

12-2017

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Get them Moving: Increasing Physical Activity in the Classroom

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Abstract

The focus of this senior capstone project is on increasing the amount of physical activity within the classroom. Studies show that living a sedentary lifestyle can be detrimental to your health, yet we require students to sit still in classrooms for hours on end. For this project different elementary grade levels were compared to determine the amount of physical activity that currently occurs inside the classrooms, and several teachers were interviewed to see how the issue could be helped. Through what was learned from the the research conducted , an action was taken that responds to the issue of increasing physical activity in the classroom.

Increasing Physical Activity in the Classroom

Throughout my life I have always had an interest in physical activity and the promotion of a healthy lifestyle. I loved being active as a young child through playing on the jungle gym and sports with friends. This continued throughout high school as I participated in color guard all 4 years. When I came to California State University, Monterey Bay the wanting to live a healthy lifestyle was still present, but I found it difficult to motivate myself. In an effort to get to know more about the topic I declared my minor in Health and Wellness my junior year.

Through the health and wellness classes I was able to learn many things ranging from why people are motivated to work out, to how lack of movement can cause serious health risks. While I was working a self health behavior change project, I bought a basic model Fitbit. The Fitbit Flex 2 is worn on the users wrist as a bracelet. The device tracks the user's step count, calories burned through physical activity, active minutes or periods of moderate activity done for ten minutes or more, and sleep schedule. With this information it provides, via a mobile app, a summary of the user's physical activity every day. The Flex 2 model also provides "reminders to move". If the user does not reach 250+ steps each hour the device will vibrate and the lights will flash red. This is to indicate the user that they are not on track to reach their activity goal for the day.

In Spring 2017 I was completing my Liberal Studies' Service Learning hours in a 5th grade classroom. As I worked my way around the classroom, making sure all of the students were working on their end of the year exam prep, I noticed my Fitbit kept reminding me to move. This reminder was indicating to me that I was not reaching the recommended level of physical activity I needed each hour. As I continued to think about this it occurred to me the

students are expected to be sitting down the entire two hours that I am with them in the classroom. They did get up on occasion, but only to do activities that require minimal activity such as sharpening a pencil or getting a drink of water. It was because of this experience I thought of the question to center my capstone project around: If I was allowed to move around freely in the classroom, but still was unable to reach my 250+ steps per hour, how where the students expected to reach their step count?

This question, along with the health and wellness information I had received through my minor coursework drives me to want to learn more about how teachers incorporate physical activity into their classrooms. Something so minor as finding ways to increase physical activity in the classroom can improve students academic success and have a positive impact on their health.

Literature Synthesis and Integration

The amount of physical activity students have been receiving during school hours have been decreasing. As of now there are no policies put into play that say students need to be active inside the classroom, the closest thing I could find was on the topic of Physical Education which states, "Students in grades one through six, inclusive, must be provided with PE instruction with an "emphasis upon the physical activities for the pupils that may be conducive to health and vigor of body and mind, for a total period of time of not less than 200 minutes each 10 schooldays, exclusive of recesses and the lunch period" ("Physical Education FAQs. N.D)"

Since physical activity has been linked to the prevention of serious medical conditions, it is important to ensure all students are able to reach the recommended guidelines set by organizations such as the Center for Disease Control and Prevention (CDC) and the American

