

Educating Through the Physical – Rationale

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Abstract

Social competence is essential for successful performance in school and life. Siedentop (1980) suggested that physical education settings and related activities may serve as useful vehicles for improving pro-social skills and values. Physical education literature draws a clear distinction between educating *about*, *in*, and *through* movement (Arnold, 1988, 1999). Despite a notable proliferation of pro-social programs in physical education curricula, a clear rationale for teaching pro-social skills through physical education was yet to be provided. This paper presents a rationale for why educating for pro-social skills through physical education-related activities and offers examples to aid teachers and clinicians in tailoring their environments towards the acquisition of pro-social skills.

KEY WORDS: Physical education, physical activity, pro-social skills, pro-social behavior

Educating through the physical is one dimension of a three-dimensional model which draws a clear distinction between educating *about*, *in*, and *through* movement (Arnold, 1988, 1999). Movement is the primary subject matter of the first two dimensions. In the third dimension, the movement is considered as a vehicle for promoting educational objectives that are external to those of the movement (e.g., moral development, pro-social skills). Educating through the physical (Siedentop, 1980), has been continuously discussed in recent decades as an important added value to, as well as one component of physical education. Nevertheless, the rationale for teaching pro-social skills through physical education has been a sidebar to proposed socially-oriented physical education instructional programs and curricula (e.g., Sharpe & Crider, 1996; Siedentop, Hastie,

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& van der Mars, 2004; Solomon, 1997). Such rationale for educating through the physical has yet to be provided formally (Nichols, 1997; Ward & Barrett, 2002) and is a primary focus of this paper.

Recent discussions regarding physical education national curriculum call for enhancing social and moral development through the physical. For instance, the American National Association for Sport and Physical Education (NASPE, 2004) determined that a physically educated person should demonstrate responsible personal and social behavior and respect for others and self in physical activity settings (i.e., standard 5), and should value the physical activity for health and social interactions. Two of the six NASPE standards address inter- and intra-personal relations, framed within a physical activity setting, with an option of influencing the individual's life outside of school. A physical education program that addresses these objectives as well as others is considered by NASPE (2004) to be a quality program.

Following the establishment of the NASPE standards, physical education curricula were aligned instructionally to meet the stated goals. Three pivotal examples of such curricula that have targeted the acquisition of pro-social skills are sport education (Siedentop et al., 2004), cooperative learning (i.e., Dyson, 2001), and the teaching personal and social responsibility through physical activity (Hellison, 2003).

The importance of educating through the physical is further emphasized in light of the Individuals with Disabilities Education Act (IDEA, 1999). IDEA promotes inclusive education for students with disabilities by making physical education available to all students. Thus physical education has become an inclusive setting. This inclusive movement, however, has been accompanied by teacher reports of more diverse student behaviors and higher rates of inappropriate behaviors (Allsopp, Santos, & Linn, 2000; Patrick, Ward, & Crouch, 1998). Such reports suggest that some physical education teachers may lack the competencies to accommodate behavioral changes brought on by inclusive education.

The strong movement advocating for pro-social education as described above has prompted a notable proliferation of pro-social foci in physical education. There are some indications, for example, that contemporary physical education programs may promote the development of pro-social behaviors such as (a) getting along and respecting others (Morford, 1997; Sharpe & Crider, 1996), (b) communicating effectively (Gounds, Dermitzaki, Leondari, & Danish, 2006), (c) offering encouragement, showing appreciation, and compromising (Morford, 1997), (d) playing fair (Solomon, 1997; Vidoni & Ward, 2006), (e) conflict resolution (Morford, 1997; Sharpe & Crider 1996), and (f)

classroom cooperation (Eldar, Hirschmann, & Elran, 2008).

