Hanover Wellness Education News

February, 2009 http://www.hanoverschools.org

Healthy School Fundraising

Many U. S. schools raise funds with chocolate bars, cookie dough and candy. This can undermine healthy eating and sabotage what is taught in health education and physical education. However, some schools are turning away from junk food and doing healthy school fundraisers. Here, schools sell environmentally friendly light bulbs, student art work, collect recyclable computer cartridges and cell phones and conduct dance-a-thons.

Healthy projects such as these raise money and encourage healthy and "green" habits. At the Wacousta Elementary School in Grand Ledge, Michigan students produce art work on t-shirts, journals, tiles and other objects to sell to family and friends through a program called original works. The products debut at a gallery night where visitors can buy the art.

Wacousta students stated that creating and selling art is better because, "you can't get rotten teeth and you use your imagination." Teachers at the school have noted that the fundraising program has encouraged creative thinking and problem solving.

In Illinois fifteen schools have sold over 1,400 compact fluorescent light (CFL) bulbs. In order to sell the light bulbs the students have to understand and explain the benefits of the CFL bulb to the consumer. The schools use the money from CFL bulb sales for other green projects such as installing solar panels in schools or starting school vegetable gardens.

These schools help students adopt environmentally friendly habits that can last for a lifetime.

Finally, students in Jacksonville, Florida collect pledges for dance-a-thons and use the money for school trips and special projects.

The March issue of the Hanover Wellness Education News will offer some practical ways schools can raise funds while considering student wellness.

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Lydersen, K. (2008). From candy bars to CFLs: Fundraising gets healthy. Healthy Schools, Autumn, p. 3.

Hanover Wellness Education News

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In the February, 2009 issue of the Hanover Wellness Education News we discussed healthy and "green" way to raise funds for schools. This month we offer twenty ways to raise funds without chocolate and other traditional methods of raising funds. Fundraising doesn't have to involve selling food of minimal nutritional value. They can include physical activity and community engagement. Here are some ideas for raising funds. When planning events, be sure to check with your local authorities regarding rules or regulations .

- Basketball or volleyball tournament - Charge a team of 2-4 players an entrance fee and ask local businesses for prize donations and t-shirts for participants.

- Car wash, for a donation - You could also sell other items at the car wash (have a small food stand available with coffee, juice, bagels, fruit, etc.).

- Walk-a-thon - Each participant could get sponsorship for each lap walked ($1 per lap).

- Beanbags are numbered and sold for $1.00. Everyone throws them on the basketball court at halftime of a game and the one closest to the center gets a portion of the beanbags sold.

- Student talent show, recital, or karoake contest for students - You could ask local businesses to donate items for a raffle. Tickets for admission could raise funds. Create a program with the sponsor's names in it.

- Dinner fund-raiser with a live or silent auction

- G.S.T. auction (goods, services, and talents) - Solicit local businesses (or parents or groups of school children) to donate anything they can offer.

- Raffle of gift baskets or fruit baskets assembled by students - Choose a theme such as gardening, sports, or arts and crafts. Most items for the baskets can be donated. Costs were limited but consisted mainly of supplies for the baskets such as fillers, ribbons, and the baskets.

- Bricks with engraved names can be 'sold' for $50 each or more can be installed into a new school building or on a walkway to a new school.

- Fruit fundraiser. Students can sell oranges, apples, pears and/or other fruits.

- School water bottles and bottled water can be sold at school athletic events.

- School seat cushions could be sold at sporting events. Advertisements could be sold on the cushions.

- Plant sale - Ask parents to donate plants for a sale. Annuals and perennials can be sold to raise funds.

- School rummage or clothing sale - Clothing sales can be very successful and are a good way for families to purchase affordable clothes as their families grow.

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Hanover Wellness Education News

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Show What You Have Learned Through Dance

"Dance as art, dance as movement, and dance as a means of communication and expression has a unique contribution to the developing child because it encompasses all of the domains of learning."

Margie Hanson (1979, p. 42).

In February, 2008 the **Dance your Ph.D**. contest was held in Vienna, Austria at the Research Institute of Molecular Pathology. The contest was sponsored by the American Association for the Advancement of Science.

Each of the 200 contestants had to interpret their PhD thesis into dance form. In other words, they had to use their body as a medium for communicating science through dance. The dancers were divided into three categories: graduate students, postdocs, and professors. The winner of each category received a subscription to the journal Science.

