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Photo Credit: April Moore, MS, ATC, Physical Education Specialist

VAHPERD Members,

It is my pleasure to serve as the editor of The Virginia Journal (TVJ) and Communicator. Enclosed you will find the Fall 2019 issue. I hope to continue the successful publications of TVJ and Communicator.

However, the success of TVJ and the Communicator only go as far as the members and our submissions. I ask that you continue to submit the quality work you have in the past. Let the state, region and nation know the outstanding work we are doing in VAHPERD. So this is my continued call for manuscripts for the Spring 2020 issue of TVJ and news information for the Communicator. The TVJ and Communicator depend on the submissions from our exceptional professionals working in the field.

So please continue to e-mail me your manuscripts and news by January 15 and July 15, 2020 as a Word attachment for the two publications. Please follow the manuscript guidelines posted in each issue of TVJ. My contact information is below.

Sincerely,

Michael Moore, PhD, LAT, ATC

Associate Professor, HHP

Program Director, ATP

Clinical Coordinator, ATP

mbmoore@radford.edu

www.radford.edu/atep

540-831-6218

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Best Practices in Early Childhood Physical Education

Ann-Catherine Sullivan, Ed.D., CAPE, Norfolk State University

1. INTRODUCTION

Physical education is a significant activity for a child to engage in due to the general movement opportunities it provides. The goal of an introductory physical education program is to orient the child to basic locomotor, nonlocomotor, and manipulative skills. Physical Education programs are designed to provide students with positive learning experiences, which can often contribute to social opportunities where children may interact with their peers. By providing environmental opportunities to a child, an instructor can provide the child with a safe environment that will accelerate the emergence of gross motor skills. These positive experiences often provide the students with a sense of accomplishment.

This paper provides a literature review of the following areas of early childhood education and development: dynamic systems theory, maximum and appropriate practice, preschool physical education, preschool movement experiences, play and play environments. Therefore, this review has been structured to discuss literature related to “best practices” in early childhood physical education as it links to play and dynamic systems theory.

2. DYNAMIC SYSTEMS THEORY

Bernstein (1967) introduced the term Bio-dynamics in writing on genesis of motor coordination. The premise was that coordination and control emerge from intimate interactions between the nervous system and the periphery. Synergies were classes of movement patterns that involved groups of muscles or joints to regulate and control movement. Bernstein proposed that there was a relationship between the brain and associated movement components and that they develop collectively.

Dynamic systems developed as an applied branch of Bio-dynamics. Kugler, Kelso & Turvey (1980) introduced dynamic systems theory as an emergence of motor behavior. This theory emphasized the dynamic and self-organizing properties of the motor system to individuals developing motor competencies. Change was believed to be stimulated by biological development, environment, and the demands of the specific task. Haken (1983) discussed synergetics as an attempt to establish principles governing a pattern generation that would be common to a variety of systems, though independent of the structure producing the behavior.

Physical maturation has been historically defined as development of the central nervous system, development of muscular strength and endurance, development of posture and balance, as well as improvement in sensory processing (Gabbard, 1996). Presumably, physical maturation was related to the progressive pattern of physical development. The onset of a certain skill required that a particular system be developed to a notable level. Particular systems advance earlier in some infants and children than in others, therefore the rate of appearance of the motor milestones varied (Gabbard, 1996).

Dynamic systems theory attempts to provide an understanding of movement and movement control as it emerges developmentally (Gabbard, 1996). According to Gabbard (1996) “qualitative changes in motor behavior emerge out of naturally developing

dynamic attributes of motor systems and coordinative structures” (p. 208-209). The theory purported that locomotor development was a consequence of the development of various body systems, the tasks to be undertaken, and the environmental context in which the task was done (Lunkenheimer, 2018; Thelen, Fisher, & Ridley-Johnson, 1984; Thelen, 1986; Gabbard, 1996; Haywood, 1993; Smith & Thelen, 1993; Gallahue, Ozmun & Goodway, 2013; Payne, & Isaacs, 1995). In contrast with the maturation perspective, dynamic systems theory provided a comprehensive understanding of motor control and performance across the life span. The fundamental principles of dynamic systems theory stated that organisms were composed of a number of anatomical parts and physiological systems. Systems undergoing motor development were believed to be self-organizing. Movement therefore emerged from self-organizing properties of the body that developed at different rates. A movement pattern arose from the interaction of essential parts and not primarily through the central nervous system.

Motor development within an organism is complex and cooperative. Movement requires the combining efforts of a number of body systems. Components cooperate and interact in an infinite number of ways to produce a movement whose outward appearance remains relatively stable. This abandons the idea of motor programs and rigid reflexes and views movement as continuous and flexible. There is an assumption that muscular forces and mechanical interactions determine movement. Forces are limited by the speed of the movement, body position, length of body segments and intentions of movement. Simple movement is composed of many cooperative systems such as: the skeletal muscle system, posture to maintain positional balance, sensory and perception to detect environmental information, and the cardiovascular system to supply oxygen to the muscles.

Component structure and processes of a skill develop asynchronous and non-linearly. The theory suggests that movement patterns go through transitions and disruptions occur in the process. This theory attempts to account for these characteristics from processes that are continuous. Environmental and biological factors are taken into account and influence development. Biology, environment and the demands of the specific task may stimulate change. Shifts from one qualitative behavior to another are discontinuous.

The subsystems that are believed to be prevalent in accordance with dynamic systems are the task, environment and individual. These subsystems are believed to operate separately and in unity to determine the rate, sequence, and extent of development. Coordination and control of movements are the result of a number of the subsystems working dynamically together in a cooperative manner. All of these subsystems are believed to be equal, and collaboratively cause motor behavior to evolve. It is believed that preferred patterns of movement develop in response to particular factors within the individual, task, and environment. These patterns are preferred because they require the least amount of energy.

There are variables that provide a condition for a pattern change. Factors within subsystems of the task, individual, and environment interact and have potential for modifying and being modified by the other as one gains motor control and movement competence. One factor can be primarily responsible for a systems developmental change or the emergence of a new subsystem can make another disappear. For example when an infant matures and gains weight there may be a decrease or disappearance of the stepping rate. In this case the weight-gain factor is believed to be the control parameter. However, when the same infant is introduced to a water environment the stepping rate often reappears due to the elimination of gravity that reduces the strength needed to perform the locomotor behavior.

Thelen et al. (1989) suggested that the rate-controlling factors for walking were muscle strength in the trunk and leg extensor muscles to allow the infant to maintain an upright posture on a small base of support, and the development of balance to the point that the infant can compensate for a shift of weight from one leg to the other. The characteristics of infants' early walking are consistent with this suggestion. Early walking is characterized by a short stride, a flat-footed step, little coordinated arm action, and more variable timing between the two legs (Burnett & Johnson, 1971; Clark, Whittall, & Phillips, 1988; Skutterland, Olshen, & Woo, 1980). All of these factors are consistent with just adequate strength and dynamic balance. In fact, for children new to walking, the timing of their steps is more adult like when adults hold their hands as they walk, thus assisting their strength and balance (Clark et al., 1988). From the dynamic systems perspective, then, the onset of locomotor milestones are consequential of the development of many systems. The nervous system has not been deemed to be the sole rate-controlling system in accordance to dynamic systems. Body systems do not develop together or at the same rate. Some systems are deemed rate-controllers for a particular skill. Rate of development of individual systems affects and controls an individual's rate of development for a particular skill. Different systems are rate-controllers for different skills. Consideration of multiple systems provides developmentalists the opportunity to identify which of the many systems are important to the onset of new skills. It is possible that many of the body's systems have developed to the point where a new skill is possible, but that one or more other systems are slower in developing. The new behavior cannot start until these slower developing systems reach a critical point. Dynamic systems developmentalists term these systems rate controllers, or rate limiters. For maturationists, the nervous system is always the rate controller. Dynamic systems developmentalists consider many systems in determining the rate-controlling factors in development.

