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The promotion of Physical best: An inclusive tool for interdisciplinary physical education

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THE PROMOTION OF PHYSICAL BEST: AN INCLUSIVE TOOL FOR
INTERDISCIPLINARY PHYSICAL EDUCATION

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Education

by
Jane Adelaide Gorman
September 2000
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September 2000

Approved by:

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August 31, 2000

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ABSTRACT

The Problem: Convincing educators, including school boards, superintendents, administrators, teachers, and parents that the purchase and use of Physical Best as a resource tool for elementary teachers and middle and high school physical education teachers will enhance student learning.

The Method: Provide an accumulation of information that can be used to develop visual presentations, to, by and for school officials, demonstrating that the use of the Physical Best will enhance student learning.


Conclusion: Brain-based research, kinesthetic-bodily intelligence and Physical Education Curriculum
Standards can be combined to create presentations to promote Physical Best.
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INTRODUCTION

Quality Physical Education can contribute to improved student learning. National and State standards for Physical Education show the interdisciplinary connection of Physical Education to the broader curriculum. Brain-based research links movement to improved brain function, which enhances the mind-body connection for improved learning. One of the national and state recommendations for transforming middle-grade education states, "Improve academic performance through fostering the health and fitness of young adolescents." (Lipsitz, 1997).

Physical Best resources are the ideal tools for educators experienced in Physical Education and for those, especially on the elementary level, who have limited experience in delivering Physical Education but are required to include a quality program for their students. Physical Best resources are the educational component of a health-related physical fitness program developed by the American Alliance for Health, Physical Education, Recreation and Dance and include:

4. FITNESSGRAM Test Kit with CD ROM for Windows and Mac, $199.00.
6. Physical Best Instructor Video, $95.00.
7. Certification Workshops that enable teachers to become Physical Best Health-Fitness Specialists.

Teachers are limited by time and money when it comes to obtaining training to deliver quality Physical Education. Administrators can improve the quality of Physical Education, which will, in turn, enhance the entire learning experience for students by supplying Physical Best resources to their staff members.

The following information is assembled for use in presentations to school officials, administrators, school boards, teachers and parents to promote the
purchase and use of *Physical Best* to improve and enhance student learning.
CHAPTER ONE

The Physical Best Program and Activity Guides

Physical Best is an inclusive resource. Physical Best focuses on all children from the 10% that are athletically gifted to children who are physically and mentally challenged. Everyone benefits from the Physical Best program regardless of gender, culture or ability (AAHPERD, 1999).

Physical Best is a flexible resource. The activity guides and instructor’s manual may be used on their own or combined with existing curriculum (AAHPERD, 1999).

Physical Best is an individualized resource. Students compete with themselves, not others, by comparing their performance to the criterion-referenced FITNESSGRAM Test Battery. Physical Best Activity Guides compliment and enhance the FITNESSGRAM Test Battery (AAHPERD, 1999).

Physical Best helps set realistic long term and short-term health goals as students grow and change from the elementary level, through the secondary level (AAHPERD, 1999).

Physical Best provides appropriate and authentic assessment. The educational sequences from the elementary
level through the high school level lead students to take responsibility for their own health related fitness (AAHPERD, 1999).

The Physical Best program identifies specific parts of health-related physical fitness education and incorporates the parts into a complete program helping students gain cognitive skills, appreciation for movement and confidence leading to an active lifestyle and educational success (AAHPERD, 1999). As a proven program, Physical Best activities are designed to meet the National Association for Sport and Physical Education Standards for Health-related Physical Education and Fitness. In addition, the activities are consistent with guidelines for youth developed by the Center for Disease Control and Prevention (AAHPERD, 1999)

The Elementary and Secondary Physical Best Activity Guides, a readily affordable component of the Physical Best program, serves as an indispensable tool for classroom teachers as well as trained Physical Educators in organizing a program that will enhance the student's learning environment. Brain-based research, thanks to advanced technology and the recognition of
kinesthetic-bodily intelligence, links movement to learning. Physical Best can serve as a foundation tool in the building of strong health-related fitness programs to compliment academic programs resulting in greater student success; Physical Best, Student, Success.

Both the Elementary and Secondary Physical Best Activity Guides are organized into the same two-part format: Part I, Teaching Health Related Fitness; Part II, 60 ready-to-use activities involving aerobic fitness, muscular strength, muscular endurance, flexibility and body composition (AAHPERD, 1999).