Each dance team had one minute to describe their research and another minute to perform their dance. Since this first **Dance your PhD** contest was held similar contests have been held around the world. Some of the dances have communicated the following research:

- Human developmental gene regulation
- Birds of a feather flock together: the role of similarity in choosing friends
- mRNA Stability Regulation as a Drug Target: mRNA stability cross-screening and molecular mechanisms in post-transcriptional regulation resolved by quantitative biology
- The eventful life of galaxies in low density environments
- The role of vitamin D in beta cell function
- Hydrodynamic Trail Detection in Marine Organisms
- The role of folate in epigenetic regulation of colon carcinogenesis

These scientist/dancers, judges and contest organizers believe that dance is an ideal tool for communication and demonstrating what has been learned. Further, they believe that the process of watching or creating a dance can improve how people understand complex concepts. However, American educators have barely explored this proven connection in schools.

Students can experience content from math, English/language arts, social studies, science and math within dance learning experiences. Integrating information and ideas into physical activity can make learning more enduring and meaningful for students (Gardner, 1983 & Ratey, 2002, 2008). Physical activities such as dance are also essential for improving the function and performance of the brain. Movement helps students learn and maintain focus on tasks (Ratey, 2008).

At its core, dance is about communicating feelings, emotions and ideas. Dance in school usually occurs in three forms: creative, cultural/folk and social. In creative dance, learners create or select movements and sequence them for a dance segment or complete dance. In cultural dance, students learn dance movements and gain an understanding of a people's heritage, traditions as well as the place a dance

originates. Some refer to cultural dance as folk dance. Many social dances come from popular culture and popular songs. They represent a particular period in time. Cultural and social dances can enhance and reinforce the student's understanding of historical periods and cultural aspects of societies.

There is no limit to the types of dances that students can create. When students are developing dances and dance like movements they follow the sequence below.

1. The students are given an idea (i.e., stimulus or premise) to develop into a dance: English - language arts: a story or book, how machines work, science (e.g., the water cycle, magnetism, electricity, the life cycle of a butterfly), and social studies (e.g., immigration, migration).
2. Students select movements and modifiers (space, effort and relationship aspects of the movement framework) that express ideas
3. The dance is divided into a beginning, middle and end.
4. Students attempt a performance, compare performance to criteria, provide feedback on performance strength and weaknesses, recommendations for improvement made, and performance is revised.
5. Students make a final performance

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Hanover Wellness Education News

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8th Annual Hanover Screen-based Media Turnoff Week

**"The more that you read, the more things you will know.
The more that you learn, the more places you'll go." (Seuss, 1978, p. 27).**

Recreational screen-based media time displaces time that could be spent doing school work, reading for pleasure, engaging in health enhancing physical activity, or other educational activities. Therefore, Hanover students (and parents and staff) may participate in our annual Screen turnoff week from Monday, March 2nd through Sunday, March 8th,. Here is some research related to screen-based media and children.

- The likelihood of poorer school performance increases with increasing weekday screen time. Exposure to adult media content (e.g., Rated R movies) is associated with engagement in more high-risk behaviors which in turn is associated with poor school performance (Sharif and Sargent, 2006).
- The American Academy of Pediatrics (2009) recommends children limit TV watching to one to two hours of quality programming per day.
- American children age 8-18 spend 44.5 hours in front of a computer, television and game screen each week (KFF, 2005). The average child watches 3 hours of television per day (AAP, 2009).
- Children who use a lot of screen-based media have a lower rate of physical activity which is related to a higher rate of obesity (Vandewater, 2004)
- 60% of overweight children between the ages of 5 and 10 years of age already have at least one risk factor for heart disease, including elevated blood cholesterol, blood pressure or increased insulin levels. These are the factors that led to hypertension, diabetes, and atherosclerosis (CDC, 2000)
- A strong relationship has been found between playing video games and childhood obesity in school aged children (Stettler, 2004).
- Early childhood is a time of tremendous growth. A child's level of physical activity positively affects the strength and amount of bone mass developed. Girls who watch more television measured lower in their amounts of hip bone density (Janz, 2001)
- Metabolic rates for 8-12-year-old children were lower while watching television than they were during resting periods for obese and normal weight children (Klesges, 1993).

The tables below explain the challenge and provide a log for recording physical activity, reading and screen time.