The dynamic systems theory purports that developmental change is nonlinear and discontinuous. "A dynamic system is an *open system*, meaning that it is continually exchanging information with its surrounding environment, and through those interactions, breaking down and building up new forms and organizational patterns" (Lunkenheimer 2018, p.3). Individual change over time is not necessarily smooth and hierarchical, and did not necessarily involve moving toward higher levels of complexity and competence in the motor system. Development relates to continuous changes that happen over time. A variety

of factors within a system influence the discontinuous manner in which individual development occurs. Dynamic Systems "theory pays significant attention to *variability* and change, treating small fluctuations in development as potentially informative data" (Lunkenheimer 2018, p. 3). Qualitative changes in skill performance can be discontinuous even though a factor continuously increased or decreased. The decline of one system to a critical point may cause the reorganization of a movement to a less proficient pattern.

Hofsten and Ronnquist (1993) examined spontaneous arm movements of three-to five-year-old infants. They reported that spontaneous arm movements exhibited patterning similar to the reaching movements at five months. The authors contend that spontaneous movements are organized and important for perceptual-motor development. Motor development is a process of learning to control spontaneous movements and make them purposefully directed.

Adolph, Eppler and Gibson (1993) observed 14-month-olds toddlers and 8.5 month old crawling infants. They were encouraged to ascend and descend sloping walkways. Both groups over-estimated the children's abilities to ascend. On descending trials toddlers switched to a sliding position for safe descent; and crawlers kept going experiencing many falls. Toddlers were more apprehensive and attempted locomotor modifications before descent while crawlers were only slightly hesitant with the 30 degree and 40 degree slopes and never explored alternate descent positions. Findings indicate that children must learn to perceive affordances for locomotion over slopes, and that learning may begin by the fine-tuning of exploratory activity.

Goldfield, Kay and Warren (1993) performed a longitudinal study on eight infants. The infants' limb movements were observed while placed in an infant bouncer. The infants were seen to experiment with different musculoskeletal organizations. The authors suggested that organizing action patterns emerged from spontaneous activity in relation to the constraints of the task as the infants explored the physical properties of their bodies and movement. The process was noted to be essential to self-organization of task-specific behavioral patterns. As the system evolved a stable, preferred, action pattern was displayed.

Dynamic systems theory purports that systems are constantly undergoing changes due to the individual's physical development, the task at hand, and/or the environment one is exposed to. This theory supports the emphasis on maximum and appropriate practice within the education environment.

3. MAXIMUM AND APPROPRIATE PRACTICE

Research suggested that practice conditions for all children, due to their diverse levels of motor abilities, should include maximum, appropriate practice which facilitates high levels of student success that leads to student learning (Goldberger & Gerney, 1990; Rikard, 1992; Silverman, 1983; Goldberger, 1991). Hardy (1993) purported that "the ability of teachers to increase pupils' time-on-task at the appropriate level of difficulty and within the confines of pupils' abilities and context areas, can only enhance learning opportunities" (p.30). Numerous research studies supported that the amount and quality of appropriate and inappropriate practice related positively to final skill achievement and that learning

occurred when students were engaged in successful appropriate practice (Goldberger & Gerney, 1990; Silverman, 1993).

Studies indicated that due to the students' varying abilities, performance standards should be established for every level of skill. The classroom atmosphere should promote a rate of progression that correlates with the individual's natural abilities. Rikard (1992) suggested that teachers pre-test and observe student practice, evaluate students' skills regarding their individual improvement, and then plan subsequent practice sequences according to the information derived from teacher observation. Research suggested that inappropriate practice and lack of practice variation hinder student skill acquisition. In a study which compared the effectiveness of practice progressions the authors stated that practice sessions should be sequenced in progressive levels of difficulty appropriate for the learners (French, Rink, Rikard, Mays, Lynn, & Warner, 1991). To meet individual student learning styles as well as to provide for appropriate practice, it was suggested that complex motor skills need to be broken down to provide for skill progression (French, Rink, Rikard, Mays, Lynn, & Warner, 1991). Student engagement in a class setting that allows for appropriate practice and provides for numerous successful opportunities to respond has been proven to promote student learning in the physical activity class.

As will be discussed below, preschool physical education classes should obtain structure but the typically rigid elementary class would not be developmentally appropriate for this age level. Similarly, early childhood classes should not resemble a watered down elementary physical education class. Rather, these classes should be structured to allow for a short *skill* introduction followed by play which may or may not directly include the skill taught. However, the classroom theme would be reinforced throughout all activities within the classroom environment.

4. PRESCHOOL PHYSICAL EDUCATION

According to Ignico (1994) early childhood educational programs have historically rarely emphasized motor skill instruction. However, children in their primary years generally learn most effectively through physical modalities (Price, 1995 & Sanders, 1994). With this in mind, the National Association for the Education of Young Children (NAEYC), the U.S. Department of Health and Human Services, and the Society of Health and Physical Educators (SHAPE) America each suggest that children enrolled in preschool programs should receive physical education instruction. Ignico (1994) stated that there is evidence which suggests "that school physical education programs for young children can have a significant, positive effect on children's fundamental motor skill performances, and health related issues" (p.28).

Although there are very few physical education curriculums available for preschoolers, these programs maintain some of the same characteristics. Many of these characteristics are also labeled *best practices* by early childhood physical educators. Poest, Williams, Witt, and Atwood (1990) stated that "a well-defined program for large muscle development (or motor development) addresses three major categories: fundamental movement skills, physical fitness, and perceptual-motor development" (p. 4). Unfortunately, "children who have not learned to perform isolated fundamental movement skills often experience frustration and failure when they

are enrolled in sport or dance classes that require the performance of complex combinations of movement skills" (Poest, Williams, Witt, and Atwood, 1990, p. 5). These early failure experiences may negatively affect an individual's perception of physical activity. This in turn may structure the base upon which sedentary adulthood builds.

"Recent research reveals that many young children have not developed their perceptual-motor skills, especially in the area of visual awareness, auditory awareness, and time awareness" (Poest, Williams, Witt, and Atwood, 1990, p. 6). This is especially true within preschool environments. Children who experience home care are often more physically and motorically fit than children who attend public preschools. "Research has shown that most children do not receive enough fitness-enhancing activity during play experiences to develop an adequate level of fitness or motor skill development" (Poest, Williams, Witt, and Atwood, 1989). Introduction of healthy exercise habits and the development of fundamental motor movements in the early years should develop a structure upon which future physical participation success is built. Unfortunately, day care children may find themselves at a poor fitness level that may decrease future participation in physical education, sports and eventually negatively affect their health.

A developmentally appropriate preschool classroom varies greatly from traditional elementary school classrooms. According to Avery (1994) preschool physical education should focus on: teaching children versus teaching activities, utilizing integrated learning activities and curricular themes, as well as active learning experiences. Similarly, Bakhtiar (2013) indicated that since motor development is age-related but not age-dependent, constructing a physical education curriculum based on age is contrary to Dynamic Systems Theory (p. 106). Planned preschool physical education experiences should be structured differently than elementary experiences. Preschoolers should not be expected to maintain focus on the same topic for extended periods of time. After a brief introduction students should be provided with opportunities to experience the activity, or to return to the activity at a later time.