For maximum fun and academic relevance, the 60-plus activities stress class management, minimize instruction and demonstration, and maximize time on task and individual student feedback (AAHPERD, 1999).

Physical Best Activity Guides provide activities that are competitive and non-competitive, demanding and less demanding, which will contribute to full student participation. Suggestions for extension and inclusion of the activities in the Physical Best Activity Guides, creates a comprehensive activity experience for students, thus, contributing to improved learning (AAHPERD, 1999).
Teachers of all experience levels will find the review of teaching principles, theories of motivation, program management and authentic assessment valuable and relevant to the delivery of their entire curriculum (AAHPERD, 1999).

The efficiently packaged Physical Best Activity Guides save time and result in quality and effective instruction for student success. Full inclusion, cognitive experiences and activities, maximum time on task, class management, individual empowerment to health and wellness are all neatly wrapped up into the Physical Best Activity Guides, Elementary Level and Secondary Level at $24.00 per guide. The guides could be easily purchased for each site in a district or in multiples for sites where teachers collaborate to incorporate the ideas and strategies in the guides to develop or complement their Physical Education programs in combination with academic activities.

Using Physical Best Activity Guides will enhance brain-based learning in combination with kinesthetic-bodily intelligence in the quest for student success. Physical Best, Student Success!
CHAPTER TWO

Brain Basics Linking Movement to Improved Learning

How will the educational leadership, school boards, superintendents, and principals, convince the public that brain-based research requires change in school start times, discipline policies, assessment methods, teaching strategies, budget priorities, classroom environment, use of technology and most important to this paper, a change in the way we think of Physical Education (Jensen, 1999)?

According to Jensen (1998), former teacher and current member of the International Society of Neuroscience, "We are on the verge of a revolution: the application of important new brain research to teaching and learning." (Jensen, 1998). Sousa (1998), former Superintendent of New Providence public schools in New Jersey, agrees with Jensen. "We are in the midst of an unprecedented revolution of knowledge about the human brain, including how it collects, processes and interprets information."

Today's student is different. Children are accustomed to rapid sensory and emotional changes from the fast paced life, which characterizes our culture (Sousa, 1998). Today's youth must process influences from many
parts of the culture, not just the school and home as in the past (Sousa, 1998). In light of the information regarding the brain and learning, schools and classrooms must be adjusted to accommodate the changing brain and changing culture (Sousa, 1998).

We find ourselves in a time when many children do not participate in Physical Education (Jensen, 1997). In high school, enrollment in daily Physical Education classes dropped from 42% in 1991 to 25% in 1995 (Shalala, 2000). Physical Education is often targeted when budget cuts are necessary because it is considered a frill when there is evidence that Physical Education activities make school interesting to many children and these activities can help improve academic performance (Jensen, 1997). "Physical activity is essential in promoting normal growth of mental function." (Jensen, 1997). The American Heart Association encourages schools at all levels to develop and encourage positive attitudes toward physical activity by providing opportunities to learn lifetime physical skills and activities (American Heart Association, Medical Scientific Statement, 1999).

Movement must become as honorable and important as academic work. Resources must be better allocated to
harness the power of movement, activity and sports (Jensen, 1997). Scientists in the Department of Neurobiology of Learning and Memory at the University of California at Irvine, agree that movement education facilitates language development, enhances creativity, boosts reading readiness, helps social development, helps general intellectual achievement and fosters positive attitudes toward school. Among scientists who study the brain, this attitude has become more prevalent. The time has come for educators to embrace this attitude as well (Jensen, 1997).

We do not have an inclusive model of how the brain works but enough is known to make significant changes in how children are taught (Jensen, 1998). Chief school administrators must carefully examine brain-based research. Jensen (1998) describes four levels of research from the most reliable to the least:

Level 4: In-context applications: Research done in schools or business with results from real life conditions.

Level 3: Clinical studies: University supported, double-blind studies with multiple experiments and large diverse, multi-age, multi-cultural populations.
Level 2: Laboratory discovery: Autopsies, experiments, MRI, PET or EEG scans.

Level 1: Brain learning theory: Any theory that explains recurring behaviors (Jensen, 1998).