The Screen-based Media, Physical Activity, and Reading Challenge (Screen turnoff week).
Name _____ Class _____
I am learning to increase my level of physical activity and reading and decrease my level of sedentary behavior and recreational screen-based media
Instructions. Set your goal. Choose your level of commitment by circling level one, two, three or four for the time you will spend: using screen-based media, being physically active and reading. You may choose a different level for each aspect of the challenge. The screen based media that we ask you to limit or sacrifice includes: • Watching television, movies, DVD's and video • Playing video games • Using a computer for a non-educational/recreational purpose such as playing a video game Reading online (at a website like www.nytimes.com) would be an acceptable use of time. Using a computer for research, writing/typing and composing an email would also be acceptable (educational). We defer to you, the parent or caregiver, to identify non educational/recreational computer time **Participate in enjoyable physical activity** Physical activity includes any moderate to vigorous physical activity that you will enjoy doing such as walking, jogging, cycling, swimming, exercise, playing a sport, dancing, gymnastics, strength training, stretching and so forth. Aim for at least one hour of enjoyable physical activity every day. **Read** Try to read at least 30 minutes each day. This can include the newspaper (on line or in print), a magazine, picture book chapter book and or

comic book. Younger children can ask a caregiver to read to them.

Level of commitment	Total screen time For the week	Total Physical activity time for the week	Total Reading time for the week
Level 4	0	Greater than or equal to 19 hours	Greater than or equal to 7 hours
Level 3	Less than 4 hours	Greater than or equal to 15 hours	Greater than or equal to 5 hours
Level 2	Less than 8 hours	Greater than or equal to 11 hours	Greater than or equal to 3 hours
Level 1	Less than 12 hours	Greater than or equal to 7 hours	Greater than or equal to 1 hour

Tips for Success

1. Identify reasons why it is important for you to achieve your goal of eliminating or reducing screen based media time. It will give me more time to spend: with my family, reading, exercising, playing, doing school work...
2. Identify obstacles that might keep you from avoiding recreational screen based media: other people in the house watching TV, bad weather might prevent outside activity, boredom, feeling tired.
3. Identify physical activities that you enjoy doing: playing sports, dancing, going for a walk, exercising, playing games with family and or friends.
4. Identify books and periodicals that you would enjoy reading (or having read to you). Picture books, chapter books, newspaper, magazine, comic book.
5. Identify friends or family members who will support you. Father, mother, brother, sister, friend, grandmother, grandfather.
6. Celebrate your success. You could celebrate a job well done by having a party for yourself, reading a book, or doing a favorite physical activity.

What about Exergames?

Exergames are video games that provides physical activity. Exergames include such electronic devices as Konami's Dance Dance Revolution, Nintendo's Wii and Wii Fit, The Fisher-Price Smart Cycle, PlayStation's Gamercize and Cateye Gamebikes, Sony Eyetoy, the PC GamerBike and the like. We recommend that exergames NOT take the place of physical activity performed in realistic settings unconnected to electronic devices such as going for a walk, dancing, doing gymnastics, or playing sports. However, exergaming physical activity is better than no physical activity.

Screen-based Media, Physical Activity, and Reading Challenge Log

Name _____ Class _____ Date _____

I am learning to increase my level of physical activity and reading and decrease my level of sedentary behavior

Instructions: Keep track of the number of hours and minutes that you participate in physical activity, watch screen based media and read each day. Write the daily total for each behavior in the appropriate box. Write the total amount of time you spent doing each behavior on the proper line on the left hand column (total time for the week).

Total Time for Week	Monday 3/2	Tuesday 3/3	Wednesday 3/4	Thursday 3/5	Friday 3/6	Saturday 3/7	Sunday 3/8
Duration of Screen Time _____							
Duration of Physical activity time _____							
Duration of reading time _____							

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Hanover Wellness Education News

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BMI Screening and Surveillance in Schools

The Commonwealth of Massachusetts is considering a proposal to screen and report the body mass index (BMI) of public school students in grades 1, 4, 7 and 10 (MDOE, 2009). This newsletter will answer the question – What is body mass index? It will also explain the pros and cons of BMI screening in schools.