Physical education experiences should be planned to accommodate the diverse developmental needs of the preschoolers. "Herkowitz (1977a) suggested the following four guidelines for developmentally appropriate physical education equipment:

- offer children several pieces of equipment which have the same form, but vary in size,
- allow children to self select equipment,
- use equipment that children may themselves change to accommodate their own unique developmental levels,
- build evaluation devices into equipment that encourage children to realistically assess (their)...performance (p.73).

Structuring a purposefully interactive learning environment is a key role of preschool teachers. A preschool learning environment should be structured to enhance children's interaction with each other and the environment itself. It is the role of physical educators to work with early childhood teachers and assist them with integration of movement experiences within the preschool classroom.

4.1 PRESCHOOL MOVEMENT EXPERIENCES

A developmentally appropriate preschool curriculum will include numerous play opportunities. “Planned movement experiences lay the foundation for the development of physical skills which are refined during less structured, yet active, play experiences” (Avery, 1994, p.38). Similarly, Bakhtiar (2013) stated that “the experiences that children have during their play activities adapt their body to develop and progress motor skills” (p. 106). Planned preschool movement experiences may provide students with opportunities to development their perceptual-motor system. According to Gabbard (1988) “all motor tasks require the use of sensory information and perceptual mechanisms” (p. 66). Children’s learning is primarily guided through their senses. Kinesthetic perception is especially integral due to its association with body awareness, spatial awareness, directional awareness, and temporal awareness. Children expand their knowledge base and tactical awareness through their sense of touch and object manipulation.

Preschool children vary greatly in size, strength, and endurance characteristics. “The typical preschooler increases in height and weight, loses limb and body fat, lays down muscle tissue, develops added neuromuscular control, and changes body proportions rapidly” (Herkowitz, 1977a, p.15). These factors must be taken into consideration when planning movement experiences for this age group. “By using the exploration approach, children can engage in an individual program of motor skill development at the appropriate level of difficulty” (Gober & Franks, 1988, p.60). The individual approach would allow children to self-select equipment that was developmentally appropriate for them as an individual. This would also allow the children to experiment with varied equipment and optimally learn more about their own body and its movement possibilities.

Free play experiences are not enough. The early childhood curriculum should integrate planned movement experiences. Herkowitz (1977b) stated that “planned movement experiences ensure that sensitive periods for acquiring motor skills are not neglected” (p. 15). However, an educator must consciously plan opportunities that will encompass the varied developmental levels of the preschool children. “Motor skill acquisition in early childhood is a fairly orderly and sequential process influenced by both maturation and experience” (Herkowitz, 1977a, p. 15). Although educators do not have control over the development of individual body systems the structure of the tasks and learning environment can assist all children to develop optimally.

Focus on motor skill development is crucial during the early childhood years. “Experiences should involve locomotor, nonlocomotor, and manipulative skills, in addition to the development of knowledge of movement concepts included in the categories of space awareness, effort, and relationships” (Avery, 1994, p. 39). The experiences are integral to typical development as well as developing a movement base upon which elementary physical education builds. Along these lines, Gober and Franks (1988) state that “physical activities for young children are intended to set the foundation for achieving skills and fitness related to their general health and ability to participate in a variety of personal activities” (p.57). Many of these cursory movement experiences can be augmented throughout unplanned play experiences.

4.2 PLAY & PHYSICAL ACTIVITY

Researchers observing play have developed numerous criteria for determining what is and what is not play. Although the researchers have devised separate lists of what exactly constitutes play, there are similar criteria found across each. Rubin (1977), Lieberman (1965), and Smith (1985) all agree that true play erupts and is maintained by internally motivated factors. They also maintain agreement on the fact that play is not goal oriented. Play must be an end unto itself. One final point of agreement focuses on the ability to suspend reality. Lieberman (1965) stated that play is determined due to the goals, materials, rules, and other elements used in play activity. Garvey (1990) would agree with most of these characteristics of play. However, she would add that an activity must be spontaneous and voluntary as well as involve active participation before being defined as play.

Although structured activity has become an integral part of the preschool curriculum, the virtues of play are once again begin heralded. One intention of play in the preschool environment is to allow the students to experiment with themselves, peers, and the equipment. In reference to play and physical activity, Cratty (1982) stated that preschool children, when placed in environments containing various kinds of equipment, surrounded by an emotionally supportive staff, usually engage in high levels of productive physical activity, reflective of promoting social, emotional, and intellectual growth” (p. 43).

Preschoolers tend to be more at ease and exploratory in the environment if it is contained to some degree and offers a feeling of safety.

Flinchum (1988) also deems play important because it “offers a chance to develop efficacy because children can repeat movements until they master them” (p.62). Play opportunities may provide the relaxed atmosphere that preschoolers need in order to engage in a new activity. The context of a play environment is quite relaxed. This context allows the individual to engage at a level she deems appropriate. The risk of the activity is immediately deleted or at least substantively negated due to the context of play itself. Defining an activity as play may also allow the child to make a task more or less ambiguous as she regards apropos. Because the child himself deems what the play task is only the individual can determine what is appropriate and where the boundaries, if any, lay.

Planning for play activities appears to be a contradictory statement based on the definitions of play above. However, educators constantly purposefully structure play environments with specific objectives in mind. Often a stimulus may initiate a play activity. Therefore the play environment must include numerous stimuli. Gober and Franks (1988) stated that “stimulation appears to be a factor in the rate at which motor skills are learned (p.58). Preschool educators must keep in mind the role of stimulation and excitement when planning for physical education instruction.

4.3 PLAY ENVIRONMENTS

Indoor and outdoor play are both environmental contexts that can assist with inducing and maintaining children’s play. “Children play because play is their natural form of expression and their natural way to learn things, while physical development is itself a natural result of the activities children become involved in through play” (Bengtsson, 1979, p. 457). Sawyers (1994) indicated that

“play is low quality and often becomes destructive when the same activities and materials/equipment are offered day after day” (p. 33). Children will naturally increase the challenge equipment provides when they outgrow its purpose.

“Outside play allows for more active play with fewer restrictions on noise and movement, and greater freedom with natural materials like water, sand, snow, and soil” (Sawyers, 1994, p. 31). Similarly, research findings indicate that large spaces increase social interaction and rough-and-tumble play while smaller spaces promote solitary play (Brenner, 1976; Witt and Gramza, 1969). The play environment must be large enough to support freedom of movement and safe enough to encourage active play by reducing the risk of play. “The play environment for preschool children can be conceived of as a linked series, encouraging and directing transference of interest from one thing or place to another” (Wortham and Wortham, 1989, p. 298). This link can occur in and across environments as well as thematic units.

Satchwell (1994) stated that a preschool physical education environment should be “structured to provide an opportunity for them to examine, explore, and investigate their world” (p.34). Maximum participation of students has long been advocated within the physical education literature. Phyfe-Perkins (1979) suggested that optimal arrangement of the physical environment would promote student maximum engagement. Conversely, lack of activity space and equipment in a preschool environment may limit the opportunities for meaningful movement experiences.

5. CONCLUSION

Individuals rate of development varies to a large degree especially within the preschool years. Dynamic systems theory purports that motor skills are not innate non-varying structures but that the individual systems, the task at hand, and the environment itself all play an integral part in the emergence of movement. With this in mind, physical educators have long promoted providing individuals with maximum developmentally appropriate practice opportunities within the learning environment. These practice opportunities should allow for student choice of task and equipment. After a brief in *skill* introduction, students should be allowed to explore the task and their own abilities during periods of unstructured play. The context of play should decrease the risk associated with a new activity while allowing for individual interpretation and exploration.