Enrichment for brain stimulation results when something new is done. Benefits continue in secondary school and throughout a lifetime (Jensen, 1998). In Jensen’s (1998) opinion, “Schools ought to make a planned program of specific motor stimulation mandatory K-7, but they should also integrate physical activity across the curriculum. In sports we expect learners to use their brain for counting, planning, figuring and problem solving. Every athlete is highly engaged in cognitive functions. It makes sense that we’d expect students to use their bodies for kinesthetic learning in academic classes.” (Jensen, 1998).

Key factors that influence early brain development and academic achievement are nutrition, genes, feedback challenge, the fine arts, love and movement. Challenge and feedback are two additional components in enrichment. Movement must be reaffirmed in the curriculum (Jensen, 1998).
There also needs to be choice in the learning environment to meet individual needs. Students should be able to select project types and complexity and they should be exposed to a wide variety of methods of instruction including drama, music and rotation of groups, all which include movement (Jensen, 1998). Schools should create and track widespread educational trials in movement under the watchful eye of the FDA. Better alliances need to be formed between school and local universities for this purpose.

Cognitive learning takes place when the student is actively involved (Sousa, 1998). External attention can be sustained at high and constant levels for 10 minutes or less (Jensen, 1998). Consistent attention is counterproductive; humans need time to process what is learned. Periods of purposeful processing time are ideal therefore, teachers should consider divergent movement activities for internal processing of information (Jensen, 1998).

The greatest contributor to impaired academic learning may be excess stress in the school environment (Jensen, 1998). Stress can cause atrophy of the hippocampus in the brain from 8 to 24% (Jensen, 1998). To reduce stress, manage the conditions that induce it and
use movement to release it. Movement triggers brain chemicals that enhance neural communication, elevate mood and assist in the formation of long-term memory (Kinosheta, 1997). Involve students in team activities, sports and drama as personal stress management techniques (Jensen, 1998). Aerobic activity can reduce anxiety, depression tension and stress. Movement can be as effective as different forms of psychotherapy and has shown an anti-depressive effect on patients with mild to moderate forms of depression (Payne, 1999).

Scientists have linked the brain to movement by identifying and mapping parts of the brain. The cerebellum is known mainly for its role in posture, coordination, balance and movement. Cerebellar damage has caused impaired cognitive function which links movement to thinking (Jensen, 1998).

Hannaford (1995) points out that the inner ear and motor activity system in humans is the first to mature. The vestibular nuclei are modulated by the cerebellum and activate the reticular activating system near the top of the brainstem. This area regulates incoming sensory data. The resulting interaction helps us keep our balance and turns thinking into actions and helps coordinate movement.
Playground games that stimulate the inner ear motion are valuable in learning (Hannafor, 1995).

Part of the brain that processes movement is the same part that processes learning. Brain imaging has revealed that autistic children have smaller cerebellums and fewer neurons. Brain imaging has shown that there is no single movement center in the brain. There is constant interplay between movement and learning (Jensen, 1998).

At the 1995 Society of Neuroscience Conference, over 80 studies were mentioned that suggest strong links between the cerebellum and memory, spatial perception, language, attention, emotion, nonverbal cues and decision-making. The final conclusion is that Physical Education, movement and games boost cognition (Jensen, 1998).

Children deprived of movement and touch, develop fewer connections between the cerebellum and pleasure center of the brain. The need for intense states, such as violence, results. With sufficient movement, from birth on, children do not act out violently (Jensen, 1998).

Sensory-motor integration is fundamental to school readiness. Third grade students who participated in a complete routine of spinning, crawling, rolling, rocking,
tumbling, pointing and matching, increased their scores by 13% in six months (Jensen, 1998).

Sixty-four percent of K-12 American students do not participate in daily Physical Education programs (Jensen, 1998). Lab studies performed by Greenough and Andersen (1991) showed that rats that exercised had a greater number of neuron connections than rats that did not exercise. Greenough and Andersen (1991) concluded that exercise strengthens basal ganglia, cerebellum and corpus callosum in the same way it improves muscles, heart, lungs and bones. Brink (1995) showed that aerobic conditioning assists memory. Pollatchek and Hagen (1996) found that children who engaged in daily Physical Education showed superior motor fitness, academic performance and attitude toward school as compared to children who did not participate in daily Physical Education. All forms of exercise have benefits that are enduring including improved adrenaline-non-adrenaline response and rapid recovery where the brain responds to rapid challenges (Michaud and Wild, 1991). Movement causes the release of a brain-derived neurotrophic factor that enhances cognition by improving the ability of the neurons to communicate with one another (Kinosheta, 1997). Brink
(1995) found that movement could reduce stress. Chronic stress kills neurons.