The purpose of BMI is to estimate body composition. BMI, the ratio of weight to height squared, is meant to be an indicator of obesity. It can be an effective low cost screening tool. BMI programs in schools could be conducted for the purpose of surveillance and screening the appropriateness of a child's weight relative to height. Surveillance programs assess the weight status of a group to identify the percentage of students who are potentially at risk for weight related health problems. Surveillance data are usually anonymous and can be used for many purposes, including identifying population trends and monitoring the outcomes of interventions. Individual students can be screened to identify those at risk and provide parents with information to help them take appropriate actions. The CDC, the Institute of Medicine, and the American Academy of Pediatrics (AAP) recommend the use of BMI to screen for overweight and obesity for people 2-years-old up to the age of 20.

In children and adolescents, body mass index is used to assess underweight, healthy weight, overweight and obesity (CDC, 2009). Children's body fatness changes over the years with growth. Boys and girls differ in their body fatness as they mature. BMI for children (BMI-for-age) is gender and age specific. BMI-for-age is plotted on gender specific growth charts. These pediatric growth charts are available online (http://www.cdc.gov) and permit longitudinal tracking of BMI. Overweight has been defined as a sex and age specific BMI between the 85th and 95th percentile. A BMI at or above the 95th percentile is considered obese (CDC, 2009).

What is Body composition?

Body composition refers to dividing the body into components such as fat mass, fat free mass, lean body mass, bone, total body water, minerals and proteins. It is commonly expressed as percent body fat (Vehrs & Hager, 2006). Body mass composition assessment is often done through skinfold measurements and bio-electrical impedance (Vehrs & Hager, 2006). Some use body mass index (BMI) as a body composition alternative. The "gold standards" of body composition assessment are air displacement plethysmography and dual energy x-ray absorptiometry. They are usually found in laboratory settings because of cost and size. Formerly, underwater weighing or hydrodensitometry had been regarded as the most accurate body composition assessment (Vehrs & Hager, 2006).

Excess body fat lowers aerobic fitness and reduces the ability to perform many activities that require jumping and moving quickly. Appropriate body composition is important for general health and appearance and for maximizing athletic performance. Percent body fat is simply the proportion of total weight that is fat weight.

The majority of body fat is stored in fat cells (adipocytes) beneath the skin (subcutaneous fat) and around organs (visceral fat). A smaller amount of fat is stored in most other cells around the body. Some fat is necessary for normal body function such as the fat within the nervous system or around visceral organs in females. Subcutaneous and visceral fat play important roles, but too much raises the risk of cardiovascular disease, type 2 diabetes, hypertension, hyperlipidemia, metabolic syndrome, coronary artery disease, and some types of cancer (Vehrs & Hager, 2006).

Body composition measurements divide the body into two categories: fat free mass and fat mass. Every person should possess at least a small amount of essential fat for good health. Essential fat is necessary for temperature regulation, shock absorption and regulation of essential body nutrients. Nonessential fat is fat, above the essential fat levels that accumulates when we take in more calories than we expend. When there are excessive amounts of nonessential fat, overfatness and even obesity can happen.

Body composition is unlike the other health related fitness components since it is not a performance measure and requires no movement. For this reason, some experts consider body composition to be an aspect of metabolic fitness (Corbin et al, 2004). Metabolic fitness is a positive state of the physiological systems associated with reduced risk of diseases like diabetes and heart disease. Metabolic fitness is demonstrated by healthy: blood fat profiles, blood pressure, blood sugar and insulin levels (Corbin et al 2004).

Problems with BMI screening in schools

BMI is not a diagnostic tool. A child may have a high BMI for age and sex, but to determine if excess fat is an issue, a physician would need to perform further assessments. BMI is simply a number calculated from a person's height and weight. It does not differentiate between fat and fat free weight and is a poor predictor of percent body fat. For example, a person could have a high percentage of muscle mass and be misidentified as overweight or obese. Many children and adolescents who have not reached their growth spurt may have high BMI values.

BMI-for-age and sex specific percentiles are used because the amount of body fat changes with age and the amount of body fat differs between girls and boys. Healthy weight ranges change each month for each sex. Healthy weight ranges also change as height increases.

There is not enough evidence to recommend for or against BMI programs in schools as a strategy for preventing or reducing childhood obesity. If implemented, BMI programs should be part of a comprehensive approach to address obesity (CDC, 2009b).