Given the continuous rise of social focus in physical education settings, this paper targets the question 'why educating through the physical'. 'The physical' is used to describe any preplanned sport activity or game designed specifically for demonstrating and teaching pro-social behaviors. Such activities are typically presented within the physical education school curriculum or in extracurricular programs and therefore will be called physical education-related activities. The term pro-social behavior will be used to describe any voluntary behavior intended to benefit another, such as helping, sharing, and comforting others (Siegler, DeLoache, & Eisenberg, 2006).

The purpose of the current paper, therefore, is to provide a coherent rationale for teaching and enhancing pro-social behaviors of students at various age groups and needs, through physical education-related activities. As such, the paper will be limited to: (a) a discussion of the characteristics of physical education-related activities that promote and support teaching pro-social behaviors, and (b) the provision of corresponding authentic examples. Two other complementary and essential pieces of information about educating through the physical were published elsewhere. The first article offered a clear theoretical framework and included behavioral interpretation for processes and change-promoting strategies within the physical education context (Eldar, 2008). The second article provided a detailed discussion of procedures, implementation guidelines, and recommended practices for teachers and clinicians interested in adopting the 'educating through the physical' concept and its related strategy (Eldar, 2006).

Why in the Context of Physical Education?

Physical education-related activities include a range of highly institutionalized games that involve rules, histories and records, and that take place in an organized manner (Siedentop, 2004). The setting in which these activities take place has merit as a context for pro-social behaviors' acquisition and change, rather than a cause for change. In other words, merely participating in physical education-related activities will not automatically result in the desired behavior change (Eldar, 2008; Hellison, 2003; Ward & Aывazo, 2006). For such change to occur, the activity should be well planned and organized (Hellison, 2003), and the target behavior or value should be directly taught.

What follows are the typical characteristics of physical education-related activities that increase its value and merit as a context for the desired pro-social change: (a) A favored context that increases students' motivation to participate; (b) Context and content adaptability that allows the acquisition of pro-social skills; (c) A discrete

and repetitive activity that enables programming of improvement and correction; (d) Rules and routines that promote the development of self-regulation; (e) Visible performance that facilitates comprehension, its assessment and imitation; (f) Measurable products that encourage progress and self-management; (g) Integrated frustrating situations that promote the development of self-control; and (h) Programmed exposure to competitive situations, that prepares students for real life.

A Favored Context - Increases Students' Motivation to Participate

Physical education-related activities (i.e., movement, physical activity, play, and sport) constitute an integral part of the natural daily activity of children (Gallahue, 1989) and of our culture (Siedentop, 2004; Siedentop et al., 2004). Sport's magnitude almost resembles a religious belief in its importance for both children and adults as indicated by the overwhelming number of spectators of sporting events that have become a national and even a worldwide celebration (e.g., the American Super Bowl and the World Cup; Siedentop, 2004). Children learn about the world and their surrounding environment through play and sport. They learn about wins and losses, achievements and frustrations, goal-setting and decision-making. They learn to abide by rules and to confine to organized practice individually or in cooperation with others.

Studies show children acquire positive attitudes towards physical education due to the enjoyment inherent in the activity (Kalyvas & Reid, 2003; Rikard & Banville, 2006). They believe physical education related-activities promote the development of appropriate social skills (McKenzie, Alcaraz, & Sallies, 1994; Tannehill & Zakrajsek, 1993) and allow for socialization with friends (Cothran & Ennis, 1998). Students also report that physical education-related activities keep them challenged (Kalyvas & Reid, 2003), fit, healthy, and result in 'feeling good' (Flintoff & Scraton, 2001), better self-esteem, and increased energy (Flintoff & Scraton, 2001). For others, such activities occasionally serve as a welcomed break from classroom academic demands (Cothran & Ennis, 1998; Flintoff & Scraton, 2001).

The preceding discussion suggests that physical education-related activities serve as a favorable context for developing pro-social skills because of its *inviting nature* that (a) serves as motivating operations (Eldar, 2008; Michael, 2000) and (b) increases the likelihood that low frequency behaviors such as respecting others will be acquired. In basketball, for example, students can initiate an attempt to score only when their peers have completed their tries and returned to their post. In this case self-control is practiced within an overall motivating context as an inevitable ingredient of the game.