Preschool teachers should be trained in physical activity and the motor development of children. “Teachers in training should study a program of physical development as part of the early learning curriculum: motor activities for young children with basic motor learning content activities, teaching strategies, environmental conditions, and evaluative measures for working with young children through a movement and play medium should be included” (Flinchum, 1988, p.62). Teachers would then be able to optimally integrate physical activity into the preschool curriculum.

A large part of teacher training should focus on evaluation of students. Students enrolled in public preschools should be pretested relative to their physical development. Constant criterion and performance based assessments should be made on each child throughout the school year. In accordance with developmentally appropriate practice, the assessments should be used to structure

future lessons/activities. Each of these activities should be theme oriented and related to the education of the whole child.

The intricacies of dynamic systems theory relate directly to the physical development of preschoolers. One may argue that optimal physical activity engagement assists with evolvment of ones social and emotional development. These early successes may also prove the catalyst for lifelong physical activity engagement. Therefore, it is imperative that preschool teachers receive substantial training in physical activity and motor development. A revised preschool curriculum which includes a high amount of planned and developmentally appropriate physical activity will provide the children with the necessary opportunities optimal development, exemplary health, and future schooling successes.

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Children with Attention Deficit Hyperactivity Disorder (ADHD) Participating in Sport and Recreation Programs

Matthew D. Lucas, Ed.D, C.A.P.E., Professor, Department of Health, Athletic Training, Recreation and Kinesiology, Longwood University

Taylor Hawkins, Wellness Coach, YMCA, Chesterfield, VA

Introduction

The participation of a child with Attention Deficit Hyperactivity Disorder (ADHD) in sport and recreation programs can often be rewarding for the individual with the disorder. These benefits can be both physical and social. However, children who have been diagnosed with ADHD can have a difficult time staying on task which can lead to challenges in participation in these programs. This manuscript will note the definition and prevalence of ADHD, possible causes, common signs and symptoms of ADHD in children and the benefits that sport and recreational programs can provide for them. Lastly, the paper will discuss simple modifications that can be implemented when working with children with disabilities in sports and recreation settings.

Definition and Prevalence of ADHD

As defined by the National Institute of Mental Health, ADHD is a “brain disorder marked by an ongoing pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development” (National Institutes of Health: Attention-Deficit/Hyperactivity Disorder, 2016, p. 1).

According to the Diagnostic and Statistical Manual - 5 (Diagnostic and Statistical Manual-5th Edition: Attention Deficit Hyperactivity Manual, 2013), ADHD is defined as:

A persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development:

- For children, six or more of the symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level, and that negatively impacts directly on social and academic/occupational activities. Please note: the symptoms are not solely a manifestation of oppositional behavior, defiance, hostility or failure to understand tasks or instructions

→ Inattention: Six or more symptoms of inattention for children up to age 16 (as noted previously):

- Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities
- Often has trouble holding attention on tasks or play activities
- Often does not seem to listen when spoken to directly
- Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, side-tracked).
- Often has trouble organizing tasks and activities
- Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time (such as schoolwork or homework)
- Often loses things necessary for tasks and activities (e.g.

school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones)

- Often is easily distracted
 - Often is forgetful in daily activities (p. 1).
- Hyperactivity and Impulsivity: Six or more symptoms of hyperactivity-impulsivity for children up to age 16 (as noted previously):
- Often fidgets with or taps hands or feet, or squirms in seat
 - Often leaves seat in situations when remaining seated is expected
 - Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless)
 - Often unable to play or take part in leisure activities quietly
 - Is often “on the go” acting as if “driven by a motor”
 - Often talks excessively
 - Often blurts out an answer before a question has been completed
 - Often has trouble waiting his/her turn
 - Often interrupts or intrudes on others (e.g., interrupts conversations (p. 1).
- For older adolescents and adults (age 17 and older), five or more symptoms are required
 - Several inattentive or hyperactive-impulsive symptoms present prior to age 12 years
 - Several inattentive or hyperactive-impulsive symptoms present in two or more settings (e.g. at home, school or work; with friends or relatives; in other activities)
 - Clear evidence that the symptoms interfere with, or reduce the quality of, social, academic or occupational functioning
 - Symptoms do not occur exclusively during the course of schizophrenia or another psychotic disorder, and are not better explained by another mental disorder (e.g. mood disorder, anxiety disorder, dissociative disorder, personality disorder, substance intoxication or withdrawal) (p. 1)

ADHD has been found to be much more common in males than with female (Center for Disease Control: Attention Deficit Hyperactivity Disorder, 2018).. However there are no known definite causes or risk factors of ADHD. In 2016, 6.1 million children from ages 2-17 were diagnosed with ADHD (Center for Disease Control: Attention Deficit Hyperactivity Disorder, 2018).

Possible Causes and Known Symptoms of ADHD

The causes of ADHD are not understood, as was mentioned in the previous section. According to the Mayo Clinic (2017),

possible causes and risk factors including:

- Genetics. ADHD can run in families, and studies indicate that genes may play a role.
- Environment. Certain environmental factors, such as lead exposure, may increase risk.
- Development. Problems with the central nervous system at key moments in development may play a role (p. 1).

Symptoms of ADHD are almost always visible before the age of 12, and can be noticeable even as early as 2-3 years old (Center for Disease Control: Attention Deficit Hyperactivity Disorder, 2018). After a close examination of the possible characteristics noted in the DSM - 5's definition of ADHD, the main features of ADHD that resonate in children, with the disorder, include inattentiveness and hyperactivity. Children with ADHD often have trouble staying focused and staying on task. They may become easily distracted and have trouble staying still.

Benefits of Sport and Recreational Activities for Children with ADHD

There are many strategies that can be used when working with children with ADHD in the sport and recreation setting. Before discussing these benefits, it should be noted that many are quick to medicate children because of the symptoms of ADHD. Stimulants such as Adderall and Ritalin are given in low doses to help control common symptoms of ADHD (Center for Disease Control: Attention Deficit Hyperactivity Disorder, 2018). Although medication is a popular choice among treatments, there may be alternative ways to decrease symptoms, including participation in sport and recreation programs (Miller, 2017).

It is very important to note that exercise is a possible alternative, or co-strategy, to these ADHD medications (Miller, 2017). When a child is involved in a physical activity such as sport and recreation programs, the brain starts to produce more Dopamine. The Dopamine that is produced from physical activity can possibly help an individual focus, much like the intended effect of the medications they are prescribed (Berwid & Halperin, 2012).

Participation in sport and recreation programs is a great way for children with ADHD to not only participate in physical activity, but also can increase their social skills (Lullo, & Van Puymbroeck, 2006). When participating in sports, children with ADHD are exposed to other children and are given the opportunity to build social relations. Outside of a classroom or school setting, many children are not given the opportunity to learn how to work with or socialize with their peers. Exercise has been shown to “enhance attention, facilitates concentration, heightens student engagement, and improves academic achievement in the classroom” (American Institute for Learning and Human Development, 2018, p.1). The following section notes strategies that are often beneficial for working with children with ADHD in sport and recreational activities.

Strategies for Working with Children with ADHD in Sport and Recreation Settings

As stated above, the benefits of sport and recreational settings are high for all children. These benefits can hopefully

be obtained for a child with ADHD by utilizing the following recommendations. Although, they are by no means a guarantee. Listed below are possible recommendations noted by Pediatric Health Resources that are particularly applicable during the instructional process needed in sport and recreational settings.