Hannaford (1995) performed research with 500 Canadian school children and showed that children who spent an extra hour in a gym class out performed those who did not at exam time. Vigorous exercise improves reaction time, creativity and short-term memory (Michaud and Wild, 1991). One hundred and twenty four students were divided into exercisers and non-exercisers and Michaud and Wild (1991) found the exercise group demonstrated quicker reactions, thought better and remembered more than the non-exercisers. Aerobic activity can increase vigor, promote clear thinking and affect grade scores of students in primary school (Payne, 1999). Regular physical activity makes children more alert and energetic, which improves their capacity to learn (Payne, 1999). Jensen (1998) reports, "The Presidents Council of Fitness and Sports says that all children need 30 minutes of exercise each day to stimulate the brain."

Participation in games and sports helps children fit into society by learning social expectations and enhancing social mobility, which can affect educational aspirations and achievement (Payne, 1999). Kids enjoy dance, arts and
games. Having fun may be good for your health as indicated by research showing a direct link from the cerebellum to the pleasure centers of the emotional system (Hooper and Teresi, 1986). Having fun at school keeps students coming back.

We are in a time when many children do not participate in Physical Education. Budget cuts, emphasis on test taking and increased scores target Physical Education. Jensen (1998) states, “Physical activity is essential in promoting normal growth of mental function.”
Howard Gardner’s Theory of Multiple Intelligences (Gardner, 1998) is one of the most significant developments in the last quarter of the twentieth century in the field of educational psychology. The idea that there are unique and independent ways of learning is perfectly consistent with the inclusion of daily, quality Physical Education in the quest for student success. Gardner’s idea is that there are discreet, non-transferable types of mental operations specific to each of the intelligences that he has identified (Gardner, 1998). When promoting the Physical Best program, Gardner’s ideas could be incorporated to show that students use each of the intelligences as they participate in a quality program. The instructor, familiar with Gardner’s idea, will recognize the dominance of one intelligence over another to help students succeed as unique individuals. Physical Best indirectly reflects the intelligences when used in a quality Physical Education program:

1. Linguistic Intelligence: In choosing the right word, an individual must be sensitive to meaning
and operations of language such as rhetorical, mnemonic, explanatory and met linguistic. Written and verbal communications are major components of quality Physical Education that includes Physical Best.

2. Musical Intelligence: This is a separate intelligence governed by specific musical parameters such as pitch, rhythm and timbre. Rhythmic movement is basic to physical development. Auditory response by students while participating in movement to music is an option when using the Physical Best resources.

3. Logical-mathematical Intelligence: The ability to handle large-scale chains of reasoning in combination with sophisticated strategies for posing and solving problems is an on-going process of students involved in sports, games and dance which are all enhanced by the Physical Best resources.

4. Spatial Intelligence: The ability to look at objects and find similarities and differences from different angles and positions is an on-going intelligence used by students in individual and
team sports. A student with this strength thrives in all types of activities. Other students will develop this intelligence in Physical Education programs that include Physical Best resources.

5. Personal Intelligence: The ability to look inward and understand the self, interpersonal intelligence and the ability to look outward to understand others is highly visible as leadership in the Physical Education setting. Students in a quality Physical Education program have the opportunity through individual fitness activities and working in groups to allow this intelligence to develop with the use of Physical Best resources.

6. Bodily-Kinesthetic Intelligence: A highly refined and differentiated set of motor skills that can be directed toward an expressive purpose characterized by a sense of timing, sequencing of events, knowledge of points of response and a sense of goal direction. This intelligence can define the most gifted athlete. Physical Best resources enhance this intelligence for all physical ability levels while providing challenge
for the individual who learns best using kinesthetic intelligence.
The use of Physical Best resources in combination with the Awareness of multiple intelligences will enable the instructor to use the unique strengths of the students as they participate in a quality Physical Education program. As these intelligences are used and developed in Physical Education, classroom success will be enhanced.