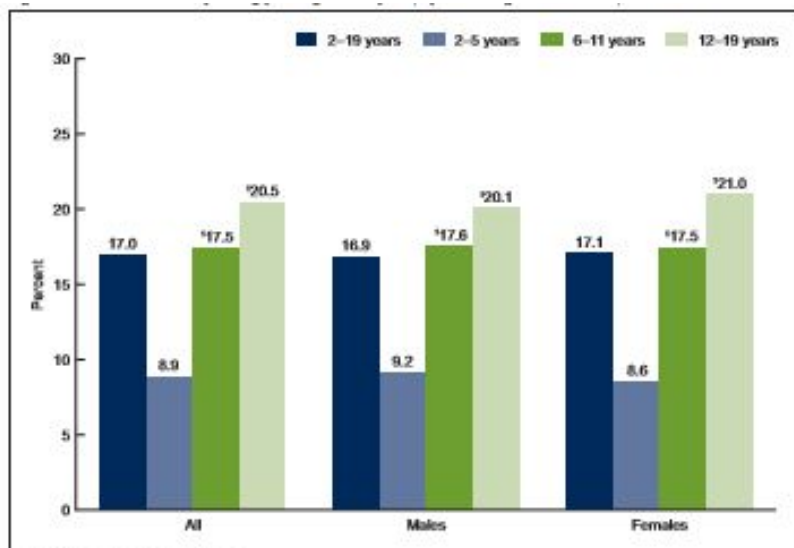
Heart Association (AHA). Some ways we could increase physical activity within the classroom are through an in-class physical activity program, brain breaks, or the integration of physical movement into academic concepts. Since students are our future, it is important to provide them with opportunities to maintain a healthy lifestyle.

What is the Issue?

Physical activity in public schools has become an emerging topic in the field of education. Over the years the amount of physical activity students receive during school hours has been decreasing. This is partly to do with the intense pressure schools have been putting on students to score well on standardized tests. As physical education and recess time decreases teachers and faculty need to be aware of alternate ways students can be active. One option could be to implement classroom physical activity. Classroom physical activity is defined as “taking a three to five-minute break within the classroom to perform some type of physical movement or integrating physical movement into academic concepts (Dinkel et al. 2017). Some programs designed to increase classroom physical activity are CATCH, Instant Recess, Take 10!, and classroom energizers (Carlson et al. 2015).

Youth aren’t getting enough physical activity. The CDC (1999) states, adolescents need at least 30 minutes of physical activity per day. More than half of America’s youth, ages 12-21, are not active on a vigorous level, on a regular basis, and participation in all forms of physical activity sharply decreases as age and grade level increases (Center, 1999). Since students spend around 8 hours in school it is important for schools to have set programs to ensure their students are meeting the physical activity guidelines.

Youth medical concerns. The World Health Organization (WHO, 2017) estimates that



*Significantly different from those aged 2-5 years.
SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey, 2011-2014.

worldwide over 41 million children under the age of 5 are overweight or obese. Figure 1: Prevalence of obesity among youth age 2-19, by sex and age, in the US 2011-2014 (Prevalence of Obesity Among Adults and Youth: United States, 2015)

In 2014, obesity affected around 12.7 million or 17% of

American children ages 2-19 (Center, 2017). The AHA states that “physical inactivity increases an individual’s risk of stroke and other cardiovascular risk factors such as: obesity, high blood pressure, low HDL (good) cholesterol, and diabetes (The, 2016).” Since physical activity plays such a vital role in ensuring children and adolescents will remain healthy, it is important to make sure all children are able to reach the recommended levels of physical activity each day.

Implement an in-class physical activity program. CATCH or Coordinated Approach to Children's Health is a classroom curriculum for all grades that focuses on physical activity and nutrition (2016). This program promotes the CDC’s Coordinated School Health Model (CSH). The CSH has been used as a blueprint since 1987 to promote healthy practices in a school setting (Center, 2017). While CATCH does provide a great starting point for teachers to talk about physical activity in the classroom it does not provide teachers with actual physical activities for students to do. It is mainly worksheets and lesson plans designed to teach students more about

what physical activity is and ways they can be active beyond the classroom. A problem with this type of setup is that it can affect a child's self efficacy. The self efficacy theory model is, "one's belief in one's ability to succeed in specific situations or accomplish a task (Bandura. 1997)". If a student's curriculum is discussing the importance of movement and using soccer as an example, a student who has never played soccer before may feel at a disadvantage to their peers in their ability to understand the text.

Brain Breaks. A brain break or classroom energizer is when a teacher uses a three to five-minute activity to transition between academic activities or to give students a break from a long period of instruction (Carlson et al. 2015). According to their website, Instant Recess, "is an evidence-based model designed to improve health & productivity by incorporating 10-minute physical activity breaks into the routine daily "conduct of business"—fighting the inactivity epidemic 10 minutes at a time (Instant Recess, 2013)." This type of program would allow teachers the freedom to adapt the activities to their classroom's needs; however, with this type of program it is up to the teacher to ensure there is enough time everyday to perform these activities, and it is not used just as a "time filler". Also, teachers may have to use Extrinsic Motivation, or rewards to motivate their students to do the activities.