- As a coach or parent, make directions clear and short. Repeat if necessary.
- Make each direction task specific.
- Give reminders often, encouraging the child to finish. It is important to complete activities and games once started to help the child learn to sequence beginning to end.
- Talk less and use short sentences when giving instruction or feedback.
- Be specific with praise (Parker, 2018, p. 1)

In addition to these, the authors have the following suggestions:

- Avoid giving a child too much equipment at one time: multiple pieces of equipment for multiple tasks. This can cause “over-stimulation” and make focusing on instructions too difficult.
- Try to encourage attentiveness by eliminating behavior from other children that could be distracting such as excessive talking or visual distraction.
- Encourage proper questioning such as after a direction has been given instead of during the direction.
- Eliminate waiting time to ensure activity as often as possible. Move quickly from one activity to the next, such as drills in practice.
- Encourage recognizing personal space.

Conclusion

The participation of a child with Attention Deficit Hyperactivity Disorder (ADHD) in sport and recreation programs can often be rewarding for the student with the disorder. This paper has defined the condition, noted the prevalence, and addressed some of the common characteristics of ADHD in children and the benefits that sport or other recreational activities can provide for them. Lastly, the paper discussed simple modifications a teacher should make for children with the disorder.

Disclaimer: This website is for informational purposes only. The information provided on this website is not intended to be a substitute for professional medical advice, diagnosis, or treatment.

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Development of the National Standards Coaching Efficacy Scale

Stephen E. Knott, Senior Lecturer, Old Dominion University

Lynn L. Ridinger, Associate Professor, Old Dominion University

Katelyn S. Makovec, Adjunct Instructor, Old Dominion University

Development of the National Standards Coaching Efficacy Scale

Past research exploring the effectiveness of coaches has involved a variety of research methodologies and measures. Traditionally, the most common means of evaluating a coach is through his or her win-loss record (Leland, 1988). However, contemporary scholars suggest that win-loss records may not truly reflect the ability of an individual to be an effective coach. Other factors such as leadership (Chelladurai & Saleh, 1980), athlete-coach relationships (Jowett & Ntoumanis, 2004) and coaching efficacy (Feltz, Chase, Moritz, & Sullivan, 1999; Maleté & Feltz, 2000; Myers, Feltz, Chase, Reckase & Hancock, 2008) can also play a role in coaching effectiveness. In particular, coaching efficacy has gained much recent attention and has been linked to several salient outcomes including athlete satisfaction (Myers, Vargas-Tonsing, & Feltz, 2005), team efficacy (Vargas-Tonsing, Warners, and Feltz, 2003), commitment to coaching (Feltz, Short & Sullivan, 2008), leadership behaviors (Sullivan, Paquette, Holt & Bloom, 2012), and win-loss records (Feltz et al., 1999; Myers et al., 2005).

Coaching efficacy is a form of self-efficacy. Self-efficacy is defined as “beliefs in one’s ability to organize and execute the course of action required to produce a given attainment” (Bandura, 1997, p.3). Self-efficacy is concerned with people’s beliefs in their ability to influence events that affect their lives and it is considered the foundation of human motivation and performance accomplishments (Bandura, 1997, 2006). Coaching efficacy is defined “as the extent to which coaches believe they have the capacity to affect the learning and performance of their athletes” (Feltz et al., 1999, p. 765). Feltz and colleagues identified four components of coaching efficacy: game strategy, motivation, technique, and character-building efficacy. These components were developed partially from the *National Standards for Athletic Coaches* (NASPE, 1995) as well as previous literature on coaching confidence (Park, 1992). Based on this framework, Feltz et al. (1999) developed the Coaching Efficacy Scale (CES), a 24-item questionnaire designed and tested to measure the four dimensions of coaching efficacy. A revised version of the CES for high school team sport coaches (CES II-HST) added a fifth dimension, physical conditioning (Myers et al., 2008).

In 2006, the *National Standards for Sport Coaches* (NASPE, 2006) was revised to include eight domains (i.e., philosophy and ethics, safety and injury prevention, physical conditioning, growth and development, teaching and communication, sport skills and tactics, organization and administration, and evaluation). These eight domains represent the essential elements for effective coaching of young athletes and serve as the foundation for several coaching education programs (NASPE, 2008). While the previously designed scales (Feltz et al., 1999; Myers et al., 2008) were based in part on the previous national standards, they did not

directly measure coaching efficacy associated with each of the eight domains of the latest *National Standards for Sport Coaches* (NASPE, 2006). A better understanding of coaches’ beliefs in their capacity to effectively implement the standards in each of these eight domains would allow coaches and administrators of coaching education programs to recognize specific areas of strength as well as identify areas in need of improvement. Thus, the purpose of this study was to develop and validate a tool to measure coaching efficacy associated with the eight domains of the *National Standards for Sport Coaches*.

Methods and Results

The development of the National Standards Coaching Efficacy scale (NSCES) was conducted in three phases. Phase I involved the development of the scale items and the measurement of fidelity or the degree to which the scale items measured the specific domains of the *National Standards for Sport Coaches* (Wright, 2008). Fidelity and appropriateness were verified using a test blueprint to relate each scale item to the eight coaching domains, as well as having items evaluated by a panel of experts in the field of coaching. Phase II tested for commonality or the shared features of another validated instrument (Wright, 2008). This was done by correlating the NSCES with the CES (Feltz et al., 1999). Finally, Phase III was conducted to determine the scale’s reliability by using Cronbach’s alpha coefficient to assess the internal consistency of each of the eight domain subscales. All procedures were reviewed and approved by the authors’ university’s institutional review board prior to participant involvement.

Phase I: Item Development

Phase I involved item development for the NSCES. Items for the NSCES were initially developed by the three members of the research team. The research team consisted of a 58 year old white male with over 35 years of coaching experience, a 24 year old white female who was an assistant field hockey coach at a Division I university, and a 50 year old white female with over 20 years of experience as a coach and athletic administrator. Each of the three researchers independently generated five to eight efficacy statements related to each domain of the *National Standards for Sport Coaches* (NASPE, 2006). They then met to discuss the statements and reached consensus on 50 items addressing coaching efficacy based on the national standards.

After initial item development, items were evaluated by a panel of experts to determine clarity and relevance. The panel included two males and two females ranging in age from 38 to 71 ($M=52.3$, $SD=14.6$), with coaching experience ranging from 15 to 30 years ($M=20.8$, $SD=6.7$). Members of the panel were all former or current high school coaches. In addition, one member of the panel was a current athletic director, two members were members

of the Virginia High School League (VHSL) coaching education committee, and one member was a university professor who taught courses and conducted research on coaching education. The panel was asked to evaluate the clarity of each item based on a three-point scale and then submit comments regarding clarity. They were also asked to evaluate appropriateness of each item by categorizing it into one of the eight domains of the *National Standards for Sport Coaches* (NASPE, 2006).

Based on the responses of the panel of experts, each item was categorized as either *acceptable* (i.e., mean score of 2.5 and above) or *unacceptable* (i.e., mean score of below 2.5) (Myers et al., 2008). All 50 items were rated as acceptable so no revisions were needed based on this assessment. Next, inter-rater reliability was used to evaluate the appropriateness or fit of each item into its respective domain. Acceptability of each item in the NSCES was based on agreement among at least three out of four panel members, resulting in an inter-rater reliability score of .75 or higher (Miles & Huberman, 1994). At this stage, ten items were eliminated due to low (<.75) inter-rater reliability scores. In the final step of phase I, the primary researcher constructed a survey blueprint which is a matrix to ensure appropriate and equitable coverage of all domains. After phase I, the NSCES included 40 total scale items with four to six items measuring each of the eight domains.

