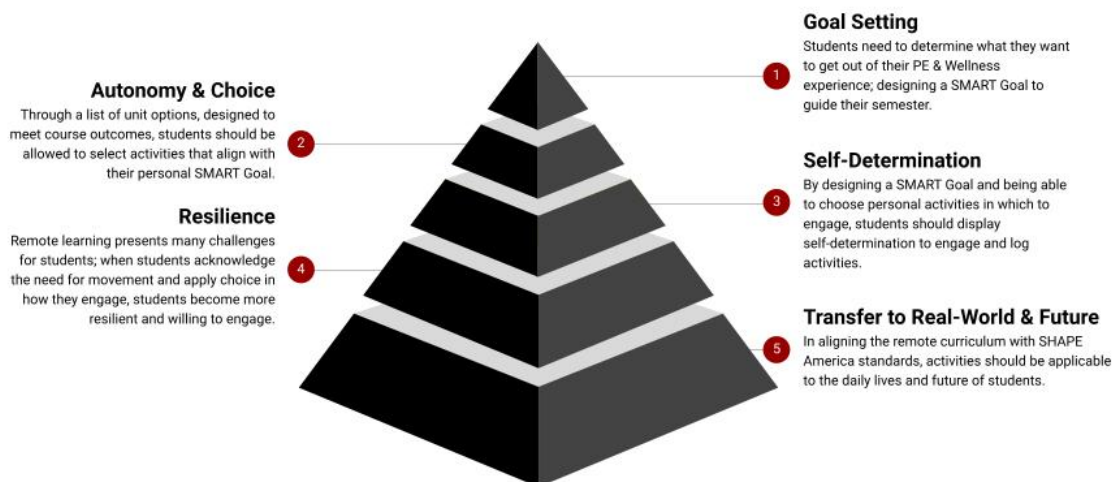
Through a dissemination of the study at a Stanley Public Schools Wellness Committee meeting, the data was able to be shared to representatives from the wellness department, food services, guidance, recreation department, community members, and a school committee representative. Following the dissemination of information, the committee was able to provide valuable feedback including the importance of incorporating movement breaks at the high school level. One of the chairs of the committee shared that both the elementary and middle school levels incorporate many brain breaks and movement activities throughout the day, but the high school only offers the 4-minute passing time, and a semester of physical education. The school committee representative also shared her personal experiences of teaching virtual yoga during the pandemic to help others during the difficult period of isolation, and expressed the importance it was that physical education teachers were able to still teach some activities remotely. Additionally, she shared how her own college-aged son had started to engage in new physical activities such as dodgeball, frisbee, and flag football, so she found it interesting how even during remote learning, students want access to some sort of team sports. Lastly, the wellness

committee found goal setting to be a great implementation in the frameworks during the study and discussed how teaching students how to write strong SMART goals could benefit all subjects. By generating goals, students and teachers could personalize curriculum to meet the needs of each individual student. It was pointed out that, oftentimes, these goals can show educators what students' value in their everyday life.

Following the discussion, the wellness committee has made note of: finding activities to incorporate at the high school for movement breaks, adding more student choice, teaching how to write strong SMART goals, and designing a remote learning curriculum to be used for various situations such as medical exemptions, credit recovery, or for students who cannot fit physical education into their schedule. These points were made in the committees meeting minutes to be reviewed next year in order to see if the district can make additional changes throughout the day to meet the requests of participants in the study.

Appendix 4: Data Displays

Figure 1 - Frameworks for Increasing Student Engagement



Note. Frameworks generated during the study should be used as a guide to increase student engagement in a remote learning model of teaching physical education.

Figure 2 - Suggested Units for Remote Physical Education Curriculum



Note. Some units may require special equipment in order to find success in the activity; equipment may be accessible at home by students or the wellness department could explore a rental program for remote learning. The units in the outlined curriculum that have an adjacent asterisk are units that would require additional equipment.