BMI scores given to students might stigmatize them and lead to harmful behaviors. Schools that start BMI measurement programs should have a safe and supportive environment for children of all body sizes and a comprehensive set of science based strategies to promote physical activity and healthy eating. BMI reports to students and parents should provide a clear, understandable, and respectful explanation of the BMI results with appropriate follow up recommendations. Resources should be available for effective and safe follow up (CDC, 2009b). The CDC (2009b) recommends the following protocols for implementing BMI programs in schools:

- Introduce the program to school staff and community members and obtain parental consent
- Ensure that testing is sensitive, specific and reliable with a well trained screener
- Establish procedures to protect student privacy
- Obtain and use reliable equipment
- Accurately calculate and interpret data
- Develop efficient data collection procedures
- Avoid using BMI results to evaluate student or teacher performance
- Regularly evaluate the program and its intended outcomes and unintended consequences

"It would be the height of irony if we successfully identified kids through BMI screening and notification while continuing to feed them atrocious quality meals and snacks, with limited if any opportunities for phys. ed. in school." Dr. David Ludwig, director of the Optimal Weight for life program at Children's Hospital Boston (Kantor, 2007).

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Hanover Wellness Education News

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The Importance of Movement Literacy

In this age of overweight, obesity and sedentary lifestyles many people believe that children should be focused on being regularly physically active and achieving and maintaining a health enhancing level of physical fitness. These are essential goals. The development of motor skill is another essential goal. However, too much focus on activity and fitness has caused a de-emphasis on motor skill development. Furthermore, many believe that motor development is simply a result of maturation. This is a fallacy.

The process through which our motor patterns change is not maturation, but adaptation and learning. Improving motor skills is a goal directed, voluntary process that requires regular practice. Motor skill acquisition is a lifelong process. Jane Clark (chair of the department of kinesiology at the University of Maryland) describes the journey toward skillful movement as a climb up the mountain of motor development (Clark, 2007).

Reflexive period (Birth to 2 weeks). Here, an infant meets the gravitational world. Reflexes such as rooting, sucking and gag insure the child's survival.

Preadapted period (2 weeks to 1 year). During this period behaviors are more spontaneous than reflexive and some are goal directed. This period ends when the infant has achieved the most fundamental motor patterns – walking independently and self-feeding.

Fundamental motor patterns (1 year to 7 years). This time is characterized by the gaining of movement patterns that form the basis of later emerging sport, dance, game, and gymnastics skills. For example, the skills of horizontal and vertical jumping take many years of practice before they reach proficiency.

Context specific motor skills (7 years to 11 years). This period is the time when patterns are modified for a specific purpose (e.g., catching is adapted for use in basketball, softball, football, and so forth).

Skillfulness period (11 years and up). The student has become a skilled or proficient motor performer. However, the journey to the mountain's summit is not over. Reaching the top of the mountain (expert performance) is physically and mentally demanding.

Sometimes injury, aging or other changes occur in our bodies. We must make adjustments to our motor performances to accommodate for these changes. This is called the **compensation period**.

Postural control

To maintain a desirable posture, many bodily adjustments are needed. Postural adjustments (i.e., postural control) are needed to keep the center of gravity within the base of support. To achieve this goal, coordination of the sensory, skeletal muscle and central nervous systems is needed (CNS).

Postural control is a key element in motor development. Every movement one makes requires postural control since gravity is always acting upon our bodies. In order to manage gravitational forces the central nervous system must know where the body is. It must know its orientation to the support surface as well as the positions of all the body segments and their relationship to one another. We have three major sensory systems.

1. The **vestibular sensors** in the inner ear are made up of semicircular canals and the otolith organs. These sensors provide feedback to the CNS about the head's rotational movements (semicircular canals) and the head's linear acceleration and its orientation to gravity (otoliths).

2. **Vision sensors** provide information about what is in the environment as well as our movement in that environment.

3. The **proprioceptors** are located throughout the body. They include the joint and muscle receptors and pressure receptors under the skin. These sensors continuously send information to the CNS about where the body is at any given time. The CNS must take all of this information to adjust the body's position in order to maintain or assume new positions.

Sensory feedback is necessary for postural control. However, it is limited by time delay. The delay is caused by the time it takes a signal from a sensor to reach the brain; the time the brain needs to decode the information, determine what should be done, and make a motor command; and the travel time used by the command to reach the related body part. Sometimes the time delay is too long. To get around this time delay, the CNS estimates where the body will be in the future and issues commands before receiving sensory feedback.