The California Content Standards for Physical Education (San Diego County Office of Education, 1994) indirectly integrates the intelligences in three major goals and sub disciplines. Because of the interdisciplinary nature of the Physical Education Content Standards, presenters can show that a quality Physical Education program complements classroom academics and leads to student success. The goals and exit standards are included here so they can be used in a presentation to promote the use of Physical Best.

The California Physical Education Content Standards

I. Motor Learning and Movement Knowledge

A. Motor learning: Motor learning addresses the development of the locomotor, non-locomotor and manipulative skills. It also includes the
concepts and principles related to the development and application of these skills and the ability of students to learn how to practice these skills on their own.

B. Biomechanics: Biomechanics is the science that examines the internal and external forces acting on a human body and the effects they produce. It involves the study of how the body moves and how such movement is influenced by gravity, friction and the laws of motion. Knowing how and why movement occurs and whether it is efficient assist in problem solving and enhance understanding of movement and motor skills.

C. Exercise Physiology: Exercise physiology begins with the preschooler's awareness of body parts and progresses to the more advanced study of body systems, the ways in which the systems interact and the effects of exercise on those systems. Students gain an understanding of the importance of developing and maintaining optimum fitness in the areas of cardio-respiratory endurance, flexibility, muscular strength and endurance and body composition. They learn no
only what to do but why and how to do it appropriately and effectively.

II. Self Image and Personal Development:

A. Growth and Development: Human growth and development teaches that children experience stages of growth and they develop at different rates, thus, preparing students to accept individual differences. Consideration must be given to emotional maturity, physical development and previous learning in an effort to humanize and individualize activities to insure success.

B. Psychology: Psychology is learning to acknowledge, accept, and appreciate differences between oneself and others with regard to abilities and achievement. Self-acceptance coupled with a sense of personal responsibility, help students acquire the confidence they need to progress and take on new challenges.

C. Aesthetics: Aesthetics provides the participant with the sense of appreciation, accomplishment and success in mastering movement skills and gives aesthetic pleasure to both the performer
and the observer. It is a heightened awareness of how the body feels in movement.

III. Social Development

A. Sociology: Sociology emphasizes learning to respect others, appreciating the diversity in our society, recognizing the importance of understanding other cultures, and applying positive social norms and values. This reinforces an acceptance of fairness, equity, working toward a common goal and appropriate social behavior in a variety of settings.

B. Historical Perspectives: Historical perspectives contributes to both the student’s and the instructor’s awareness of the rationale underlying Physical Education today. Learning the history of an activity and participating in games and dances from a variety of cultures can help students learn more about their own and other cultural heritages. Inherent in this learning is an understanding of the relationship between a movement-related activity, historical period of origin and cultural influence (San Diego Office of Education, 1994).
The combination of motor learning, biomechanics, exercise physiology, human growth and development, psychology, aesthetics, sociology and historical perspectives call for a mixture of intelligences which will make learning meaningful and lead to student success. Students exposed to these content standards in combination with *Physical Best* will determine, analyze, create, plan, participate, appreciate, value, demonstrate and describe skills, activities, interrelationships, goals, plans, scientific principles and programs in Physical Education that have mathematical, linguistic, musical spatial and personal significance to their mind and body!

In a handbook created for Livingston High School, Traci Ramondini (1998) suggests interdisciplinary activities that will incorporate Physical Education into art, English, health, home economics, math, music, photography, science, social studies and vocational education. See the Appendix for this list of activities demonstrating Physical Education in combination with a variety of intelligences, stimulating brain activity and advancing students to success in public education.
CHAPTER FOUR

Combining Information For Presentations

Using the information given in the previous chapters, presentations can be developed for school administrators, school boards, teachers and parents. By using click art and a computer, overheads can be made to emphasize critical selling points of Physical Best and its relation to overall student success. Microsoft office contains an excellent program, Power Point, which can be used to develop a slide presentation. The show can be simple with a series of slides that can be made into overheads. The slide show can be improved to include transitions, movement, color, animation and sound. A special projector is needed to present more complicated slide shows. The slide shows are saved to a disc and then projected with the use of a computer and special projector. Without the expensive equipment an excellent presentation can be created. One presentation is included in the appendix. By printing the separate slides to overhead sheets, this presentation is ready for immediate use. This presentation could also be converted into a handout and presented as the audience looked through the separate sheets. The presenter would expand on the points and answer questions regarding the
content of the handout. The presentations can be adjusted to the audience, made to be more or less scientific, longer, shorter, and more academic or more emphasis on Physical Education. The material in this paper is totally flexible and intended for use in any combination that the presenter needs to convince educators that Physical Best resources are indispensable tools for student success.