Integrate physical movement into academic concepts. Take 10 is a program that incorporates movement into lesson plans. According to the Take 10 website, "TAKE10 engages students in movement while reinforcing specific academic objectives in math, reading, language arts, science, social studies, and nutrition and health" (2015). Each lesson plan designed for the program incorporates a 10 minute physical activity that gets students moving while reinforcing what is being learned in the lesson. According to Howard Gardner's Multiple Intelligences

Theory, there are seven distinct learning styles to which people learn: Visual, Bodily, Musical, Interpersonal, Intrapersonal, Linguistic, and Logical. Those who prefer the bodily or kinesthetic learning style communicate well through body language and learn best through physical activity, hands on activity, acting things out, and role playing (Lane, n.d.). This form of physical activity in the classroom would be beneficial for students who identify as kinesthetic learners while still helping fight the sedentary lifestyle that schools often, unconsciously, promote.

Conclusion.

A sedentary lifestyle has been connected to the rise of obesity and cardiovascular diseases in adolescence in America. Physical activity in schools has been decreasing over the years. By implementing a source of physical activity within the classroom, students will have the ability to reach the recommended guidelines for a healthy life.

Method

For this Capstone Project an investigation was conducted on how teachers and faculty at Daily City Elementary view physical activity within the classroom, and what they think could be done to improve it. Based on the analysis of the data and the relevant research literature an action that responds to the focus issue in a way that inspires, informs, or involves a particular audience was created.

Context

Research was done at Daily City Elementary¹. Located in Jupiter California, a developing middle class community that use to be home to a military base, Daily City Elementary is a kinder

¹ Pseudonyms have been used for the names of people, places, and organizations

through 5th grade school, and home to 459 students. A large portion of the students are of Latin American descent and 70% are English Language Learners. In the 2014-2015 school year 14.8% of the 5th-grade students were classified as “Needs Improvement–Health Risk” in the aerobic capacity section of the California Physical Fitness Test, and 27.9% were classified as “Needs Improvement–Health Risk” in the body composition section (“Daily City Elementary, ” n.d.). Both of these percentages are above the district average for aerobic capacity and body composition (“Jupiter Unified, ” n.d.).

Participants and Participant Selection

For this study I had four participants. The percentage of male to females is 25% male and 75% female. Their mean age is 36. Their ethnicity is 100% caucasian. The participants taught a range of grade levels, from kindergarten to 5th grade with Key students in two of the four classes. Key students suffer from emotional disturbances and can be performing at or above grade level or below grade level. Half of the participants have been teaching for less than five years while the other half have been teaching over 20. One participant is in the process of receiving his Intern Credential, although he has about 10 years of substitute teaching experience.

Paula: A white fourth grade teacher who has been teaching for over 20 years. Her class has 25 students and one Key student. This participant earned her Bachelor’s degree in Social Work from George Mason University and her Teaching Credential from California State Monterey Bay. She also received a Master of Arts in Teaching from Grand Canyon University. She has experience teaching grades K-5th in various schools.

Tony: A white Key teacher who has been teaching for 3 years. The class contains third to fifth graders who have emotional disturbances. This participant is in the process of receiving his Intern Credential, and has 10 years of substitute teaching experience.

Jean: A white first year teacher who has just finished student teaching at Daily City Elementary last year. This participant teaches kindergarten. Throughout this participant's schooling she had many opportunities to teach at different grade levels, however when she was placed in a kinder classroom this year she was nervous. Because of her lack of knowledge of kindergarten classrooms, she went into this year feeling unprepared, but because of a previous experience in a first grade class she knows where her students need to end and is working on getting them to that point.

Martha: A white female fourth grade teacher. She has been teaching for over 20 years throughout California, however this is her eighth year at Daily city Elementary. She has taught a variety of grades from kindergarten to fifth grade, but this is her sixth year in a row teaching fourth grade.