Motor skill takes many years of specific movement experiences, knowledge of the results of those experiences, corrective feedback and corresponding performance adjustments. When children have not achieved movement competency and do not feel confident regarding their movement skill they are less likely to participate in physical activities. A strong foundation of movement skill permits one to learn more complex skills and participate in a variety of physical activities throughout a lifetime.

Students who leave school without a solid foundation of movement skill will be left behind from enjoying a lifetime of health enhancing physical activity. Movement skill needs to be taught from pre-school through high school. Motor literacy is as important as literacy and numeracy.

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Hanover Wellness Education News

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How does one achieve expert movement performance?

Someone who has achieved an expert level of movement performance can apply and adapt skills and understanding to many, diverse, challenging, novel and complex situations; improvise when few resources are available; overcome unexpected obstacles; perform efficiently or with an economy of effort; complete tasks rapidly, accurately and effectively; and perform with consistently superior results on a set of representative tasks. These people attain these results through quality instruction and deliberate practice. An expert can go beyond the knowledge of the teacher and makes a unique innovative contribution to their domain with new ideas, theories or methods. Finally, experts can consistently repeat or reproduce superior performances. Olympic and professional athletes are typically expert performers.

Some believe that expertise is gained as a function of extended experience. When we repeat an activity it will not lead to improvement (Trowbridge & Cason, 1932). Over the last 20 years researchers (Ericsson, Krampe, & Tesch-Romer, 1993; Ericsson, 2005) who have studied performers in sport and music tell us that expert performance is the result of deliberate practice (DP). People need to participate in a minimum of 10,000 hours of DP with maximal effort and focus over 10 (or more) years in order to attain expert performance. The amount of practice should be optimally distributed over ten years.

When a person begins DP sessions are typically 10-20 minutes long. As performance improves the complexity and proficiency of skills leads to increased performance and allows for engagement in more challenging DP for longer periods of time. DP requires full attention throughout each practice session. Studies have shown that youth can engage in DP up to an hour per day for three to five days per week. Performers who make a full time commitment to pursuing expert performance will put in about 25 hours of practice per week. The most accomplished performers show a greater involvement within their domain and organize their time better, especially their leisure time, than those who are lesser skilled.

The level of practice an individual can sustain for long periods of time is limited by the person's ability to recover and maintain a steady state from day to day. When adaptations are made to a given level of practice increases are possible. If we increase the level of DP too fast overuse and overtraining problems and motivational burnout occur. DP must maintain equilibrium between effort and recovery. There should be slow regular increases in amounts of DP. Performers can eventually internalize methods for assessing improvements and concurrently monitor the effects of practice.

DP is not inherently enjoyable or motivating. Performers must be sufficiently motivated to attend to tasks and exert effort over a long period of time in order to improve performance.

Preparation to become an expert happens in three phases

1. Performers are introduced to activities in the domain and ends with the beginning of DP

2. Performers participate in an extended period of DP and ends with a full time commitment to DP
3. A full time commitment ends when the person becomes a professional or terminates full time engagement

What is deliberate practice?

DP is characterized by:

- Participation in a sequence of tasks that are created to overcome specific weaknesses.
- Receiving knowledge of results of the process and product of performance, a diagnosis of errors, and prescriptive (corrective) feedback
- Transitions to tasks that are more complex and challenging

Deliberate practice requires that the participant participate in tasks that are created to overcome weaknesses and improve the current level of performance. For example, during a baseball game a batter may get between 5-20 pitches (a few pitches may be relevant to a batter's weakness). Conversely, during optimal deliberate practice of the same duration a batter with a dedicated pitcher has several hundred pitches thrown to locations where weaknesses can be systematically explored and improved.

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Cedar School Garden

In 1943, Eleanor Roosevelt began the victory garden movement that made a substantial contribution to feeding the nation during World War II (Roosevelt did this despite the objections of the USDA which believed home gardening would hurt the food industry). By the end of the war more than 20 million home gardens were supplying more than 40% of the produce consumed in America.

A new victory garden movement could seek "victory" over three challenges Americans are facing: high food prices, unhealthy diets and sedentary lifestyles. Eating from the shortest possible food chain also permits anyone with a sunny piece of land with a way to reduce fossil fuel consumption and help fight climate change. Victory gardens help Americans assume responsibility for feeding themselves and become stewards of the land (Pollan, 2008). Toward these ends Cedar School has created and implemented a school/community garden.

What is a community school garden?

A piece of land gardened by a group of teachers, parents and students.

