Ready-Made Data to Justify Physical Education in Your School

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Physical education tends to be the most misunderstood, abused and ridiculed subject area in school curriculums. As physical educators we often find ourselves defending our discipline from disgruntled parents, teachers of other disciplines and unfortunately, school administrators. When teachers attend professional conferences and workshops, they visit among one another and enter into discussions centering on what is happening in their school districts and even in their respective states. It is not uncommon to compare issues such as class size, minutes per week, number of physical education teachers in their schools or district, budgets, facilities and equipment. Physical education specialists understand the inherit value of quality physical education in the development of students. Professionally active educators know that being advocates for their discipline is essential, they can never relax. Physical education, perhaps more than any other discipline, must continuously justify its existence

There are occasions in schools where teachers are given the opportunity to present or even show case their programs. This may be at a parent/teacher association or organization event, a physical education night, or at a formal school board meeting. Physical educators should relish the opportunity to justify physical education and what they do in front of school board members and administrators. Physical education is essential and teachers can provide valuable data that is both alarming and encouraging. A few select areas can be emphasized in a justification debate and they can be more convincing when accepted facts and data are presented.

Justify by discussing brain development and activity in physical education.

- Exposing children between the ages of 6-11 to multiple types of physical activities allows harmonious growth and choice of activities through life.
- Motor skills develop primarily in the first 18 year of life.
- Strength, power, and rapidity develop from hormonal influence and activity level.

    - Suppleness (flexibility) –Flexibility is natural in younger children. Teaching stretching techniques to children before puberty can increase the likeliness they will continue after puberty when the tissue becomes less pliable and requires maintenance.

    - Gesture Speed – Speed of movement can be increased most in young children (around age 6). Increasing the speed of movements depends on nerve coordination and motor skill development.

- Muscular Strength – Strength can be increased through organized sports, play, or training programs. Children participating in activities that increase power can also help prevent injury and increase their capacity for motor movement.

http://www.danoneinstitute.org/objective_nutrition_newsletter/on79.php

- Children who are physically fit have a better developed hippocampus.
- This is associated with better spatial reasoning and helps with memory.

http://news.illinois.edu/news/10/0915_brain_development_and_fitness_art_kramer.html

- Physical activity appears to change brain structure by promoting growth of nerve cells and increasing vasculature.
- It also changes levels of neurochemicals that promote growth, differentiation, survival, and repair of brain cells.

http://esciencenews.com/articles/2011/07/25/exercise.has.numerous.beneficial.effects.brain.health.and.cognition.review.suggests

- The vestibular system in the inner ear controls our sense of movement and balance, and it influences other sensory systems. A lack of stimulation to the vestibular system is linked to many learning problems and disabilities.
- The hippocampus is the "surge protector" of the brain.
    - New info is transferred to the hippocampus within 60 minutes. Over a period of 24 to 72 hours, the hippocampus transfers the information to the proper areas of the cortex, particularly during SLEEP. Within 3 to 30 days, if the new information is rehearsed often enough, it will be retained long-term.

- The best way to learn is to receive input, discuss it, and then take a walk!
- We learn 80% of what we experience personally.

http://www.wmich.edu/chemed/documents/TheBrain-FriendlyClassroom.pdf

Justify by discussing the affective/social development of children and youth.

- Helps students make informed choices and understand the value of leading a physically active lifestyle.

- The healthy, physically active student is more likely to be academically motivated, alert, and successful.
- Active play may be positively related to motor abilities and cognitive development.
- Research has demonstrated that children engaged in daily physical education show superior motor fitness, academic performance, and attitude towards school versus their counterparts who did not participate in daily physical education.
- Children in elementary school acquire knowledge through physical exploration of their environment.
- Middle school student are intensely curious, prefer active to passive learning, and definitely favor interaction with peers during learning activities. They enjoy using skills to solve real life problems. It has been shown that student miss fewer days of school because of illness and exhibit greater academic achievement because of the physical vitality gained in physical education.
- Quality physical education programs enhance the development of both competence and confidence in performing motor skills.
- Children need many opportunities to experience personal feelings of success and achievement in physical activity settings. Explorations of various movement capabilities contribute to feelings of joy and accomplishment.
- Quality middle school physical education programs provide students unique opportunities for demonstrating leadership, socialization, and goal setting skills. Involvement in physical activity has shown a consistent relationship with mood, self-esteem, and other indices of psychological well-being in early adolescence.

http://www.aahperd.org/naspe/standards/upload/Physical-Education-is-Critical-to-a-Complete-Education-2001.pdf

- Play is vital to children's social development. It enables children to do the following:
    - Practice both verbal and nonverbal communication skills by negotiating roles, trying to gain access to ongoing play, and appreciating the feelings of others (Spodek & Saracho, 1998).
    - Respond to their peers' feelings while waiting for their turn and sharing materials and experiences (Sapon-Shevin, Dobbelgere, Carrigan, Goodman, & Mastin, 1998; Wheeler, 2004).
    - Experiment with roles of the people in their home, school, and community by coming into contact with the needs and wishes of others (Creasey, Jarvis, & Berk, 1998; Wheeler, 2004).