Researcher

I am minoring in Health and Wellness, and through my studies have taught me that living a sedentary lifestyle is detrimental to your health. My immediate family have dealt with childhood obesity, and I would love to find a way for schools to promote physical education beyond PE and recess. Both my studies and my personal connections to the problem has given me enough background knowledge and passion to carry out this project. The thing that sets me apart from any other Liberal Studies student pursuing this project is my health and wellness minor. It was

the knowledge I gained from my minor that helped me decide to do this as my capstone project. Because I was aware of the negative effects of living a sedentary lifestyle, it may have impacted my views of the project because I wanted more to be done to prevent it, however I have not let my pre existing biases affect the project or it's outcome.

Semi-Structured Interview and Survey Questions

1. Please tell me about yourself and your position here at Daily City Elementary.
2. On a scale of 1-10, with 10 being the most important, where does the physical activity of your students fall?
3. On a typical day how many hours is an average student involved in physical activity?
4. Outside of the required PE class, do you think physical activity needs to be increased in your classroom? Why/ why not?
5. What, if anything, is currently being done to improve or increase physical activity within the classroom - by whom - and do you think this is good, bad, or indifferent? Why?
6. What do you think are the obstacles/drawbacks/disadvantages to increasing physical activity within the classroom?
7. Is there anything else that you would like to say about physical activity within the classroom and/or the improvement of physical activity within the classroom?

Procedure

I began this project by emailing Daily City Elementary's principal to set up a meeting. At this 15 minute meeting we discussed the project, why I was interested in it and what I hoped to

gain from it, also we reviewed the interview questions. After obtaining the principal's approval she sent a Google doc to all of the teachers explaining the project and asking for participants. As the participants signed up on the Google doc the principal would email me updates. Each participant was sent an email thanking them for their time and going more into details with what the project entails. I stated we would need to conduct one 30 minute interview each. These interviews were completed in the teacher's classroom after school. They took between 10- 25 minutes to complete. Before beginning an interview I told the participants about the project, about their rights to the project, and about how everything will remain anonymous. I also stated they had the ability to end the interview at any time. After the interview was completed I thanked the participants for their time and told them that I would be presenting my project at the upcoming capstone festival in December. Lastly I gave each participant my email address and told them to contact me if they had any questions, comments, or concerns.

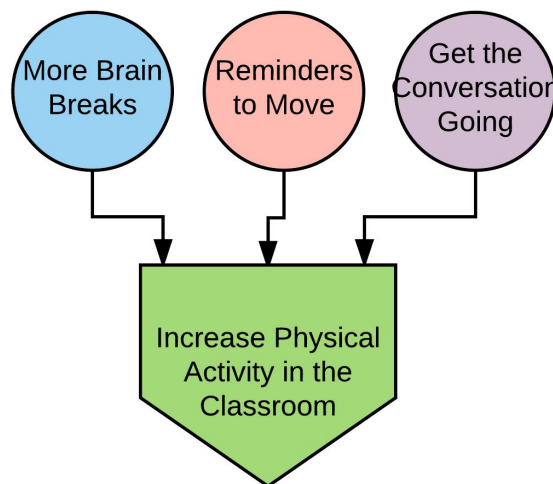
Data Analysis

Transcribed interviews were coded and analyzed for emergent themes.

Results

After completing all of the data collection, it was analyzed and interpreted for emerging themes. Each interview was listened to and the main points, themes, and claims were collected. Each interview's emerging themes were then compared, and similarities were pulled for the results section. For this project the themes centered around three different ways to increase

physical activity within the classroom. All of the classrooms, even the most active, said they could benefit from the increase in student movement. The major consistent themes to increase movement throughout all of the interviews were take more brain breaks, have a reminder to move, and get the conversation going. As depicted in the graph below all of these solutions would help remind and encourage teachers to allow their students to be more active in the classroom. It is these themes, along with specific data from each of the three interviews conducted, that is elaborated on within this section.



