CONTENT STANDARDS FOR PHYSICAL EDUCATION IN ARIZONA

INTRODUCTION

The overarching goal of school physical education in Arizona is to ensure that school-aged youth become physically literate individuals who possess the skills, knowledge and dispositions to lead physically active lives. The revised physical education content standards presented here provide the expectations that school programs and services will set for all Arizona students.

School physical education does not function in a vacuum. Federal and state level policies have resulted in increasing economic and health disparities / inequities throughout society (Stiglitz, 2012), including education (Darling-Hammond, 2010). As a consequence, the status of U.S. children and youth, especially in poor urban settings has deteriorated. Moreover, the passage of No Child Left Behind and other more recent policy initiatives (e.g., Race to the Top, High-stakes testing, value-added teacher evaluation) has placed all school subjects at risk except for the "core" subjects in the U.S. (i.e., English Language Arts, Mathematics) (e.g., Center on Education Policy, 2007, 2008).

The above developments have all occurred at the same time that an unequivocal and ever-expanding empirical evidence base has been developed to show the central role that physical activity plays in ensuring improved health for children, youth and adults (e.g., USDHHS, 2008, 2012). Schools are uniquely positioned to address health inequities and promote daily physical activity, in that they are the one venue to which all children and youth have access. Moreover, most schools already have the necessary physical activity facilities and trained personnel in place. Effective physical education programs offer all students the opportunity to gain the needed skillfulness, knowledge and dispositions toward physically active lifestyles.

There are several key points that deserve to be highlighted to set the context for the new physical education content standards and related grade level-specific performance outcomes. They include: a) the need for effective physical education programs for all Arizona children and youth, b) the importance of health-enhancing physical activity, c) differentiating physical education from physical activity, and d) current trends and issues in school physical education.

THE NEED FOR EFFECTIVE SCHOOL PHYSICAL EDUCATION PROGRAMS FOR ALL ARIZONA CHILDREN AND YOUTH

Most students are at school for over 6 hours per day for about 36 weeks a year for 13 years, totaling well over 14,000 hours. The State of Arizona has the duty and responsibility to ensure that all its K-12 schools educate the whole student body, and not just the portion from the neck on up. Schools are the only setting where all students can engage in physical activity during the day, making them a critical environment for providing and promoting physical activity (e.g., Pate, Davis, Robinson, Stone, McKenzie, & Young, 2006).

As far back as the 1990s, the Surgeon General and CDC recommended that communities "provide quality, preferably daily, K-12 physical education classes and hire physical education specialists to teach them" (USDHHS, 1996). A physically active and educated person is one who has mastered the necessary movement skills to participate competently in a variety of physical activities. The process needed to reach this level actually starts before birth through movement that develops sensory (i.e. kinesthetic) awareness as children learn about their surroundings. It then continues from childhood through adolescence and into late adulthood. Physically educated persons understand the importance of meeting physical activity guidelines and their relationship to fitness, overall health, and wellbeing. They participate regularly in health-enhancing physical activity and understand the benefits of engaging in physical activity.

For over two decades now, several public health organizations, government agencies and medical organizations (e.g., U.S. Surgeon General, Health and Human Services, Centers for Disease Control and Prevention, American Heart Association, American Academy of Pediatrics) have called for schools to provide effective, active, daily physical education for all K-12 students. And recently, the Institute of Medicine (2013) presented the foundational evidence for a set of recommendations for schools to re-emphasize physical education and physical activity, using a "whole-of-school approach" (as noted above). Moreover, school physical education is one of only four approaches/interventions for which there is sufficient evidence to demonstrate its effectiveness (USDHHS, 2001), in that it is an important contributor to children accumulating Moderate to Vigorous Physical Activity (MVPA) (e.g., Bassett et al. 2013; Kahan & McKenzie, 2015; Ward, 2011)

According to the Society of Health and Physical Educators (SHAPE America), a physical education program includes the following four essential components: (a) policy and environment, (b) curriculum, (c) appropriate instruction, and (d) student assessment
http://www.shapeamerica.org/upload/TheEssentialComponentsOfPhysicalEducation.pdf

School physical education's central task is to provide structured and progressive physical activity experiences in conjunction with developing understanding of concepts and principles underlying the movement experiences. The content of physical education is defined as "physically active motor play" (Siedentop & van der Mars, 2012). It includes a wide spectrum of courses/activities.