- Experience others' points of view by working through conflicts about space, materials, or rules positively (Smilansky & Shefatya, 1990; Spodek & Saracho, 1998).

  http://www.education.com/reference/article/importance-play--social-emotional/

Justify by discussing physical education and academic achievement.

- Physical education is an integral part of developing the "whole" child in social settings and the learning environment.

- Evidence suggests that physical activity has a positive impact on cognitive ability, tobacco use, insomnia, depression, and anxiety. Normal weight children also have lower rates of school absenteeism than obese children.

- Recent studies have found a strong correlation between aerobic fitness and academic performance as measured by grades in core subjects and standardized test scores.

- Several large-scale studies found improvements in students' academic performance with increased time spent in physical education. Children who spent time in physical education in place of a classroom activity performed no worse academically than students not enrolled in physical education.

- 95% of parents believe physical education should be part of a school curriculum for all students in grades K-12.

- A high-quality physical education program enhances the physical, mental, and social/emotional development of every child and helps them understand, improve, and maintain physical well-being.
  http://www.everydaychoices.org/082008/PE%20Fact%20Sheet%20AHA%20ACS%20ADA%205.27.08%20[Final].pdf

  For standardized math and English tests, studies have shown that children achieve more when they are able to pass a number of fitness tests. This finding published in the **School of Journal Health** studied a group of students between the 2004 and 2005 school year. Pupils performed better in both reading and math when they were also involved in ongoing athletic activities, regardless of gender or ethnicity. The idea that physical exertion will detract from a student's studies is quickly becoming null and void, thanks to indicators such as these. Corresponding results help secure the belief that fitness programs may actually serve to enhance academic performance.

- A 2005 report by the **California Department of Education** cites evidence that healthy, fit children are more prone to attend school and perform better than their sedentary peers. In response, the department encourages schools to make physical education an essential goal. This report expresses concern over the obesity epidemic amongst children in the United States, as well as illnesses it can cause later in life, such as heart disease and diabetes, among others. Physical education allows students to improve their bone density and motor skills, as well as boosts self esteem through exercise.
- The **California Journal of Health Promotion** published findings in 2006 regarding explanations as to why physical education and academic achievement are associated. A study was cited by California State University researchers who compared differences between schools that made fitness a priority and those that did not. When standardized pupil test scores were analyzed, it was determined that the leading schools also had formal, structured physical education programs based on the State Board of Education guidelines. Conversely, the lowest academic performing schools did not even have gym teachers.

http://www.sparkpe.org/blog/study-physically-active-kids-perform-better-academically/

Justify by presenting alarming health facts.

Statements directly from:

CDC

- During the past 20 years, there has been a dramatic increase in obesity in the United States and rates remain high. More than one-third of U.S. adults (35.7%) and approximately 17% (or 12.5 million) of children and adolescents aged 2—19 years are obese.

Childhood Obesity

- Approximately 17% (or 12.5 million) of children and adolescents aged 2—19 years are obese.
- Since 1980, obesity prevalence among children and adolescents has almost tripled.
- There are significant racial and ethnic disparities in obesity prevalence among U.S. children and adolescents. In 2007—2008, Hispanic boys, aged 2 to 19 years, were significantly more likely to be obese than non-Hispanic white boys, and non-Hispanic black girls were significantly more likely to be obese than non-Hispanic white girls.

Adult Obesity

- More than one-third of U.S. adults (35.7%) are obese.
- Obesity-related conditions include heart disease, stroke, type 2 diabetes and certain types of cancer, some of the leading causes of preventable death.

- The estimated annual medical cost of obesity in the U.S. was $147 billion in 2008 U.S. dollars; the medical costs for people who are obese were $1,429 higher than those of normal weight.
- Non-Hispanic blacks have the highest age-adjusted rates of obesity (49.5%) compared with Mexican Americans (40.4%), all Hispanics (39.1%) and non-Hispanic whites (34.3%)
- Among non-Hispanic black and Mexican-American men, those with higher incomes are more likely to be obese than those with low income.
- Higher income women are less likely to be obese than low-income women.
- There is no significant relationship between obesity and education among men. Among women, however, there is a trend—those with college degrees are less likely to be obese compared with less educated women.
- Between 1988–1994 and 2007–2008 the prevalence of obesity increased in adults at all income and education levels.
- By state, obesity prevalence ranged from 20.5% in Colorado to 34.7% in Louisiana in 2012. No state had a prevalence of obesity less than 20%. Nine states and the District of Columbia had prevalence between 20-25%. Thirteen (13) states (Alabama, Arkansas, Indiana, Iowa, Kentucky, Louisiana, Michigan, Mississippi, Ohio, Oklahoma, South Carolina, Tennessee, and West Virginia) had a prevalence equal to or greater than 30%.
- Higher prevalences of adult obesity were found in the Midwest (29.5%) and the South (29.4%). Lower prevalences were observed in the Northeast (25.3%) and the West (25.1%).
- There was a dramatic increase in obesity in the United States from 1990 through 2010.
- No state met the nation's Healthy People 2010 goal to lower obesity prevalence to 15%. Rather, in 2010, there were 12 states with an obesity prevalence of 30%. In 2000, no state had an obesity prevalence of 30% or more.