More Brain Breaks

Throughout the research one of the goals was to evaluate the types of physical activities that are currently being done within Daily City Elementary School's classes. Three of the four

participants that I interviewed stated that they used the website Go Noodle as a brain break during transition times or whenever there was downtime in the classroom. Go Noodle is a website that consists of many one to three minute videos that are movement based. These videos also incorporate key educational subjects such as Math, English, History, and Science. While these videos do allow for some form of purposeful movement within the classroom, all of the participant that said they used the website also stated they wanted to increase the amount of physical activity done in their classroom. One way to do so, would be to increase the amount of brain breaks given to the class. Right now the teachers are only using these breaks when there is a transition or extra time in the class. If they were to schedule the school day around these breaks they can insure there would be enough time for students to take them.

Reminders to Move

Another way teachers can increase the amount of physical activity in their classroom is if they are reminded that their students need to move. One way this can be achieved is if a poster was created for teacher to hang in their classroom. If the teacher sees the poster they may realize that that their student's have not been active in awhile and give them a chance to get up and move around. Another idea to help teachers is to have a "Movement Monitor" classroom job. Many classrooms at Daily City Elementary implement a classroom job chart, where every student is assigned a position or job for that week. Jobs may include line leader, pencil

sharpener, and door monitor. The movement monitor position would be in charge of letting the teacher know when it is a certain time so that the classroom can have their movement break. For example, if the math lesson goes from 9- 11am, the teacher could ask the movement monitor. This result would allow both the students and the teachers to get involved in remembering the importance of movement.

Get the Conversation Going

Another recommendation for teachers is to get the conversation going within themselves to see how others increase physical activity within their classrooms. Two of my participants stated that me being present and asking the question of how active their classroom is made them realize just how inactive they are. If a pamphlet was created and shared amongst teachers it could be used to get the conversation going. The pamphlet would include some facts from the literature about how important movement is to children and some ideas to help jumpstart conversations about movement. The thought is that with this teachers will be able to communicate within themselves to find ideas on how to incorporate movement into all classrooms. The only way for teachers to not benefit from the pamphlet is if they do not read it, or if they keep the conversation to themselves instead of sharing it with their peers,

Conclusion

| | Cost | Preparation Time | Effectiveness |
|--|------|------------------|---------------|
| | | | |

| | | | |
|----------------------------|-----|------|------|
| Brain Breaks | Low | High | High |
| Reminders to Move | Low | Low | High |
| Get the Conversation Going | Low | Low | High |

For this project the researcher recommends the pamphlet that will get the conversation going. This pamphlet is the most that can be done by the researcher without changing the structure of every classroom. Meaning without access to every classroom at Daily City Elementary, the researcher can only suggest ways to improve the problem. The change must ultimately come from the teachers themselves.

For the other recommendations, the cost to implement the ideas would be low. For the brain breaks, the school already has a subscription to GoNoodle. Also most teachers already know how to use the website, and most classes are already familiar with what is expected when the videos are shown. For the reminders to move recommendation all that is needed is the addition of a new element to the classroom to remind teachers of the importance of movement. However these solutions would require a significant amount of preparation from teachers, as they are asking them to schedule their school day around when the needed breaks. While this is not impossible, and if it is done would insure a significant amount of movement in the classroom for all students, it is a lot to ask from teachers who already have a majority of the days planned out.

These recommendations would also rely on the teacher to ensure they took the planned breaks. From feedback I received during the interviews the most cited reason physical activity was not being done in the classroom was because they could not take time away from the lessons that were being taught. The pamphlet solution, if actually performed by teachers to encourage communication with fellow peers, would find the best way for movement to be increased in each individual classroom, as well as encourage the whole school to implement physical activity in the classroom. This will ensure the physical fitness of all students.