Example Presentation: Physical Best Student Success

Slide 1: Physical Best, Educational Excellence Through Mind and Body, Student Success.

Slide 2: Physical Best Resources: Teachers Guide, Activity Guides, FITNESSGRAM Test Kit, Brockport Test Kit for Students with Physical/Mental Disabilities, Instructor Video, Certification Workshops.

Slide 3: An inclusive tool for Interdisciplinary Physical Education

Slide 4: Minimum Cost, Maximum Results, Combining Brain-Based learning with Kinesthetic-Bodily Intelligence.

Slide 5: When Health is absent, Wisdom cannot reveal itself, Art cannot become manifest, Strength cannot be exerted, Wealth is useless and Reason is powerless. Herophiles, 300 BC.
Slide 6: Brain-based research links movement to improved learning.

Slide 7: Use Physical Best to provide quality, daily Physical Education

Slide 8: Physical Best focuses on all children. Athletically gifted to physically and mentally challenged.

Slide 9: Everyone benefits regardless of gender, culture or ability

Slide 10: Flexible resource tool for new or experienced teachers delivering Physical Education curriculum. Can be used on its own. Can be combined with existing curriculum.

Slide 11: An individualized resource. Students compete with themselves, not others; Students compare their performance to criterion-referenced FITNESSGRAM Test Battery.

Slide 12: Build a Better Brain.

Slide 13: Visual stimulation, auditory stimulation, early and consistent communication, good nutrition, enough sleep, movement.

Slide 14: Students in daily Physical Education have superior motor fitness.

Slide 15: Students in daily Physical Education have better academic performance, improved attitudes toward school.
Slide 16: An indispensable tool for all teachers building a strong fitness program to compliment academics resulting in greater student success!

Other possible combinations for presentations might include the use of slides 1, 2, and 3. After slide 3 insert a series of slides regarding,

- Kinesthetic-Bodily Intelligence
- Physical Education Curriculum Standards and Interdisciplinary activities that support curriculum for student success.

End with the summary slide, which invites the audience to use Physical Best resources to insure movement and quality Physical Education for a better brain, which will lead to student success!
APPENDIX A

Interdisciplinary Activity Ideas
INTERDISCIPLINARY ACTIVITY IDEAS

PHYSICAL EDUCATION and:

ART

- Advertisement Assignment: Sell the benefits of Physical Education. Develop an advertisement for Physical Education on an 18”x24” poster board with various art supplies. Must include a slogan.
- Create A Game: Imaginary game to participate in and teach others. Diagram the equipment and playing area, explain the rules and teach the game.
- Design a Park and Recreation Area: Draw and label the facility. Include all equipment in the facility. For example, playground equipment, pool, fields, courts, hall, etc.
- Physical Education Logo Design: May be used for uniforms, letterhead, bulletin boards, posters, signs, etc.
- Cartoon Creations: use a single sheet of paper and fold twice to divide into four equal boxes. Use a narrative in each box and draw a cartoon related to Physical Education.
- Sports Sculptures, Drawings and Photograph Critique: Study an example of each and discuss. Create one of each piece of art.
- Anatomical Drawings: Draw or illustrate the primary muscles of the body and the skeletal system.
- Student Generated Bulletin Boards: Assign students to decorate the boards.
- Create Tournament Charts and/or Programs for Upcoming Tournaments.
- Create Paper Mache Figures Depicting Movements.
- Sketching: Sketch individuals performing sports skills.
- Draw Team Posters.
ENGLISH

• **Jammin' Jingles** Create jingles, or short rhyming poems pertaining to Physical Education.

• **Wacky Haiku Poems:** Write Haiku poems (17-syllable forms that describe points of nature: 5-syllables, 7-syllables, 5 syllables.

• **Amazing Similes and Metaphors:** Create similes and metaphors pertaining to Physical Education

• **Debates:** Debate past and current topics and issues pertaining to Physical Education, health, fitness, sports, etc.

• **Essays:** Write essays about historic figures in sports, games and sports of different cultures, etc.

• **Spell-Outs During Exercises:** Spell-out vocabulary and spelling words, anatomical terms, etc.