Phase II: Determining Commonality

Once fidelity and appropriateness were established in phase I, the next step was to determine commonality. Commonality was demonstrated by examining the correlation coefficients between the efficacy scores of the NSCES and the previously validated CES (Feltz et al., 1999). To determine commonality, 21 university students (15 male, 6 female; $M_{age}=20.8$, $SD=3.3$; $M_{yearscoaching}=1.3$, $SD=1.7$) attending a coaching education course at a mid-Atlantic University were asked to complete both the NSCES and the CES. Two participants were Hispanic, seven were Caucasian, and 12 were African-American. Participants completed both the NSCES and the CES online approximately two weeks apart.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the mean scores of the NSCES and the CES. To demonstrate fidelity and appropriateness within each of the subcategories, or domains, an inter-item correlation was examined. The Pearson product-moment correlation coefficient revealed a positive correlation ($r=.824$, $n=21$, $p=.000$) between the two scales. The overall correlation between the NSCES and the CES was considered acceptable (Nunnally, 1978). In addition, the inter-item correlation scores were all above .70 which is considered acceptable (see Table 1). The Pearson product-moment correlation coefficients and the inter-item correlations supported the commonality and appropriateness of the NSCES as related to coaching efficacy.

Phase III: Determining Reliability

The final phase of the study was to determine the reliability or internal consistency of the NSCES and its eight subscales. For this phase, individuals who enrolled in the VHSL online coaching education program during the three month period of

Table 1
Inter-Item Correlations

Domain	Inter-item Average
Philosophy and Ethics	.759
Safety and Injury Prevention	.776
Physical Conditioning	.740
Growth and Development	.819
Teaching and Communication	.768
Sport Skills and Tactics	.788
Organization and Administration	.741
Evaluation	.799

this investigation were invited to participate in this study. They were provided with information about the study and assured that participation was entirely voluntary. Those who agreed to participate simply clicked on a link to access an online survey with the NSCES questions. A total of 315 coaches (201 male, 80 female, 34 gender not disclosed; ages 19 to 66 [$M=21.5$, $SD=13.5$]) agreed to participate in the study. Participants' coaching experience ranged from 0 to 6 ($M=3.4$ $SD=1.6$) years.

To determine the internal consistency of the survey instrument as well as each of the subscales representing the eight domains of the *National Standards for Sport Coaches*, Cronbach's alpha coefficients were calculated. The NSCES produced an overall Cronbach's alpha coefficient of .985, demonstrating a high level of reliability. In addition, Cronbach's alpha scores ranged from .868 to .931 (see Table 2) across subscales. All subscales maintained above acceptable alpha levels (Nunnally, 1978).

Table 2
Internal Consistency Scores

Domain	Cronbach's Alpha
Philosophy and Ethics	.870
Safety and Injury Prevention	.924
Physical Conditioning	.889
Growth and Development	.910
Teaching and Communication	.931
Sport Skills and Tactics	.880
Organization and Administration	.887
Evaluation	.923

Discussion and Conclusion

The purpose of this study was to develop and validate a tool to measure coaching efficacy associated with the eight domains of the *National Standards for Sport Coaches* (NASPE, 2006). Coaching efficacy has been shown to correlate with a variety of athlete, team and coaching behavior outcomes (Feltz et al., 1999; Feltz et al, 2008; Myers, et al., 2005; Sullivan et al., 2012; Vargas-Tonsing et al, 2003). Most previous research measured coaching efficacy with the CES (Feltz et al., 1999). Although

the CES is a valid and reliable instrument, it assesses only four components of coaching efficacy. The current study sought to develop a scale that includes all eight domains of the *National Standards for Sport Coaches*. By including all eight domains in the NSCES, this measurement tool can assess a broader spectrum of abilities and skills essential to effective coaching. The NSCES can help coaches understand their own strengths and weaknesses related to coaching. Also, it can assist administrators of coaching education programs in identifying possible areas where coaches may not be as confident in their abilities and thus require additional training. Through a thorough three-phase development process, the NSCES was developed, tested, and supported to be a valid and reliable instrument.

As with all research, there are limitations to address. First, the sample sizes for both phase II and III were relatively small. Larger samples could allow researchers to evaluate the factorial validity and composite reliability of the NSCES. In addition, in phase II there were fewer female participants than male participants; further efforts to examine commonality should seek out more female participants to prevent any gender bias. Also, the participants in phase II were college-aged individuals with limited coaching experience, and therefore, future analyses to confirm commonality should be done with individuals with more coaching experience.

In the United States, there has been an increase in coaching education programs over the last decade and many of these programs are based on the 2006 NASPE standards (NASPE, 2008). This current research involved the development of the NSCES as an instrument to measure coaching efficacy related to the *National Coaching Standards for Sport Coaches*. Although this study demonstrated that the NSCES is a valid and reliable tool, further research conducted with larger samples, different populations, various sports, and equitable representation from both male and female coaches is recommended.

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Sport Entrepreneurship and Future Directions for Sport Management Programs

Robert Case, PhD, Sport Management Program, Old Dominion University

According to Barringer and Ireland (2012), entrepreneurship is “the art of turning an idea into a business” (p. 6). Many students who have graduated from college professional preparation programs in sport management have gone into jobs where there is an established work force in an existing business with a set job description, specific duties, and pre-determined salary (e.g., marketing position in a college athletic program). These graduates have not had to develop their own business concept or business plan or seek funding to start up a business.

In other words, many sport management graduates over the years have gone into employment settings such as sport facility management or sport event management or athletic administration where the jobs and organizations have existed for years. This is not entirely the world that exists today in sport management. Jobs in the sport and fitness industries are becoming harder to find when compared to previous years. Part of the reason for this is linked to a slow economy and part of the reason is because of an abundance of graduates coming out of the hundreds of college sport management programs who are looking for sport related jobs. Thirty-five years ago there were fewer than 100 college sport management programs. Today there are over 400 programs (Case, 2017). Several hundred sport management graduates are entering the job market each year. The prospects of finding a good paying sport management job are sometimes difficult and frustrating.

One area that has been virtually untapped by sport management college programs (including programs in fitness management, recreation management, and exercise science) is the area of entrepreneurship. Although some graduates of these programs have started their own sport related start-up businesses, oftentimes it was done with virtually no start-up business skills. In the past, very few sport management graduates received formal training in the knowledge and skills required to start their own business. In other words, they received virtually no training in entrepreneurship. Instead, they learned through trial and error and the school of hard knocks.

Sport management college programs have grown from mainly an athletic administration orientation during the 1960s and 1970s to a sport management perspective in the 1980s and 1990s to a sport business perspective today. Historically, many sport management programs were housed in Colleges of Education and located under the umbrella of physical education. In recent times, a shift to “stand alone” majors in sport management has taken place with a number of sport management programs now housed in Colleges of Business. Sport management has even transitioned from a North American Society for Sport Management/National Association for Sport and Physical Education (NASSM/NASPE) approval process in the 1980s and 1990s to a Commission on Sport Management Accreditation (COSMA) process today.