Student participation in a community school gardens provides:

- Enjoyable physical activity
- Therapeutic activity
- A sense of school community
- Opportunities for social interaction
- Opportunities to promote student learning in English Language Arts, the Arts, Foreign Languages, Health, Mathematics, History and Social Science, and Science.
- Opportunities for students to assume responsibility for learning how to grow their own nutritious food
- A meaningful connection to their environment.

Our garden is located in to the left of the main entrance. There are five planting areas in the Cedar School Community Garden. Two long beds bordered by logs contain 23 classroom plots. Each plot is about 3 feet by 5 feet (yes, that is a small plot). The plots are outlined with white paint on the logs.

There are three other garden beds. A rectangular bed closest to the parking area, a second around the ornamental tree, and another bed near the walkway next to the school. The garden contains cabbage, carrots, lettuce, squash, herbs, and tomatoes. The Cedar School kitchen staff has prepared and served produce from the garden in school lunches for students.

Participating teachers and students determine what will be planted within their plot and when the students may access, maintain and harvest the plants within their plot.

Participating CASE students access the garden before and after school. They water plants, pull weeds, and maintain the three garden beds between the two long beds.

Cedar parents and their participating children may visit their plants at any time.

Plant harvesting may occur during the summer or fall depending upon what is planted. The garden will close in late October. After closing we can begin planning a planting and harvesting schedule for the 2010 growing season. Here, students can identify what and when they might plant along with a plot maintenance and crop harvesting schedule.

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What are the Top Ranked Vegetables?

The Center for Science in the Public Interest (CSPI) has provided a report that ranks the healthiest vegetables. CSPI is a science-based, non-profit group of medical professionals who provide reliable and trustworthy nutrition information.

The criteria for evaluating the vegetables below includes: calories; vitamins; effect on heart disease, stroke, and cancer; potassium, lutein, vitamin K, pesticide content, and taste.

Vegetable Ratings			
Vegetable	Score	Vegetable	Score
Kale	1389	Arugala	133
Spinach	931	Snow peas	133
Turnip greens	709	Savoy cabbage	132
Swiss chard	700	Asparagus	131
Spinach, raw	672	Cabbage	116
Pumpkin, canned	570	Zucchini	115
Mustard greens	547	Cauliflower	100
Sweet potato	485	Artichoke	89
Radicchio	464	Scallions	89
Broccoli, raw	420	Iceberg lettuce	88
Carrots	348	Okra	85
Romaine lettuce	394	Celery	79
Broccoli rabe	386	Leeks	79
Red bell pepper	340	Cilantro	75
Curly endive	307	Wax beans	75
Parsley	297	Avocado	73
Green leaf lettuce	286	Kohirabi	68
Sun dried tomato	281	Lima beans	65
Boston lettuce	257	Green chili pepper	53
Brussels sprouts	243	Potato with skin	53
Tomato	214	Parsnips	49
Red leaf lettuce	198	Corn	47
Butternut squash	197	Jicama	45
Green bell pepper	193	Rutabaga	39
Peas	166	Beets	38
Bok choy	152	Jerusalem artichoke	37

Liebman & Hurley, 2009

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Proper Footwear for Physical Activity

Proper footwear is essential for physical activity. Sometimes children's footwear is chosen based upon what is aesthetically pleasing rather than what is best for safety and efficient movement. Style is often the major reason a particular pair of shoes is purchased. It is because they look good and not because of proper fit that a pair of shoes is purchased (French, Kinnison, & Silliman-French, 2009).

Shoes are Inappropriate for Physical Activity

Many times children or adults will wear shoes to engage in physical activity. Shoes used for physical activity may cause foot disorders. Injuries could occur when the foot is allowed to move excessively in the shoe or come out of the shoe. If the foot moves abnormally in the shoe, the shoe will not absorb shock. Shoes worn in sports require a tightly laced strap or strings to provide the best stability. Shoes do not provide support and stability to engage in physical activities (French, Kinnison, & Silliman-French, 2009).

Shoes are simply designed to protect the foot against harmful surfaces and injury. When selecting footwear for physical activity, consider the basic parts of the shoe: the sole, uppers, heel counter, midsole, and toe box. The sole, for example, provides stability and the base of support. It should be flexible and provide a cushion for the foot. A higher sole decreases stability and increases the probability of injury through turning of the ankle.

