A NEW APPROACH TO MENTAL, PHYSICAL, AND EMOTIONAL ACHIEVEMENT IN THE KEN-TON SCHOOL DISTRICT

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The stated goal of this administration is to improve academic achievement and student test scores. The following proposal outlines a program that will not only help to improve test scores, but will also improve physical health and help to reduce stress-related behavior problems.

Physical education is the only curriculum area that works across all three domains of learning—cognitive, affective, and psychomotor. Because of this, P.E. provides the greatest opportunity to positively affect student performance. An effective P.E. program is essential to the health and well being of students, while simultaneously helping them reach their academic potential. More time and emphasis put on the physical education of a student has been shown to impact a student's life and success across all domains of learning.

Many studies have been conducted to judge the effectiveness of programs designed to increase cognitive function, improve general health, or reduce stress. Blair's landmark study published in the *Journal of the American Medical Association* (JAMA) in 1989 followed 13,344 people for eight years and reported that fitness levels are effectively enhanced by regular, moderate, low-impact exercise. Another of the study's conclusions was that moderate exercise reduces the risk of premature death from all causes, including heart disease, stroke, cancer, and diabetes.

Blair's study, along with others like it, caused the U.S. Surgeon General's office to release a statement promoting the benefits of exercise in 1996, announcing that several brief sessions of exercise are just as good as one longer session and that exercises as mild as walking or working in the garden can be considered a fitness program (Dept. of Health and Human Services 1996). Estimates ranging from 80-90% of all disease being stress-related (and therefore preventable)

repeatedly appear in science- and health-related articles and reports (Frey). "The U.S. spends more on health per capita than any other country, and health spending continues to increase. In 2005, national health care expenditures totaled $2 trillion" (*Health, United States, 2007* 4). How much of that might be saved by simply preventing diseases that are known to be preventable by simple exercise?

Since science has repeatedly confirmed that exercise is good for students, educators have an obligation to promote fitness and health as lifelong skills. We have an opportunity to enhance the lives of students as well as our colleagues**;** we must recognize and capitalize on this situation. But wait--we're in luck! Not only does exercise enhance overall health, but it also appears to improve cognitive function. Charles Hillman, a professor of kinesiology and community health at the University of Illinois, found that exercise may be beneficial to cognition during early and middle periods of life and may protect against age-related loss of cognitive function during older adulthood. Hillman studied 241 people aged 15-71 and found that participants with a higher level of physical activity showed an improved performance in reaction time and response accuracy.

Many other studies have linked exercise to improved cognitive function. Dr. Denise Park, director of the University of Illinois' Center for Healthy Minds, and Dr. Richard Hodes, director of the National Institute for Aging, addressed a 2007 meeting of brain specialists assembled by the government to seek advice on promising brain research. The *Associated Press* reported: "High on the list: Simple physical exercise. It seems to do the brain as much good as the body" (Neerggaard). Much of the research linking exercise and improved brain function is concentrated on adults, but more and more research is emerging that links children with the benefits of exercise. In *Parents* Magazine, Eric Olson stated that studies with children and adults showed improvement in performance on mental tests after four months of exercise. Many more of the studies of

children and adolescents focus on attention deficit hyperactivity disorder (ADHD), behavior, and stress levels. "Gruber (1986) and Newsham (1989) report a trend among exercise studies that indicate that self-concept increased positively, and behavior problems lessened, after exercise interventions were implemented . . . The greatest gains were seen in children with special needs" (Gruber). Shorter sessions of exercise are just as effective as longer sessions. Brief exercise sessions could be easily adapted into the school day at every level. During a brief exercise session, many beneficial changes occur, e.g.:

1. an increased flow of blood and nutrients to the brain, which stimulates brain activity and improves cognitive function and receptivity to absorb and retain new concepts;
2. the brain's secretion of chemicals accelerates the immune system and other functions
3. the lymph's removal of waste products from the tissues;
4. neurochemicals and endorphins released by the brain shift to relaxation state, relieving stress

So many positive physiological changes in such a short time! Also, the effects of these changes are cumulative. By staying with the exercises on a regular basis, these small changes can grow to be extraordinary.