Although sport management has grown into a separate discipline with its own national organization (NASSM), annual

conference, journals and sub-disciplines like sport marketing, newer ideas and innovations in curriculum design and coursework have been slow to develop. For instance, sport management program curricula have been slow to embrace the private sector by not providing entrepreneurial knowledge and skills to students so they can start their own sport related businesses. For a number of years, curriculum experts in sport management have talked about developing sport specific sales courses. Now there appears to be another push nationally to offer sport sales courses with the development of new sport sales textbooks and training materials. Business schools have offered sales courses for many years. In a similar way, it now appears to be the time to consider sport entrepreneurship courses as a viable offering in sport management curriculums. Although some college sport management programs seek out entrepreneurship courses in the College of Business, it is clear that sport management has a unique setting where students can create, foster, and hone entrepreneurial skills that can be used to start sport related businesses or develop sport related products. Sport management students are beginning to realize that there are only so many college athletic program marketing positions. Front office positions in professional sport leagues are also limited in number. Students who want to work in a sport related career area would be well served to consider starting their own sport related business.

Don't be mistaken. Positions in sport facility management, sport event management, sporting goods industry, sport commissions, sport marketing agencies, administration of youth sport club teams, Young Men's Christian Association (YMCA) sport programs, Morale, Welfare, and Recreation (MWR) military intramural programs, college recreational sport programs, college athletics, professional sport, and high school athletic administration are still available. But, with each passing year the competition for these positions is increasing and landing a good paying job in professional sport, for example, is becoming tougher. As a result, it is suggested that sport management graduates wear many hats. Generally speaking, they should be able to move in different directions with a wide variety of skills and a broad knowledge base.

Colleges of Business have realized the need for versatility and flexibility for years. This is why many business programs have placed emphasis on developing majors, minors, coursework, certificates, and degrees in entrepreneurship. For example, Old Dominion University has established the Strome Entrepreneurship Center to encourage and support entrepreneurial initiatives, activities, and programs on campus. A certificate in entrepreneurship has been established for undergraduate students. An annual “Shark Tank” competition that awards prize money and scholarships has been created!

The University of North Carolina Kenan-Flagler Center for Entrepreneurial Studies has a motto which is “learn, launch, lead”. Their innovative entrepreneurship program is designed

to help students find success beyond the start-up phase and eventually transition into a lifelong entrepreneurial career. MBA and undergraduate concentrations in entrepreneurship have been established at UNC.

Sport Entrepreneurship Body of Knowledge

Barringer (2015) writes that about two-thirds of the over 2,000 colleges and universities in the United States offer courses in entrepreneurship. Hundreds of books have been written about entrepreneurship and related areas. The Kauffman Index of Entrepreneurial Activity states that approximately 543,000 new businesses are created each month in the United States. However, a recent study by Case (2017) found that of the 407 undergraduate sport management programs in the United States, only 32 (7.9%) require an entrepreneurship course. Only 5 of these programs require a specific “sport entrepreneurship” course. At the master’s degree level, 2% (5 of 235) graduate sport management programs require a course in entrepreneurship or sport entrepreneurship.

According to Barringer (2015), a body of knowledge does exist in entrepreneurship. This entrepreneurship body of knowledge can be applied to sport settings to include the following:

- How to generate and identify sport business ideas;
- How to assess whether the sport business idea is worthwhile;
- How to conduct feasibility studies and market/industry analyses;
- How to recognize legal issues involving intellectual property and selection of an appropriate business legal structure;
- How to seek funding and investors;
- How to organize a business and hire an effective management team;
- How to write a comprehensive and dynamic business plan that includes an executive summary, marketing plan, and financial projections.

A positive feature of offering a sport entrepreneurship emphasis within the existing sport management curriculum is that a number of complimentary courses are already being taught in the typical sport management undergraduate curriculum. For example, sport marketing is a valuable asset to a sport entrepreneurship emphasis because a key component of the typical sport business plan includes a marketing section. Courses in sport finance and accounting compliment the budgeting and financial projection parts of the business plan. Sport law (including business legal structures, contract law, and intellectual property law), and sport administrative theory and leadership courses can supplement the business plan as well (Pinson, 2014; Steingold, 2015).

Types of Sport Businesses

The types of sport business ideas seem almost endless. For example, in Virginia Beach there is a new golf driving range and restaurant/lounge facility called Topgolf. Its initial start-up has been very successful. In Hampton, there is a multi-sport complex called the Boo Williams Sportsplex. It hosts a number of sporting events including AAU regional basketball tournaments. In Fredericksburg, there is a similar facility called the Field House where local club teams conduct their sport

practices and adult leagues are offered in sports like soccer, flag football, and volleyball. J&A Racing is a private race management business that plans and organizes running events such as the Shamrock Marathon in Virginia Beach and the Crawlin’ Crab Half-Marathon in Hampton, Virginia. Virginia Rush is a large soccer club that caters to the development of young soccer players and it is located at the SportsPlex in Virginia Beach. The Virginia Baseball Academy is a privately owned business that provides specialized baseball skill training and camps to youth in the Hamptons Roads area. Planet Fitness is a health club franchise that is located in many communities throughout Virginia. Elite Sport Marketing is a Virginia Beach based business that specializes in economic impact studies for sporting events. From a national perspective, Team Unlimited is a Hawaii based sport marketing firm that conducts XTERRA off-road triathlon events worldwide. Twenty years ago Tom Kiley and Janet Clark had a dream to develop a small water and land sporting event for tourism in Hawaii. The event has grown to the point that it is now the largest off-road triathlon event in the world with races held in numerous countries. The XTERRA East Coast Championship was held in Richmond for a number of years. The list of sport and fitness related businesses and success stories can go on and on...

Some colleges with majors in exercise science, fitness management, and recreation management have developed courses in entrepreneurship. If a student majoring in exercise science decides to open a health and fitness club someday, it would be a good idea to have basic entrepreneurial knowledge and skills so that he or she can start a new business. Some have suggested that taking a course in sport entrepreneurship is more than learning about how to write a business plan. It is developing an “I can do it” proactive mindset where anything is possible. This entrepreneurial spirit and mindset can prove to be invaluable for college graduates who are seeking employment as they can always turn to their own ideas and initiative in order to start a sport or fitness related business or create a new sport product.

Many entrepreneurs invent new sport products or develop new techniques that benefit others.

The Big Bertha driver or the Ping Putter in golf are just two of many examples. Another example would be the author of this article who started a sport marketing business fifteen years ago and since that time he has conducted over 100 economic impact studies for sport organizations throughout the United States.

Sport Entrepreneurship Online Course

At Old Dominion University, an online sport entrepreneurship course is being offered through the sport management program. The primary goal of the course is to develop an entrepreneurial knowledge base and skill set that will allow students to feel comfortable in writing a business plan so that someday they can start their own sport related business. A key part of the ODU entrepreneurship course is to develop an “I can attitude” and “entrepreneurial spirit” in each student. This attitude and mindset can be used in any life situation. Students formulate a sport business idea, research the feasibility of the idea, conduct a market analysis, and then write

a comprehensive business plan for a potential sport business. The course culminates in a “shark tank” type competition where business experts review and judge the sport small business ideas and plans that are presented by the students.

Over thirty years ago the author of this article remembers a time when people questioned why sport management college programs were needed and why coursework should be offered in sport marketing, sport finance, sport law, sport event management, sport facility management, etc. The test of time has confirmed that the establishment of college sport management programs to educate and train students in sport related business careers was a good idea. In a similar way, some tough curricular decisions will need to be made in the future for sport entrepreneurship courses. Initially, societal interests, trends, and changes resulted in the development of college sport management programs as individuals were needed to organize, market, and administer the growing number of sport programs in the United States. Additional changes are taking place today and they relate to the types and number of jobs available to sport management graduates. Sport entrepreneurship knowledge and skills can help meet these changes and challenges by providing students with

the necessary skill sets that will help them in starting their own sport related businesses. The future should prove to be exciting!