Action Documentation & Reflection

For this project's Action Documentation I created a brochure explaining why physical activity is important in the classroom. A copy of the brochure can be found in Appendix A. It was difficult to pick an action plan to complete this project since I do not have access into the classrooms to change their daily routines. The change would have to be made by the teachers themselves. The decision to make the brochure was made in hopes to encourage teachers to discuss amongst themselves to come up with ways to improve physical activity within the classroom. The brochure provides an overlook of my capstone project, information on why physical activity in the classroom is important, and a few examples for how teachers can increase their classroom's physical level. Besides a few grammatical errors I did not change the brochure

from what I had originally come up with. So far I have only received one response from a participant who was thanking me for taking my time to provide this information. I was surprised that more participants did not respond to the brochure, but I hope they are still expanding on the conversations that were started at the school. Looking back at the beginning of this project, I wish I would have known how difficult it would be to get in contact with the teachers at Daily City Elementary. Because of a change in principal this past year, my connection to the school was limited. However I was able to get in touch with the new principal and sell her on my capstone idea, so she allowed me access to the teachers to get the interviews I needed. To continue this project the next step would be to check in with the teachers periodically to see if the conversations has continued, and to see in what ways they are implementing more physical activity into their classrooms.

Critical Reflection

From this project I have learned a great deal about both myself and the importance of working towards change. I have learned that for myself it is important to continue working towards my goals and dreams. It has been hard being a Liberal Studies student that does not want to become a teacher, but I am grateful to have had the opportunity to choose a capstone topic that I am passionate about and encompasses both my major and my minor. This project has also allowed me to continue to grow my interest in working towards change. From reading articles, to

collecting data, to seeing the action plan in action, this experience has allowed me to leave my mark on CSU Monterey Bay, and the surrounding areas.

The themes of the Liberal Studies department have impacted my professional development in many ways. First and foremost it has allowed me to become a stronger educator. No matter what professions we end up performing in life, everyone can be an educator. While the Liberal Studies department primarily focuses on preparing students to become California public educators there are still lessons that I have learned here that will follow me throughout my life. Through the required coursework I have learned to become a more diverse and multicultural scholar. The courses and coursework have prepared me for a Master's program and eventually a future career in education.

Some of the necessary steps I need to take to be the professional I envision being are: to attend a competitive grad school program in Higher Education and Student Affairs, intern in a Student Affairs office to learn what is expected from those who perform these tasks daily, and interview a variety of staff in Student Affairs positions to discover the path I would most like to take. After the completion of these tasks I hope to obtain a job in Higher Education and Student Affairs.

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Appendix A

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Get them Moving: Increasing Physical Activity within the Classroom

Project Overview

For this Capstone Project I, the researcher, will investigate how teachers view physical activity within the classroom, and what they think could be done to improve it. Based on an analysis of the data and relevant research literature, I will use what I have learned to formulate an action plan that responds to the focus issue in a way that inspires, informs, or involves a particular audience.

Why Physical Activity is Important in the Classroom

The Center for Disease Control and Prevention states, adolescents need at least 30 minutes of physical activity per day. More than half of America's youth, ages 12-21, are not active on a vigorous level, on a regular basis, and participation in all forms of physical activity sharply decreases as age and grade level increases. The American Heart Association states that "physical inactivity increases an individual's risk of stroke and other cardiovascular risk factors

such as: obesity, high blood pressure, low HDL (good) cholesterol, and diabetes”. Since physical activity plays such a vital role in ensuring children and adolescents will remain healthy,

it is important to make sure all children are able to reach the recommended levels of physical activity each day.

Ideas to Consider

From my research, it shows that this is a concern amongst a majority of the teachers at the school. While it is difficult to take time away from subjects like Math and English, I hope that by participating in this project the interest in increasing physical activity in the classroom has improved. Here are some ideas for ways physical activity can be increased in the classroom:

- Increasing the use of Go Noodle type videos: Right now these Brain Breaks are only being used when there is a transition or extra time in the class. If we were to schedule set times during the school day for students to take these breaks then we can ensure they are meeting the physical activity guidelines.
- Reminders to move:
 - Poster- If a poster is created and hung up in the classroom it can serve as a reminder to teachers that students may not have been active in a while. This reminder will serve as a reason to allow students to get up and move around.
 - “Movement Monitor”- Many classrooms implement a classroom job chart, where every student is assigned a position or job for that week. The movement monitor position would be in charge of letting the teacher know when it is a certain time so that the classroom can have their movement break.