Over and over again, studies continue to show that exercise has a positive impact on health and fitness, behavior, and cognitive function. It is time to fully embrace the research and adopt policies and programs so that our most precious natural resource, our children, can have the greatest chance of achieving success in the physical, mental, and emotional domains.

A New Movement from Ancient Practices

In recent years, two similar disciplines, Qigong (chee-gong) and Tai Chi (tī chee), have rapidly gained popularity in the United States and the rest of the Western Hemisphere. Evidence of this popularity has been documented in magazine and journal articles and is manifested in redesigned complementary medicine regimens, private classes, scientific research, and programs for workplaces and educational institutions.

Qigong and Tai Chi are ancient healing practices designed to enhance the natural healing capacities of the body. These exercises combine breathing, slow rhythmic movement, stretching or bending, relaxation, and focused visualization. Qigong, Yoga, and Tai Chi, while not exactly the same, are exercise disciplines which combine breathing, movement, and focus and are sister disciplines that are sometimes used interchangeably. Qigong is the Chinese version of Yoga. Tai Chi is the self-defense offshoot of Qigong movements. These exercises are very simple, easy to learn, and fun, too! Positive benefits from these exercises can be achieved in a short amount of time. Qigong and Tai Chi require no special equipment and can be done in a variety of ways--standing, sitting, or walking--which also makes them readily adaptable to special needs students.

> "Thirteen adolescents with Attention Deficit Hyperactivity Disorder (ADHD) participated in Tai Chi classes twice a week for five weeks. Teachers rated the children's behaviour on the Conners Scale during the baseline period, after the five-week Tai Chi session period, and two weeks later. After the ten Tai Chi sessions, the adolescents displayed less anxiety, improved conduct, less daydreaming behaviors, less inappropriate emotions, and less hyperactivity. These improved scores persisted over the two-week follow up . . ." (Hernandez-Reif).

Qigong practice activates a number of the body's self-regulating systems that are responsible for the balanced function of the tissues, organs, and glands. The uptake of oxygen as well as oxygen metabolism is tremendously enhanced by Qigong exercises. The positive impact of oxygen metabolism alone has powerful implications for both physical and brain activity. In the area of sports, peak levels of performance can be cultivated through Qigong in addition to normal training. In the work of individuals who have physically demanding jobs, the refinement of function that comes with Qigong exercise adds to strength, stamina, and endurance. Executives, whose work is more mental, derive more endurance, but also increase concentration, creativity, and intuition as well. The tremendous health-risk factors of tension and stress are profoundly neutralized by the common effects of Qigong (Jahnke).

Dr. Roger Jahnke discusses the “simple yet profound” benefits of Qigong and Tai Chi:

> "Long before Einstein, the ancient Chinese were doing medical research that was completely consistent with modern physics. This fact is having a major impact on contemporary science and causing radical new trends. We are finally beginning to use the framework of quantum era physics to investigate medicine, healing, and human potential . . . The Chinese, determined to tap this immeasurable field for its power and benefits, created the practices of Qigong and Tai Chi." (*Healing Promise* 238)

A program of Qigong and Tai Chi would be quite easy to implement with very few associated problems, at a cost next to nothing. As a physical educator with twenty years of experience, I feel that such a program in Ken-Ton would have a tremendous impact. We can reverse the recent downward trend of test scores as well as improve the health and well being of our community with very little disruption to the present school-day format. The Ken-Ton School District could develop a model program that could eventually be extended

to other groups within the community and to other school districts in the nation. Perhaps graduate students at one of the local universities can become involved in measuring the benefits of such a program. I have experience and certifications in these areas, including teacher certification from the Institute of Integral Qigong and Tai Chi directed by Dr. Jahnke and certification in Tai Chi for Kids from Dr. Paul Lam, both international experts and researchers in the field. With your permission, I would be happy to outline a district-wide program because I strongly believe in the multiple rewards of these practices. I implore you to consider this proposal and allow me to begin planning a custom-designed program for our district.