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GOPHER

Students with Aphasia in Recess

Matthew D. Lucas, Ed.D., C.A.P.E., Professor, Department of Health, Athletic Training, Recreation, and Kinesiology, Longwood University

Tim Coffey, Ph.D., Assistant Professor, Department of Health, Athletic Training, Recreation, and Kinesiology, Longwood University

Introduction

It is possible that many education professionals have heard of Aphasia but know basically nothing about the disorder. Is it very possible that teachers will work with children with the disorder at some point during their teaching career? What should these teachers know about the disorder? What are characteristics of children with the disorder? What are good practices for working with children with Aphasia? What are poor practices for working with children with Aphasia? Specifically, for this manuscript, because of the social benefits of recess for children that are noted, and are especially important for children with Aphasia, the question is: What are appropriate modifications to activities for children with the Aphasia in the recess setting?

Definition, Signs, Symptoms, and Prevalence of Aphasia

Aphasia is defined in the following manner:

Aphasia is an impairment of language, affecting the production or comprehension of speech and the ability to read or write. Aphasia is almost always due to injury to the brain, most commonly from a stroke, particularly in older individuals. But brain injuries resulting in aphasia may also arise from head trauma, or from infections. (National Aphasia Association: What is Aphasia, 2018, p.1).

Epilepsy is also a cause of Aphasia at times (Medscape, 2017). Specific types of Epilepsy, caused by damage to different areas of the brain, and characteristics of these types in which the reader should be aware, are noted. In addition, general characteristics in which the professional should note, are included in the following list (be aware that all of these causes can be experienced by children):

- Non-Fluent Aphasia is usually caused by damage to the left frontal area of the brain (Broca Aphasia). Individuals with Boca Aphasia have difficulty speaking and often say items that are abbreviated such as “Want water” (National Aphasia Association: What is Aphasia, 2018)
- Fluent Aphasia (Wernicke Aphasia) is usually caused by injury to the middle or left side of the brain. These individuals often will speak fluently in long sentences which do not make sense to the individual listening (National Aphasia Association: What is Aphasia, 2018)
- Global Aphasia is caused by extensive damage to the brain and individuals with this type often have severe difficulties with speaking and comprehension (National Aphasia Association: What is Aphasia, 2018)
- Aphasia of all types also can impair the ability to read and write (United States Department of Health and Human Services: National Institute on Deafness and Other Communication Disorders, 2017, p.1).
- Decreased upper limb functional capacity is a result, at

times, of all types of Aphasia. It is unknown if this decreased functional capacity is related to communication difficulties or some other source (Branco, Oliveira, Pinheiro, & Ferreira, 2017).

A less frequently characteristic of Aphasia includes the following:

- Difficulties starting to speak, but once the beginning of the sentence has been spoken, no difficulties continuing (United States Department of Health and Human Services: National Institute on Deafness and Other Communication Disorders, 2017, p.1).

It is also possible that an individual with the disorder has problems with written language but has no trouble with spoken language. These types of problems may be difficult to diagnose in a young child who is only learning to read and write (United States Department of Health and Human Services: National Institute on Deafness and Other Communication Disorders, 2017).

The prognosis for individuals with Aphasia is much better in young children than in adults. At this early age, the brain has not specialized. An adult developed brain has specialized areas that take care of specific functions. The brain of a young child that is in the beginning grades of elementary school, is much more flexible. Essentially, if one area of the brain gets damaged, another area can often “take over” tasks performed by the other area prior to the accident (Cheour, 2017).

In terms of prevalence, anyone can acquire Aphasia including young children. About one million people in the United States currently have aphasia, and nearly 180,000 Americans acquire it each year, according to the National Aphasia Association. (United States Department of Health and Human Services: National Institute on Deafness and Other Communication Disorders, 2017).

Benefits of the Recess Setting for Students with Aphasia

Recess is basically a planned, supervised activity allowing time for active, free play. The main benefits from recess are social benefits. Included in these benefits are both physical, social and emotional benefits (Praxis Physical Education: Practice and Study Guide: Benefits of Recess for Elementary School Children, 2015). Also, it is important to note that on days when students participate in recess, increased out-of-school activity levels is evident (Dale, Corbin, & Dale, 2000).

Recess Modifications for Children with Aphasia

Recess can have a positive or negative affect on students with Aphasia, as it can on any student. This is especially true because of the social and emotional impacts of the recess setting.

Communication with peers and the teachers is an item in which modifications can have a positive impact on the student with Aphasia. In order to communicate with the student and more importantly to foster positive communication between this student and peers, and address safety concerns, the following strategies should be put in place. It is by no surprise that these are strategies that would be noted as simply being “good teaching”.

The following items were adapted from the National Aphasia Association: Communication Tips (2018).

1. Teachers should confirm that they have the student with Aphasia’s attention before giving specific directions – especially those related to safety considerations because of the need for these directions to be understood. Safety considerations of recess are often different than in the classroom, and thus need specific directions.
2. Teachers should minimize or eliminate background noise. A teacher may want to set up alternate activities during recess – a “quieter” option such as a station throwing a ball, as a more conventional game/activity – that probably is louder – is being played by some other students.
3. Teachers should speak at a typical level, unless the person has indicated otherwise. Teachers should institute methods for gaining the attention of the class at recess that are not simply raising their voice. A teacher can raise his/her hand, and when students see this, they can stop their activity and also raise their hand. In a few seconds virtually all students hopefully will be raising their hands and be ready to listen.
4. Teachers should encourage students to speak at such a level (no mention as to this being a modification for the one student as this would be divulging confidential medical information to other children) at a level for which they would “want to be spoken”.
5. Teachers should emphasize key words when giving directions in terms of where and what is OK to play at recess.
6. Teachers should give the student – and all students - time to speak. Teachers should resist the urge to finish sentences or offer words. Teachers should encourage all students to do this when listening.
7. Teachers should, if needed, communicate with drawings, gestures, writing and facial expressions in addition to speech during recess. This would be beneficial for many students.
8. Teachers should confirm that they are communicating successfully with “yes” and “no” questions.
9. Teacher should praise all attempts to speak and downplay any errors. Students with aphasia, like all students, should be given positive feedback. This is very important as students practice motor skills at recess.
10. Teachers should encourage independence of the student, and all students, and avoid being overprotective. In the recess setting this can be especially difficult to do because of the nature of play.

In addition to a focus on communication strategies, teachers may also need to modify activities utilizing upper extremities due to the previously mentioned common Aphasia characteristic of decreased upper limb functional capacity. Again, it is unknown if this decreased functional capacity is related to communication difficulties or some other source (Branco, Oliveira, Pinheiro, & Ferreira, 2017). In order to address this characteristic, teachers should stress the importance, and monitor the execution of upper extremity movements and movement patterns.

Conclusion

Many children with Aphasia are in schools today. The benefits to children, including children with disabilities, of active participation in recess, are noteworthy. It is very possible that any teacher will have the opportunity to work with a student who has Aphasia. This paper has addressed characteristics of children with the disorder and effective practices for working with children with Aphasia Syndrome, specifically in the recess setting.

Disclaimer: This manuscript is for informational purposes only. The information provided is not intended to be a substitute for professional medical advice, diagnosis, or treatment.

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