• **Journal Writing:** Keep a weekly journal of Physical Education and the effects of training.

• **Newspaper Reporter:** Interview a school athlete or coach.

• **Magazine Reports:** Have health and fitness magazines available to read and report on.

• **Develop Poems and Short Stories:** Fictional or factual.

• **Reading Logs:** Assign reading from various sources, pertaining to Physical Education, sports, fitness and health.

• **Sportfolios:** Keep a yearlong portfolio.

HEALTH:

• **Homework and Class Assignments:** Research assignments, guest speakers, handouts, lessons, etc. regarding a variety of current health issues.

• Research and Discuss health Problems Related to Athletes: Poor hygiene, long-term effects on the body, problems specific to male athletes, problems specific to female athletes, etc.

• First Aid/CPR: Have the students instructed in first aid and CPR by the local American Red Cross or an EMS provider.

• Study Nutrition: Research papers, magazine articles, etc.

• Examine Caloric Considerations of People: Determine the needs of people who are very active, active, moderately active and inactive.

• Discuss and examine each aspect of developing total physical fitness.

• Presentations: Safety, wellness, mental health, etc (Student generated work and or guest speakers).

HOME ECONOMICS

• Uniform Designs: Design a Physical Education uniform that conforms to the school dress policy, consisting of a shirt, shorts and sweats. Include the fabric, color, design or logo and any other pertinent information.

• Heart Smart Meals: Create a menu with nutritionally sound meals including foods from each of the food groups of the Food guide Pyramid. Next, prepare one meal of choice for a friend or family member. Have the person fill out an evaluation regarding the menu and the food quality.

• Fifteen Favorite Foods: Pick fifteen favorite foods and correctly place them on the Food Pyramid. Search magazines and
newspapers to find examples of your food choices and create a collage. Examine your eating patterns.

- **Food Labels:** Examine food labels for nutritional value, calories, fat, percentage of RDA, etc.
- **Research Papers:** Eating disorders.
- **Weekly Diet Journal:** Chart food intake for a week and examine fat, cholesterol and caloric intake.
- **Costume Designs:** Design costumes for a mock Olympiad or class tournament.

**MATH**

- **Statistics:** Calculate tournament, school-wide or professional sports statistics (averages, shots, etc.).
- **Projections and Estimations:** Educated guesses on activities (free throws, speed, time, score, etc.).
- **Measurements:** Determine various measurements pertaining to different sports and activities. Use various modes of measurement including standard ruler, tape measure, metric, etc. to measure diameter, radius, square footage, height, distance etc.
- **Score Computations:** Keeping score for the sports and activities.
- **Exercise Count Outs:** Count out by multiple number combinations; threes, fours, fives, etc.
- **Angels:** Discuss and examine the angles involved in various sports.
- **Graphs:** Graph individual progress in a variety of sports, activities and Physical Education tests.
- **Word Problems:** Based on sports or physical fitness activities.

**MUSIC**

- **Step to It:** Use the basic skills learned in step aerobics, including cues, and the basics of rhythm, timing and count to develop a step routine.
• Incorporate a variety of music as much as possible.
• Dance: Instruct in various styles and include an analysis of the various rhythms.
• Create a Fight Song: Each team creates their own fight song.
• Create a Sports Theme: Music only.
• School Band: Use the school band for dance units. Select a musical piece and have the band play it for the students to dance to.
• Learn Action and sing Songs Depicting Sports: "Take Me Out to the Ball Game"
• Create Various routines to Music: Gymnastics, Line Dances.

PHOTOGRAPHY
• Fabulous Photos: Class photographers, for one week capture all activities and offer a full layout.
• Photograph Sports Skills: Photograph a sports skill and create a say out depicting different phases of the skill. Write captions for each shot.
• Photo Hunt: Students run from station to station taking predetermined pictures. Examples may include a group pyramid, everyone doing a specific activity, like push-ups, etc.

SCIENCE
• Muscle Identification: Identify the major muscle groups by performing a variety of exercises and determine the muscle or muscles being used during each exercise.
• Circuit Training: Study the muscular and skeletal systems while improving fitness through an exercise circuit. All stations are labeled with the muscle group used.
• Label Exercises With Muscles or Body Parts: Tricep stretch,
quadriceps stretch, hamstring stretch, etc.