They include:

- Fitness activities (e.g., strength conditioning, yoga, group exercise)
- Sport (e.g., target games, net/court games, striking fielding games, and invasion games)
- Dance (e.g., ballroom, hip-hop, line, country & western)
- Outdoor pursuits (e.g., rock climbing, kayaking, hiking, mountain biking)

In the last four decades, other content has been included that primarily seek to develop students' personal and social behavior. This content is generally identified as "team building." It is the responsibility of schools to provide opportunities for all students to become competent, literate and enthusiastic movers, in ways that make physical activity a highly desired, enjoyable, and worthwhile experience. Students who participate in effective physical education programs receive a variety of benefits in the areas of movement skills, physical conditioning, and knowledge so they can develop strategies and tactics to lead a physically active lifestyle.

In effective physical education programs students engage in health-and skill-enhancing physical activity and learn:

- a variety of motor skills and abilities related to lifetime leisure activities,
- how to maintain a healthy and active lifestyle,
- how movement impacts the human body,
- the rules, tactics, strategies, and etiquette of games and sports, and
- self-management strategies to lead a physically active lifestyle

For school physical education programs to be justifiably deemed effective they should meet the following minimum prerequisite criteria:

- Have a clear mission,
- A well-delivered main theme curriculum (e.g., Fitness for Life, Sport Education, Outdoor Education),
- Be delivered or taught by committed and qualified staff (i.e., certified in physical education),
- Regularly engage in formal assessment for and of learning

Only then are programs in position to ensure that students gain the necessary skills, understanding and disposition that leads them to make physical activity an integral part of their lives.

THE IMPORTANCE OF HEALTH-ENHANCING PHYSICAL ACTIVITY

Health-enhancing physical activity is a leading health indicator because it reduces the risk of a myriad of chronic diseases including cardiovascular disease, cancer, overweight, and type-2 diabetes (Strong et al., 2005). Without engaging in physical activity children cannot become physically fit or physically skillful. The U.S. Department of Health & Human Services (2008) published the first-ever national physical activity recommendations for all Americans. The main recommendations for youth are to engage in:

- One hour (60 minutes) or more of physical activity every day. Most of the 1 hour or more a day should be either moderate- or vigorous-intensity aerobic physical activity
- Vigorous-intensity activity on at least 3 days per week
- Muscle-strengthening and bone-strengthening activity at least 3 days per week

There is ample evidence to support that physical activity is essential to children's current and future health (USDHHS, 2008; 2012). Yet, even in the face of this evidence most school-aged youth in the U.S. do not meet the national physical activity recommendations (USDHHS, 2008). In 2013, only 21% of Arizona high school-aged youth reported having participated in enough aerobic and muscle strengthening exercises to meet the national recommendations (http://www.cdc.gov/healthyyouth/states/az.htm).

Physical inactivity (i.e., sedentary behavior such as sitting) is now considered not just the opposite of physical activity; it has its own independent negative influence on health (e.g., Owen, Healy, Howard, & Dunstan, 2012). As such, extended time spent in sedentary behavior is now a widely accepted as a significant public health problem (USDHHS, 2008, WHO, 2004) that likely increases the burden on the health care system in the long term (Janssen, Katzmarzyk, Boyce, King, & Pickett, 2004). Specific to school settings, extended periods of sitting by students during school (especially in secondary schools using block periods) can and should be broken up by short bouts of physical activity. This is especially pertinent in light of over three decades worth of education reform efforts in the United States.

These reform efforts have consistently included significant increases in school curriculum time being allocated to these "core" subjects at the expense of time for physical education, recess and other classroom subjects (Center on Education Policy, 2007, 2008). Despite more than three decades of education reform efforts by U.S. states and the federal government, students' academic performance in English Language Arts (ELA) and Math has not improved appreciably relative to students from other countries (Darling-Hammond, 2010; Sahlberg, 2014).

At the same time, there is now a substantial body of evidence to support that increases in time spent in PA (through physical education and other school-based time/opportunity) a) have no negative impact on students' academic performance, b) may make small positive contributions to academic performance, and c) higher levels of PA improve cognitive functioning (e.g. Centers for Disease Control and Prevention, 2010; Howie & Pate, 2012; Trost & van der Mars, 2009; Trudeau & Shephard, 2010). Moreover, increasing time for "core" classroom subjects (i.e., ELA, mathematics) by decreasing (or worse eliminating) time for physical education (as well art and music) does not translate into improved academic performance (e.g., Wilkins, Graham, Parker, Westfall, Fraser, & Tembo, 2003).