Part II—Implementation

The implementation of a Qigong/Tai Chi program would be quite easy. There are several ways to integrate these exercises into the school day. First, I am a certified teacher in both disciplines and would be able to instruct all staff in the basic movements and theory. This instruction could be achieved through a presentation at a conference day or staff meeting. There are a variety of individual exercises that can be performed separately or put together as a series of movements. These movements are simple to perform and easy to learn, but they provide tremendous benefit. From a variety of movements, individual classroom teachers will be able to choose those exercises that suit their talents and fit into their classroom structure. Small bits can be presented at a time in as little as one-minute, two-minute, or five-minute segments. The important thing is to stimulate the blood flow so there is increased delivery of oxygen and other nutrients to the brain. This increased flow helps to stimulate the brain and facilitate memory, cognition, and overall learning. The cumulative benefits of these exercises have already been documented and stated in the first part of this paper.

At Kenmore East, I can present to the entire staff at meetings or on conference days. I am available to instruct other PE teachers, demonstrating ways in which they could incorporate Qigong and Tai Chi movements as part of their warm-ups to their classes. This instruction would help the P.E. department spread the information to a variety of schools instead of keeping it at East. I would also be able to travel to elementary or middle schools in the district to help all teachers learn the exercises. Younger students who become comfortable with the movements in elementary school would benefit more as they advanced to middle and then high school, enhancing the cumulative effect. Additional extensions of the program could range from my

being available to conduct early morning sessions before school and afternoon sessions before sports teams' practices to offering Ken-Ton community adult classes.

I also recommend that students in study hall participate in extra sessions to facilitate learning and understanding of the techniques. I could direct the study hall lessons quite easily. This would be much more beneficial than the current set up for study hall, which too often turns into squandered class periods because of the difficulty in monitoring students who try to waste time or use it for social purposes.

I want to make it clear that the implementation of Qigong and Tai Chi is complementary to other programs. It can stand alone, but it probably serves best as an adjunct to existing programs.

The intention to improve learning requires a slight shift in thinking. When stakeholders realize that the exercises are not only for physical health, but for mental and emotional growth as well, the importance and significance of implementing such a program becomes far more apparent.

In conclusion, I feel it is our obligation as educators to provide students with the best possible learning environment. Exercise, in the form of Qigong and Tai Chi, has been repeatedly proven through research to benefit students across all three domains of learning. As a physical educator with 20 years experience, a coach with the same amount of experience, and an athlete at the Division I college level, I have gained a lifetime of first-hand knowledge in many fields of exercise, fitness, health, and athletic performance. Through my more-than-30-years' familiarity with Qigong, Yoga, and Tai Chi, I know that the benefits waiting for our students are immense. We have the opportunity to positively affect the health and academic performance of all the students with whom we come into contact. It is our obligation as educators to do all we can to

ensure the success of our students, which will have a far-reaching effect on not only our school district and community, but on greater society as well.

ABC's of Qigong

Alignment of body:

- Tailbone down – as if being pulled down to the center of the earth
- Head up – as if suspended on a silver thread from heaven
- Knees flexed and soft, hands holding a ball in front, fist space open under armpit

Breathing:

- Slow, deep, rhythmic breaths linked to movement of body
- Inhale—expansion**;** exhale—contraction

Consciousness:

- Focus on present moment, movement, breathing, flow

Workouts

Below are three short workouts consisting of five different movements. Each workout takes about five minutes. These workouts include some of the basic movements common to many forms of Qigong and can be done in a progression, individually, or can serve as guidelines for a teacher to pick and choose movements from each to make his/her own type of workout.

