

### Multisensory Brain-Body Training for PE, Adapted PE and Sports Meeting NASPE Standards with Leading Edge Science and Technology

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### SMART Conditioning for the Brain and Body

SMART is an interactive, game-based, functional training and fitness program that makes PE and Adapted PE more fun for all fitness and ability levels while engaging brain and body in ways that distinguish it from other NASPE standard-based solutions.

SMART effectively places students, from individuals to entire classes, inside their own computer game – not in virtual reality, but in a real, tactile, resistance-based multisensory brain-body experience, all while engaging them in direct and consequential interaction with the demands of the computer game as well as their fellow students.

Brain-body integration is the key element that differentiates an effective functional training program from a general conditioning program. SMART programs for PE are specifically designed to do both, meeting and exceeding NASPE standards by stimulating the body and the brain concurrently to improve results.

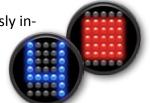


This is accomplished by:

• Engaging participants with short, computer game-based drills, played sequentially in the pursuit of mastery of physical skills, mental challenges, conditioning and score

• Providing a full body, multisensory exercise experience by stimulating hands, feet, eyes, ears, proprioceptors and vestibular system while playing real games with real, tactile equipment

- Requiring high levels of sustained attention and focus for success (staying consciously inthe-now)
- Engaging in rapid and sequential cognitive decision making, affecting functional performance under pressure



• Promoting neuroplasticity and cardiovascular conditioning simultaneously

SMART's programming improves functional abilities (flexibility, balance, power, strength) while concurrently developing high levels of neuromuscular efficiency. This process of engaging the hands, feet, ears, and eyes develops visual-perceptual motor skills and proprioception, which promote kinesthetically knowing where one's body is in space. This further promotes integration of the right and left brain hemispheres, which has been well documented to enhance brain plasticity as well as whole brain thinking, cognition, attention and focus for learning.

The demands placed on brain and body by SMART's computer game-based curriculum and wide range of multisensory stimuli achieve results that get to the heart of NASPE's standards while also taking PE to another level with concepts like action-based learning and brain fitness. This includes functional and skill competency, movement and proprioception, sustained physical fitness and health, activity strategy and tactics, positive personal and social behavior (inclusiveness, cooperation, teamwork) respect for self and others, and understanding the value of physical activity for enjoyment, challenge, self expression and social interaction.

SMART's computer-based progressive learning programming can be set to meet NASPE standards for the full range of ages and abilities, from pre-school to high school and from beginners and special needs to performance athletes.

### Specific Examples of How SMART Programming Meets NASPE Standards:



Standard 1: Demonstrate competency in motor skills and movement patterns needed to perform a variety of physical activities.

• Interactive targets may be hit in numerous vways requiring a variety of functional motor and sports skills and movement patterns using hands, feet, upper, lower and full body.

• SMART programming, designed for both large groups and individuals, requires responses to moving targets and returned objects. This elicits motor skills and

movement patterns to (1) hit targets, (2) move forward and back, and (3) move laterally.

- Targets of varying size allow for competency to be developed for all ages and ability levels from beginners and special needs through performance athletes.
- Specific physical skills are practiced, including throwing, catching, kicking, tracking, hitting, swinging, running, jumping, skipping, dribbling, crunches, pushups, and balance.
- Specific tools are used, including bean bags, foam noodles, playground balls, medicine balls, and sports balls as well as hands and feet
- Interactive scoring and tracking of results motivates students to develop increased competency as they improve.

### Standard 2: Demonstrate understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities.

- SMART programming offers a variety of categorized learning experiences requiring different movement concepts, principles, strategies and tactics.
- SMART learning experiences include basic motor skills, sports skills, sports strategy and tactics, core strength development, brain games, and more. Specific learning experiences include:
  - 1. Using different body movements to strike or throw at targets.
  - 2. Positioning feet, body, and hands in order to achieve desired results in accuracy, placement and returns.
  - 3. Incorporating strategy and tactics to achieve a rebound that is challenging to opponents while setting up an outcome of a sequential return.
  - 4. Accomplishing a higher level of cooperative play through strategy, positioning and technique.
  - 5. Increasing balance through programmed activities using specific devices and challenging drills.
  - 6. Accomplishing increased levels of proprioception due to full engagement with real play and sports equipment, resistance training and full body contact with the systems.
  - 7. Understanding and applying the benefits of speed, agility, accuracy, focus, and teamwork to achieve success.

#### Standard 3: Participates regularly in physical activity.

- SMART games encourage regular physical activity by focusing on fun, play, social interaction and team cooperation. Participants are motivated by electronically generated game set-up and scoring familiar to the many who play video games, thus helping to eliminate barriers to exercise, as it is related more to play than work.
- \*SMART has been well documented to appeal to traditionally inactive and high BMI participants, rating #1

in enjoyment in a 2011 study from the Archives of Pediatric and Adolescent Medicine (Bailey and McInnes), which measured SMART versus traditional exercise as well as other popular exergames.

• SMART played with a ball develops the essential ball playing skills that transfer well to the playground and real sports.

#### Standard 4: Achieves and maintains a health-enhancing level of physical fitness.

- SMART programming, designed for both large groups and individuals, requires a variety of healthenhancing activities including cardio development, maintenance of elevated heart rate, intermittent bursts of activity, flexibility and core strength.
- \*SMART's ability to enhance health is well documented in its previous form known as Sportwall, rating #1 in energy expenditure (metabolic equivalent) in the 2011 study from the Archives of Pediatric and Adolescent Medicine cited above.



• SMART activities focus on engaging play rather than repetitive fitness drills, increasing the likelihood that participants return, thereby maintaining levels of health-enhancing fitness. This improvement in exercise adherence is well documented.

# Standard 5: Exhibits responsible personal and social behavior that respects self and others in physical activity settings.

- SMART group programming engages participants in activities that teach respect through the social interaction and cooperation required to improve performance and results.
- SMART encourages instructors to ensure diversity in each team to teach support for teammates of varying levels of ability, social influence and popularity.
- SMART has been shown to be more inclusive and less intimidating than actual sports participation, especially for those individuals with less natural ability, thereby providing greater opportunity to develop social skills and self-esteem in a physical activity environment.
- SMART use provides personal and social behavior benefits (e.g. Kansas City Schools Study showed a 59% drop in violence related behavioral issues following use by students).

# Standard 6: Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

- SMART's #1 rating for enjoyment evolves, we believe, from participants' ability to realize the value of the NASPE Standards: improving health, tackling challenges both individually and as a team, and expressing oneself as confidence is gained, all in a social setting that encourages interaction.
- SMART activities/games engage participants in play where focus is placed on both individual and team performance.
- SMART scores show winners and losers frequently, teaching participants to use the scoring as feedback on the path to improvement rather than a measure of success or failure and giving everyone repeated chances to win and improve.
- SMART programming is designed to recognize wins on individual, team, and entire group levels, which significantly enhances an atmosphere of camaraderie.