Physical educators in schools are the logical lead persons who can assist classroom teacher colleagues with infusing daily PA breaks during the school day. They are also best positioned to be the school leaders in helping create school campus environments that are fully supportive of and provide access to and opportunity for PA during physical education lessons and other parts of the school day (i.e., before, during and after school) (see also the outline of the CSPAP framework below).

DIFFERENTIATING PHYSICAL ACTIVITY FROM PHYSICAL EDUCATION

Although physical education and physical activity are often used interchangeably, ***THE TWO ARE FUNDAMENTALLY DIFFERENT***. It is essential that physical education professionals understand the key differences between the two terms, and can articulate them, especially when interacting with parents, school administrators, and other policy makers. The differences between the two are presented in the table below:

<table>
<tr><th>Physical Education</th><th>Physical Activity</th></tr>
<tr><td>School curricular subject that aims to develop students' knowledge, skills and attitudes to be active and healthy for a lifetime</td><td>Bodily movement that results in energy expenditure and can generate significant health benefits for children and adolescents if/when it reaches at least a moderate intensity level.</td></tr>
<tr><td></td><td>It is the process through which fitness outcomes (i.e., product) may be accomplished</td></tr>
<tr><td>Includes standards-based instruction and a broad-based curriculum incorporating three domains of learning (psychomotor, cognitive, affective)</td><td rowspan="2">May include daily habitual life-style physical activities (e.g., walking dog, taking the stairs, yard work, etc.) or any recreational, fitness, exercise, sport, dance, intramural or athletic programs and other movement forms</td></tr>
<tr><td>Comprised of developmentally and age-appropriate learning experiences taught in a sequential and articulated manner</td></tr>
<tr><td>Should be taught in school settings by certified and highly-qualified teachers who are endorsed to teach physical education</td><td>May be independent, unstructured, and unsupervised or organized and supervised, and can occur in various activity environments</td></tr>
<tr><td>Requires assessment of student outcomes (motor, knowledge, affective) through a variety of assessments (authentic, alternative, formative, and summative)</td><td>Evaluation of relevant outcomes (e.g., steps, activity time, etc.).</td></tr>
<tr><td>SHAPE America Guidelines:
--- Elementary school: 150 minutes p. week
--- Middle school: 225 minutes p. week
--- High school: 225 minutes p. week</td><td>National Guidelines for children and adolescents (USDHHS, 2008):
--- 60 minutes (1 hour) or more each day, most of which should be of moderate to vigorous intensity
--- Muscle-strengthening and bone- strengthening physical activity on at least 3 days of the week</td></tr>
</table>

CURRENT TRENDS AND ISSUES IN SCHOOL PHYSICAL EDUCATION

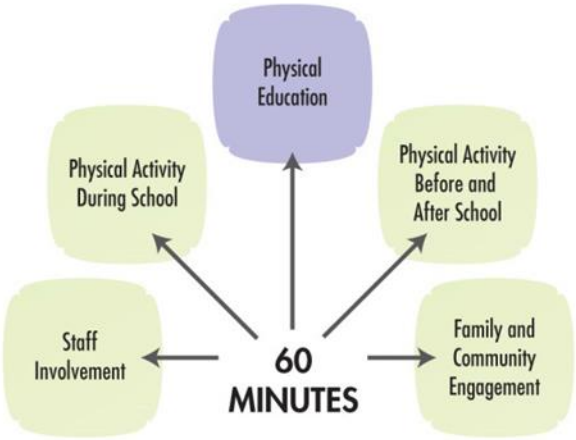
There are several important developments and trends that directly impact the quantity and quality of Arizona's school physical education programs. Some have a potential positive impact, whereas others continue to affect programs and their students in very negative ways. While there is not sufficient space in this standards document to address all, the following trends and issues are pertinent to Arizona's schools.

Comprehensive School Physical Activity Programs

The Arizona Physical Education Standards support the Comprehensive School Physical Activity Program (CSPAP) national framework created by SHAPE America and the Centers for Disease Control and Prevention (2013). CSPAP is a multi-component approach by which school districts and schools use all opportunities for students to be physically active, meet the nationally recommended 60 minutes of physical activity each day, and develop the knowledge, skills, and dispositions to be physically active for a lifetime. There is a substantial body of evidence that CSPAPs can produce substantial increases in students' health-enhancing physical activity, using a variety of specific programmatic and environmental interventions (Ward, 2011).