1. Sun Salute	Reach to the sky—inhale**;** hang down to earth—exhale
2. Bang the Gong	Twister
3. Big Guy	Ocean breathing, flowing movement
4. Shake It Out	Spontaneous Qigong, blithering
5. Gathering Sunbeams	

1. Double Helix	
2. Circulating the Light	Microcosmic orbit, row the boat
3. Two Dragons	Two dragons playing with a Qi ball—hands pass like clouds
4. Knead the Dough	Knead the dough
5. Gathering from Heaven and Earth	

1. Inhale up; push the chin down	
2. Step forward, then back	Empty stance—lean back; bow stance—lean forward
3. Push the Wall	Step sideways
4. Heel Kick and Punch	
5. Step and Punch	Step to bow stance, heel-to-toe punch
6. Shake It Out	

Qigong and Tai Chi

Qigong—Pieces or bits of exercise, individual exercises
Tai Chi—One long flowing movement consisting of many smaller movements, usually a specific form
Qigong/Tai Chi—Bits and pieces of exercises put into one flowing movement

Forms

45-minute integral Qigong/Tai Chi movement form	Robbins
Tai Chi Easy	Jahnke
Tai Chi for Kids	Lam
Primordial—Wuji Form	Winn, Hu
Yang Style 24 Forms	Lam
Natural Flow Tai Chi	Jahnke, Hu

Works Cited

Blair, Steven N., Harold W. Kohn III, Ralph S. Paffenbarger, Jr., Debra G. Clark, Kenneth H. Cooper, & Larry W. Gibbons (1989). "Physical Fitness and All-Cause Mortality: A Prospective Study of Healthy Men and Women." *Journal of the American Medical Association*, (17):2, 395-401.

Frey, Rebecca J., PhD. "Stress." Health A to Z. *Gale Encyclopedia of Medicine*. 14 Aug. 2006. 28 Apr. 2008. <http://www.healthatoz.com/healthatoz/Atoz/common/standard/transform.jsp?requestURI=/healthatoz/Atoz/ency/stress.jsp>.

Gruber, J. J. "Physical Activity and Self-Esteem Development in Children: A Meta-Analysis." (1986). American Academy of Physical Education papers. Vol. 19, 30-48.

Health, United States, 2007. U.S. Department of Health and Human Services. Centers for Disease Control and Prevention. National Center for Health Statistics. 2007. 18 Apr. 2008. <http://www.cdc.gov/nchs/data/hus/hus07.pdf>.

Hernandez-Reif, Maria, Tiffany M. Field, & Eric Thimas. "Attention Deficit Hyperactivity Disorder: benefits from Tai Chi." *Journal of Bodywork and Movement Therapies*, 120-123. Apr. 2001. Harcourt. http://www.movingasone.be/Reasearch/2_tai%20chi%20and%20hyperactivity%20disorder.pdf>.

Jahnke, Roger. *The Healing Promise of Qi: Creating Extraordinary Wellness through Qigong and Tai Chi*. 2002. New York: Contemporary Books/McGraw-Hill.

Jahnke, Roger (1997). *The Healer Within: Using Traditional Chinese Technologies to Release Your Body's Own Medicine*. New York: Harper Collins.

Mitchell, Debby and Cynthia J. Hutchinson. "Using Graphic Organizers to Develop the Cognitive Domain in Physical Education." 2003. Journal of Physical Education, Recreation & Dance, Vol. 74.

Neergaard, Laura. "Why Do Some Aging Brains Stay Sharp?" 15 Oct. 2007. *Associated Press*. 16 Apr. 2008. <http://abcnews.go.com/Health/wireStory?id=3732363>.

Physical Activity and Health: A Report of the Surgeon General (1996). National Technical Information Service (Publication No. AD-A329 047/5INT). Washington, D.C.: U.S. Government Printing Office.