The upper materials should cover the entire foot. The heel counter, the back area of the shoe, should lock around the foot to cushion and support the heel. The heel counter, width of the base of the shoe, and height of the sole are related to the stability given to the foot. The firm heel counter controls motion or movement. A proper fitting sneakers should be firm to support the heel and Achilles tendon.

The toe box is the front tip of the shoe that protects and provides an area so that the toes do not become too crowded. The width and height should permit full motion of the toes including flexion, extension, and some spreading. In some sneakers the toe box is stiff or semi-hard to protect the toes from undue weight that may cause injury.

Physical education classes incorporate a large number of activities with forward and lateral movements. Here, an all purpose or cross trainer type sneaker is best (Corbin et al, 2003). The essential characteristics of the all purpose sneaker include:

- Support – The heel counter and the heel stabilizer provide stability and control foot movement. The heel protects the Achilles tendon from trauma. Sufficient width is the heel provides stability and protects against ankle turns.
- Cushioning – Sneakers should have adequate cushioning in the heel and midsole.
- Performance – A lightweight sneaker requires less energy output over long periods of physical activity. Good traction is also important. The sneaker's material should "breathe". This means material such as nylon mesh promotes perspiration evaporation and decreases shoe weight gain.

Cross trainers, tennis or court shoes are recommended for physical education activities (French, Kinnison, & Silliman-French, 2009). Elementary age children do not need shoes specific to the activity/sport they are participating in unless they are training for long periods of time. Basketball shoes are also a good choice for general physical education activities because they provide for lateral stability with a wide and low sole, and traction on wooden floors.

Always Wear Socks with Sneakers

Socks need to be worn at all times when participating in a physical activity. They should be clean, dry, and without holes. Selection of correct size is according to shoe length. When socks are too long they can wrinkle and cause skin irritations. A proper fitting sock will have the seam at the end of the toes, not on top or under the toes. Composition and thickness of the sock should also be considered. Cotton socks can be too bulky. A combination of materials such as cotton and polyester are less bulky and dry faster.

Next month's issue (December, 2009) of the Hanover Wellness Education News will discuss recommendations for choosing a pair of sneakers.

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Selecting Sneakers for Children

The selection and purchase of a pair of sneakers for your child is an important process. The purpose for which the sneaker is purchased and the fit are the most important elements. This month's issue will offer guidelines for selecting sneakers for children. The following guidelines come from a synthesis of expert recommendations from Corbin et al, 2003; Frank, 2009; French, Kinnison, Silliman-French, 2009; Volpe, 2005.

- Children's feet grow in spurts and they will require a size change in their footwear every three to four months. On average, Four- to 8-year-olds outgrow shoes every six months. When it comes to kids who range in age from 9 to 12, they may experience size changes anywhere between six months to a year.

- Have the child move around in the store as he/she would during physical activity when trying on sneakers. Identify the length and width of the child's foot. There should be about 3/8-1/2 inch between the front of your big toe and the end of the shoe. Feel for length with the child standing upright with the shoe tied. Determine the proper shoe width with the child standing upright with the shoe tied. The shoe is improperly fit if there are creases at the sides. The heel should fit relatively tightly; your heel should not slip out when you walk. If the heel moves up and down more than 1/8th of an inch, the shoe does not fit properly. and there is room the size of a pencil or little finger between the top of the heel of the shoe and the child's foot. The upper part of the shoe -- which goes over the top of your foot -- should be snug and secure, and not too tight. You should be able to freely wiggly all of your toes when the shoe is on.

- When tying the shoe, make sure the tongue is not creased nor is the shoe tied too tight. This avoids neuritis, which is a numbing of the nerves that makes the feet susceptible to injury.

- Fit girls into shoes specifically for girls. Their feet are generally narrower and the overall bone structure in the lower extremity is different than boys.

- Consider Velcro closures for children that have problems tying their shoelaces. This will guarantee snug closure. Many shoes also come with long laces that are potentially dangerous because children may trip on them. This will not occur with Velcro closures.

- Choose appropriate support for children with flat feet or high arches. Insoles may be needed, since many sneakers are not designed to accommodate these foot types. In addition, podiatrists generally need to evaluate these children to determine any modifications. The insole of the athletic shoe should be made of absorbent material and offer some cushioning.

- Outer sole materials should offer traction, cushioning and flexibility, especially across the metatarsal break in the ball of the foot.

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