As shown in Figure 1 below, CSPAPs reflect strong coordination and synergy across five components:

1. Effective physical education as the anchor program component
2. Physical activity before, and after school
3. Physical activity during school
4. Staff involvement, and
5. Family and community engagement



COMPREHENSIVE SCHOOL PHYSICAL ACTIVITY PROGRAM

Students can accumulate the recommended amount of physical activity through the provision of the multi-component CSPAP (e.g., Centers for Disease Control & Prevention, 2013; Strong, Malina, Blimkie, Daniels, Dishman, Gutin et al., 2005; U.S. Department of Health and Human Services, 2000, 2008). CSPAP is also aligned with the Healthy, Hunger Free Kids Act (United States Department of Agriculture, 2010) which requires that all schools participating in the National School Lunch Program establish goals for physical activity.

The specific goals of a CSPAP include:

- To provide a variety of school-based physical activities to enable all students to participate in 60 minutes of moderate-to-vigorous physical activity each day.
- To provide coordination among the CSPAP components to maximize understanding, application, and practice of the knowledge and skills learned in physical education so that all students will be fully physically educated and well-equipped for a lifetime of physical activity (National Association for Sport and Physical Education; 2013, Centers for Disease Control and Prevention, 2011, 2013)

At the cornerstone of the CSPAP model is an effective physical education program designed to increase the physical activity levels of students (U.S. Department of Health and Human Services, 2012). The Arizona Physical Education Standards are designed for teachers to provide students with the knowledge, skills and dispositions needed to become physically literate and lead physically active lifestyles, with a specific emphasis on the educative function of the centerpiece CSPAP component, physical education. **One important caveat is that the other four CSPAP components should never be used to replace the physical education program in any way. Rather, they should be complementary to the physical education program.**

The policy profile for Arizona's school physical education. The impact of policies, laws and mandates across school, district and state levels cannot be underestimated. NASPE (2012) has reported wide variance across the 50 U.S. states relative to the type and number of state level policies specific to school physical education programs.

Regrettably, Arizona's policy profile represent a formidable barrier to ensuring that that its students have the best possible physical education in their formative years, and likely is a contributing factor to the poor health status of Arizona children and youth. That is, in most areas where well-developed and enforced policies could help ensure effective physical education the State of Arizona does not currently have a policy in place (thus leaving the decisions to individual school districts). Similarly, if school districts do not have stated policies in place it leaves decisions to school level policy makers. This can also contribute to health disparities between schools and school districts.

Examples of policy areas for which the state of Arizona does not currently have state- level policies or funded mandates in place include:

- The number of minutes of required physical education in elementary and junior high/middle schools
- The number of credits required for high school graduation
- The granting of exemptions, waivers or substitutions
- The number of minutes of physical activity beyond physical education (e.g., recess in elementary schools, classroom physical activity breaks) at all three school levels
- The withholding of physical activity (e.g., being kept out of recess) as punishment for disciplinary reasons, as well as the use of physical activity as punishment for inappropriate behavior by students
- Class size limits
- Including the grade earned in physical education in the calculation of students' high school grade point average
- The use of evidence-based physical education curricula

The combination of the above lack of state-level support and oversight represents perhaps the most serious threat to students. A closer look at two examples is presented next to help make this point.

Physical Activity Used as Punishment and/or Behavior Management. According to the National Association for Sport and Physical Education (NASPE) (2012), only 21% of U.S. States prohibit the use of physical activity as a form of punishment. Currently, there are no credible data available specific to the actual prevalence of this egregious practice. However, the culture within interscholastic sport settings has a long history of using physical activity as punishment that may spill over into physical education lessons. In its position statement regarding this topic, NASPE (2009) has stated that, "Administering or withholding physical activity as a form of punishment and/or behavior management is an inappropriate practice" (p. 1) (This position statement can be accessed online at http://www.shapeamerica.org/advocacy/positionstatements/pa/loader.cfm?csModule=security/getfile&pageid=4737).