- **Heart Rates**: Determine your resting, exercising, and recovery heart rates at three different locations.

- **Super Skeletal Relay**: Examine the major bones of the human body. Handouts of the skeletal bones are used. Students are in groups. One student at a time races up to label a bone and hands off to the next student and so on.

- **Magnificent Muscle Relay**: Same as above except with muscle groups.

- **Discuss and Demonstrate the Effects of gravity and speed on sports skills**:
  - Use Anatomical Terms when discussing all movement skills.
  - Discuss velocity, spin, and force as used in sports.
  - Examine levers and fulcrums when used in batting, kicking, and throwing.
  - Demonstrate balance, best balance, and center of gravity in sports skills.

- **Muscles & bones of the Day**: Discuss one new muscle or bone each day.

- **Determine Target heart Rate**: Fill in a chart of your own target heart rate and the target heart rate of four other people.

**SOCIAL STUDIES**

- **Self-Reflections/Evaluations**: Accounts of how you spend your time, your work habits, skill, cooperation attitude, risk taking etc.

- **Great teams of the U.S.**: Research various states to determine their major sports teams.

- **Research and Write About special Events**: Professional, Olympics, Super Bowls, Rose Bowl, World Series, etc.
• Study Major Historical Issues in Sports: Title IX, minority breakthroughs, etc.
• Examine the political, social and economic impact of sports, past, present and future.
• Jeopardy: Play with various questions pertaining to the changes in sports and activities.
• Create Time Lines: Containing significant dates in sports or related topics. Include, when and where invented, major events, changes, current update, future outlook and any other pertinent information.
• Oral Reports: Based on sports or related activities.
• Research and Write about the history of various sports.
• Compare and contrast ancient vs. modern Olympics.
• Introduce the history of each sport of activity at the beginning of each unit.
• Study technological and scientific developments of sports equipment.

Copies of the Handbook of Interdisciplinary Activities are available for $10.00. from Tracy Ramondini, Livingston High School, 1617 Main Street, Livingston, CA. 95334
APPENDIX B

Presentation:

Overheads, or Handouts

*Physical Best, Student Success*
Physical Best

Educational Excellence
Through Mind and Body

STUDENT SUCCESS
Physical Best
Student Success

Physical Best Resources

- Physical Best Teachers Guide
- Physical Best Activity Guide-Elementary
- Physical Best Activity Guide-Secondary
- FITNESSGRAM Test Kit with CD for Windows and Mac
- Brockport Physical Fitness Test Kit For Youths with Physical/mental Disabilities
- Physical Best Instructor Video
- Certification Workshops
Physical Best Student Success

- An inclusive tool for Interdisciplinary Physical Education
Physical Best Student Success

- MINIMUM COST
- MAXIMUM RESULTS
- COMBINING BRAIN-BASED LEARNING WITH KINESTHETIC-BODILY INTELLIGENCE
When Health is absent

Wisdom cannot reveal itself

Art cannot become manifest

Strength cannot be exerted

Wealth is useless and

Reason is powerless

-Herophiles, 300 B.C.
Physical Best
Student Success

- Brain-based research Links

Movement to Improved Learning!
PHYSICAL BEST
STUDENT SUCCESS

• Use Physical Best to provide quality, daily Physical Education
Physical Best
Student Success

• Physical Best
Focuses on all children
Athletically Gifted to physically and mentally challenged
Physical Best Student Success

• Everyone benefits regardless of gender, culture or ability
Physical Best
Student Success

• Flexible Resource Tool for new or experienced teachers delivering Physical Education Curriculum

• CAN BE USED ON ITS OWN

• CAN BE COMBINED WITH EXISTING CURRICULUM!
Physical Best
Student Success
• An Individualized Resource
• Students compete with themselves not others
• Students compare their performance to criterion-referenced FITNESSGRAM Test Battery
Physical Best
Student Success

- Visual Stimulation
- Auditory Stimulation
- Early and Consistent Communication
- Good Nutrition
- Enough Sleep
- Movement
Physical Best
Student Success

• Students in daily
Physical Education

Have Superior
Motor Fitness!
Physical Best
Student Success

• Students in daily
Physical Education Have

• Better Academic
Performance
• Improved Attitudes Toward School
Physical Best
Student Success

• An indispensable tool for all teachers building a strong fitness program to compliment academics resulting in greater student success!