AMA

Childhood Obesity

- Rates of childhood obesity have increased more than threefold in the last 30 years.
- Obesity can have both immediate and long-term effects on children’s health, ranging from poor self-esteem, sleep apnea, and asthma, to increased risks for heart disease, high blood pressure, and cancer.
- Together, parents, caregivers, physicians, and other healthcare professionals, as well as schools and policy makers, can help reverse the rising rates of childhood obesity and help children live healthier lives.

Adult Obesity

- Obesity is a major public health problem contributing to 112,000 preventable deaths each year. The prevalence of obesity has increased dramatically in recent decades, from

13 percent of adults in 1980 to 34 percent of adults in 2008. Among children, the prevalence increased from 5 percent to 17 percent during the same time period.

- According to the Centers for Disease Control and PreventionExternal Link (CDC), the following are health consequences of obesity:

  Coronary heart disease
  Type 2 diabetes
  Cancers (endometrial, breast, and colon)
  Hypertension
  Dyslipidemia
  Stroke
  Liver and gallbladder disease
  Sleep apnea and respiratory problems
  Osteoarthritis
  Gynecological problems (abnormal menses, infertility)

- Risks for these conditions increase as weight increases. Obesity also affects various racial and ethnic groups disproportionately. Further, obesity and its associated problems have a large economic impact on our health care system, with the costs in 2008 equating to $147 billion.
- The current Surgeon General Regina Benjamin, MD, MBA, recently addressed this issue in her report, The Surgeon General's Vision for a Healthy and Fit Nation 2010: "Today's epidemic of overweight and obesity threatens the historic progress we have made in increasing America's quality and years of healthy life."

AHA

Childhood Obesity

- Almost 13 million (16.9%) of U.S. children ages 2 to 19 are obese.
- Nearly one in three (31.8%) U.S. children (23,900,000) ages 2 to 19 are overweight or obese.
- “Our nation needs immediate action to prevent excess weight gain in all our children and to treat children and adolescents who are already overweight or at risk of developing obesity,” said Stephen R. Daniels, M.D., Ph.D., professor of pediatrics and environmental health at Cincinnati Children’s Hospital Medical Center.
- Most school-based interventions that include classroom curricula, physical education and changes in school meals and vending machines increased physical activity and improved dietary patterns among children and adolescents.—“Childhood Obesity: Early Prevention Offers Best Solution”

COAM (Childhood Awareness Month [National])

- 1 in 3 Children is Obese
- Children that are overweight or obese are at a greater risk for cardiovascular disease, bone and joint problems, sleep apnea, psychological problems, and bullying.
- In the past four decades, obesity rates have soared among all age groups.
- Childhood obesity has increased more than fourfold among those ages 6-11.
- More than 23 million children and teenagers in the U.S. ages 2-19 are obese or overweight (a statistic that health and medical experts consider an EPIDEMIC).
- Because of childhood obesity, nearly one-third of America's children are at early risk for type 2 diabetes, high blood pressure, heart disease and stroke.
- A greater percentage of African American and Hispanic children are obese or overweight.
- Eat more balanced meals and snacks, and engage in physical activity more regularly.
- The psychological consequences of obesity can hinder kids academically and socially.
- Overweight and obese children risk developing serious health problems in adulthood, such as heart disease, type 2 diabetes, stroke, and several types of cancer.
- Obese young people have an 80% chance of becoming obese adults.
- "Childhood obesity is entirely preventable. It's up to adults to encourage healthy habits."--COAM spokesperson
- "Nothing can be more important than protecting the health and wellbeing of our children… I look forward to parents, health care providers, educators, civic leaders, and organizations joining the effort to end childhood obesity."--Congresswoman Marcia L. Fudge
- "Childhood obesity is a public health crisis. Children need information and guidelines to make informed decisions about food and exercise… If we keep our kids healthy now it will alleviate a major burden on our health care system while giving millions of young people the opportunity to live longer, healthier lives."--Congresswoman Kay Granger

To summarize….

Physical Education can be justified more readily than other disciplines – it is just a matter of getting control of the audience! Know the audience and select key facts and data from recognized sources.