Physical education teachers should actively advocate to ensure that this practice is eradicated by communicating with school administrators, physical education teacher colleagues, classroom teachers, coaches, parents and all others who work with children and young adults in all physical activity settings (e.g., youth sport, interscholastic sport, YMCA, Boys' and Girls' Clubs). The above position statement addresses the inappropriate use of or withdrawal from physical activity as a disciplinary consequence, both within and outside of the school environment, and also provides alternatives to using physical activity as punishment.

Prevalence of waivers and substitutions. The use of waivers/exemptions and/or substitutions has become common practice in U.S. schools. According to NASPE (2012), over 60% of the states allow districts (or individual schools) to let students substitute physical education courses with activities such as Junior Reserve Officer Training Corps (JROTC), interscholastic sports, marching band, cheerleading, and community sport involvement. The use of substitute coursework is a very problematic practice, sanctioned by school and district policy makers. Courses and extra-curricular activities such as JROTC,

marching band, and athletics do not specifically target any of the physical education content standards. That is, they have fundamentally different goals and objectives than do effective physical education programs. For example, there is evidence that students enrolled in JROTC classes accumulate little, if any, moderate to vigorous physical activity (MVPA), and spend significantly more time being sedentary (Lounsbery, Holt, Monnat, Funk, & McKenzie, 2014). Accumulating MVPA in class and beyond is a core component of the national and Arizona physical education content standards.

In more than half of U.S. states (55%), including Arizona, providing students with waivers from time in physical education or graduation requirements is a practice also sanctioned by school districts/schools (NASPE, 2012). Examples of waivers include a student's health, physical disability, religious beliefs, and early graduation. Such practices are detrimental to the current and future health of Arizona's youth. School physical education is a subject with unique goals and objectives not covered by other school subjects and activities to which all Arizona youth should have access.

Segregation of strength conditioning and dance courses in high schools. In high school physical education programs, there is increased prevalence of weight training courses, many of which are accessible to only students on the school's athletic teams. As such, regularly scheduled class periods are now in essence controlled by the schools' athletic departments. Moreover, in certain high schools students can enroll in courses that are connected to "academies" whose primary aim is to develop talented youth in a particular sport. By definition, however, all such courses are part of the school's physical education program. As such, all are subject to helping students meet the physical education content standards. That is, any weight training course offered to any group of students in high schools should not only include time for engaging in such activities, but also activities that aim to develop students' knowledge and understanding of underlying concepts, goals, strategies, and scientific principles. Similarly, high school courses in dance are also an integral part of the physical education program, and dance teachers are also responsible for helping students meet the content standards.

In summary, at no time in recent history has the importance of a physically active citizenry been more important. The evidence in support of promoting physical activity toward a healthier future Arizona has never been stronger. The physical, mental, and economic benefits have never been clearer. Educating the whole student body is a moral imperative that states can no longer ignore! The revised physical education content standards presented in the next section reflect one step forward in accomplishing this responsibility.

References

National Association for Sport and Physical Education [NASPE]. (2013). C*omprehensive school physical activity programs: Helping students achieve 60 minutes of physical activity each day* [Position statement]. Reston, VA: Author.

Bassett, D.R., Fitzhugh, E.C., Heath, G.W., Erwin, P.C., Frederick, G.M., Wolff, D.L., Welch, W.A., & Stout, A.B. (2013). Estimated energy expenditures for school-based policies and active living. *American Journal of Preventive Medicine, 44*, 108-113.

Centers for Disease Control and Prevention. (2010). *The association between school based physical activity, including physical education, and academic performance.* Atlanta, GA: U.S. Department of Health and Human Services.

Centers for Disease Control and Prevention. (2011). *2011 Behavioral Risk Factor Surveillance System*. Available at: http://apps.nccd.cdc.gov/brfss/display.asp?cat=PA&yr=2011&qkey=8291&state=NV. Accessed on May 6, 2012.

Centers for Disease Control and Prevention. (2013). *Comprehensive School Physical Activity Programs: A Guide for Schools.* Atlanta, GA: U.S. Department of Health and Human Services.

Darling-Hammond, L. (2010). *The Flat World and Education: How America's Commitment to Equity Will Determine Our Future.* New York: Teachers College Press.

Center on Education Policy (2007). *Choices, changes, and challenges: Curriculum and instruction in the NCLB era*. Washington, DC: Author.

Center on Education Policy (2008). *Instructional time in Elementary schools: A closer look at changes for specific subjects*. Washington, DC: Author.