Context and Content Adaptability – Allows the Acquisition of Pro-social Skills

Children engage in physical education-related activities for fun while adhering to the games' rules. The activities are usually structured, limited in time, and have prescribed boundaries and predictable outcomes (Morris & Stiehl, 1999). Children are also quite imaginative when playing games. They adapt the activity to their needs, level and interest without impinging on the activities' pleasure or authenticity (Hastie & Siedentop, 2006; Morris & Stiehl, 1999). In alignment with effective instruction literature (i.e., Shulman, 1987), we suggest that if students can modify activities to fit their needs and abilities without lessening the pleasure then so can teachers.

Adaptations of learning activities (i.e., games) in the favorable physical education context were recognized to produce valuable cognitive, affective, physical and social outcomes and were therefore pivotal. Morris and Stiehl (1999), for instance, designed a model for systematically altering children's games to produce a desired educational outcome such as the acquisition and enhancement of physical and pro-social skills, physical fitness and cognitive ability, attitudes, values, and sense of self-worth.

An example of a modified activity is the non-dribbling game designed to promote cooperative and team play behaviors. Teachers can program a modified game in which dribbling is eliminated. This modified activity enforces 'heads up' play and increases the opportunities for passing the ball to other teammates thus enhancing team play behaviors.

A Discrete and Repetitive Activity - Enables Programming of Improvement and Correction

Physical education-related activities are typically discrete and have definite beginning and ending. The activities are confined by a clear time frame, governed by rules, and executed via the use of routines (Morris & Stiehl, 1999; Siedentop, 2004; Siedentop et al., 2004). These activities often allow and most often involve repetitive performance (e.g., running). The repetitions require students to constantly generate movement plans or task solutions, which lead to enhanced psychomotor learning (Schmidt & Wrisberg, 2004). The multiple repetitions can similarly spur the learning of pro-social skills as well. Importantly, physical education-related activities are often exciting, making the repetitive performance enjoyable rather than boring.

Method textbooks in physical education (e.g., Nichols, 1997) recommend short intervals (i.e., 5-7 minutes) for teaching a skill. Correspondingly, teachers should present pro-social skills through a series

of repetitive activities presented in short-game intervals. These intervals, carefully planned based on knowledge of the students and their abilities, should introduce both minor successes and failures within an exciting game. The successes increase the students' motivation for accomplishing the educational goal. The encounter with minor failures enhances the students' perseverance as they attempt to overcome each failure on the ensuing learning episode.

The short-game intervals also allow teachers to provide feedback and to check for student understanding in subsequent activities. When taught systematically, students will come to know that the activities are discrete and time based. Thus even if the goal was not achieved within the fixed number of repetitions and time frame, there will be additional opportunities for success during the following learning episode. A short-game interval example follows.

The 'Are you Square' game (Eldar, Morris, Da Costa, & Wolf, 2006), for instance, was developed for teaching and practicing self-control. In this game participants are required to repeatedly carry objects from one station to another within a limited time frame (i.e., 1 minute). The activity is discrete and is accompanied by specific rules stressing the display of self-control during the strenuous activity. The game is played several times, allowing the students to experience repetitions that are required for correction and improvement of self-control.

Rules and Routines - Promotes the Development of Self-Regulation

Physical education-related activities are governed by rules which regulate the games, ensure fair play, produce a winner, and minimize injuries (Morris & Stiehl, 1999; Siedentop, 2004). The rules are often arbitrary (e.g., why two serves in tennis?), however, they promote fluency and make the activity playful (Siedentop, 2004). Rule breaking in these activities typically entails immediate consequences. For example, a foul in team handball may lead to a 2-minute suspension for the player committing the foul. The activity rules are seldom negotiated or contradicted, and students tend to adhere to them, possibly because rule-breaking may prevent further access to the enjoyable game. In addition, it is common to observe children and players regulating their own physical education-related activity when unsupervised officially by a referee, coach, or a teacher. In other words, physical education related-activities can promote self-regulation.