Howie, E.K., & Pate, R.R. (2012). Physical activity and academic achievement in children: A historical perspective. *Journal of Sport and Health Sciences, 1*, 160-169.

Institute of Medicine (2013). *Educating the student body: Taking physical activity and physical education to school*. Washington DC: Author.

Janssen, I., Katzmarzyk, P.T., Boyce, W.F., King, M.A., & Pickett, W. (2004). Overweight and obesity in Canadian adolescents and their associations with dietary habits and physical activity patterns. *Journal of Adolescent Health, 35*, 360-367.

Kahan, D., & McKenzie, T.L. (2015). The potential and reality of physical education in controlling overweight and obesity. *American Journal of Public Health, 105*, 653-659.

Lounsbery, M.A.F., Holt, K.A., Monnat, S.M., Funk, B., & McKenzie, T.L. (2014). JROTC as a Substitute for PE: Really? *Research Quarterly for Exercise and Sport, 85*, 414–419.

National Association for Sport and Physical Education [NASPE]. (2009). *Physical activity used as punishment and/or behavior management* [Position statement]. Reston, VA: Author.

National Association for Sport and Physical Education [NASPE]. (2013). *Shape of the Nation.* Reston, VA: National Association for Sport and Physical Education & American Heart Association.

National Association for Sport and Physical Education [NASPE]. (2013). C*omprehensive school physical activity programs: Helping students achieve 60 minutes of physical activity each day* [Position statement]. Reston, VA: Author.

Owen, N., Healy, G. N., Howard, B., & Dunstan, D. W. (2012). Too much sitting: Health risks of sedentary behavior and opportunities to change. *Research Digest*. Washington DC: President's Council on Fitness, Sports and Nutrition.

Pate, R.R., Davis, M.G., Robinson, T.N., Stone, E.J., McKenzie, T.L., & Young, J.C. (2006). Promoting physical activity in children and youth: A leadership role for schools. *Circulation, 114*, 1214-1224.

Sahlberg, P. (2014). *Finnish Lessons 2.0: What Can the World Learn from Educational Change in Finland?* New York: Teachers College Press

Siedentop, D., & van der Mars, H. (2012). *Introduction to Physical Education, Fitness and Sport*

(8th ed.). New York: McGraw-Hill.

Stiglitz, J.E. (2012). *The Price of Inequality: How Today's Divided Society Endangers Our Future.* New York: W. W. Norton & Company.

Strong, W.B., Malina, R.M., Blimkie, C.J.R., Daniels, S.R., Dishman, R.K., Gutin, B. et al. (2005). Evidence based physical activity for school-age youth. *Journal of Pediatrics, 146*, 732-737.

Trost, S., & van der Mars, H. (2009). Why we should not cut PE. *Educational leadership, 67*(4), 60-65.

Trudeau, F., & Shephard, R. J. (2010). Relationships of physical activity to brain health and the academic performance of schoolchildren. *American Journal of Lifestyle Medicine, 4*, 138-150.

U.S. Department of Agriculture Healthy, Hunger Free Kids Act (2010). http://www.fns.usda.gov/school-meals/healthy-hunger-free-kids-act

U.S. Department of Health and Human Services (USDHHS) (1996). *Physical Activity and Health: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

U.S. Department of Health and Human Services (USDHHS) (2000). *Healthy People 2010: Health Objectives for the Nation* (2nd ed.). Washington, DC: Government Printing Office.

U.S. Department of Health and Human Services (USDHHS) (2008). *2008 Physical Activity Guidelines for Americans.* Washington DC: U.S. Department of Health and Human Services; 2008. http://www.health.gov/PAGuidelines/Guidelines/Default.aspx. Accessed: May 6, 2012.

U.S. Department of Health and Human Services (USDHHS) (2012). *Physical Activity Guidelines for Americans Midcourse Report: Strategies to Increase Physical Activity Among Youth.* Washington DC: Author.

Ward, D. S. (2011). *School policies on physical education and physical activity. Research synthesis.* San Diego, CA: Active Living Research. Available from www.activelivingresearch.org/files/Synthesis_Ward_SchoolPolicies_Oct2011_1.pdf

Wilkins, J. L., Graham, G., Parker, S., Westfall, S., Fraser, R. G., & Tembo, M. (2003). Time in the arts and physical education and school achievement. *Journal of Curriculum Studies, 35*, 721–734.