Self-regulation can be generalized into other settings that do not necessarily involve physical education-related activity. For instance, an entrance into the gym routine can be generalized and adapted to the classroom setting. A warm-up routine in physical education may

take the form of reading preparatory materials in the classroom at the beginning of a class period. Independently conducting such preparatory routines can be generalized further to the home setting (e.g., setting up the table for a family dinner).

Visible Performance - Facilitates Comprehension, Its Assessment and Imitation

Performance of physical education-related activities is visible. Students' understanding or misunderstanding of the activity is evident in their performance. For example, when students learn the tactic of attacking the goal in soccer, they should be demonstrating shooting, which indicates their understanding of the tactic. Their performance can be observed, documented and assessed. Similarly, teachers can observe and assess students' pro-social behaviors exhibited during the activity. Based on their observation, teachers (or even peers) can immediately provide congruent positive or corrective feedback to enhance the learning progress (Knudson & Morrison, 2002; Schmidt & Wrisberg, 2004). The prompt discrimination of difficulties and the opportunity to provide immediate feedback can potentially prevent redundant repetition of errors that may support the internalization of these errors.

Furthermore, the apparent performance in physical education-related activities allows the teacher to scan the class and to assess the comprehension of many students at the same time. Such instant information about the students' understanding and progress is not readily available in learning activities of other disciplines (e.g., silent reading), where students' performance cannot always be observed immediately. Assessment then becomes challenging, and even more so is the assessment of the entire class.

Lastly, the visibility of performance in physical education related-activities is salient as it enables imitation between peers. Learning is facilitated and enhanced through imitation (Cooper, Heron, & Heward, 2007). Peers, guided by the teacher, can model the behavior, cue, and prompt their counterparts (Ward & Ayvazo, 2006) to perform. Modeling could be of psychomotor skill (e.g., underhand toss) or a pro-social skill (e.g., shake hands at the end of a match, regardless of the score).

Measurable Products - Encourages Progress and Self-Management

Physical education-related activities result in clear measurable products such as jumping distance, running speed, game scores and performance quality. Unlike other academic disciplines, the measurement of performance in physical education-related activities

represents a natural and integral aspect of the activity and is therefore accepted tolerantly by participants.

The measurable product entails several advantages: (a) It provides learners with extrinsic information regarding their performance and is therefore vital for the learning progress (Schmidt & Wrisberg, 2004); (b) It serves as reference for teachers when providing corrective feedback; (c) If publically posted, it can improve students' performance (Smith & Ward, 2006) and participation (Ward & Ayvazo, 2006) in physical education, and reduce problem behaviors (Staub, 1990). In other words, the measurable product allows students to independently generate feedback regarding progress or delays in their physical or social performance. Furthermore, teaching students to act on such feedback will result in the development of self-management skills (Eldar, 2008). Self-management is evident when students assume responsibility for their own learning and are capable of applying consequences for their own performance (Cooper et al. 2007). Such self-management programs, for example, had been successfully implemented in a special education school. Students measured their physical fitness tests' outcomes periodically, graphed the data, and made decisions regarding their progress in the program based on the displayed data (Eldar, 2007).

Integrated Frustrating Situations - Promote the Development of Self-Control

Similar to natural everyday settings, physical education-related activities often generate frustrating situations in which an expected positive consequence fails to follow (Eldar, 2008). For example, think of the runner who lost the lead in the last second of the rally, or the soccer player who missed an easy shot. These frustrating situations often evoke aggressive and inappropriate behaviors (Berkowitz, 1989; Dill & Anderson, 1995). Their prevalent presence in the physical education-related activities allow for the development of self-control and effective management of exasperating situations.

The encounter with provoking situations during a physical education-related activity can occur naturally or can be preplanned and programmed. For instance, the teacher can incorporate a 1-minute game interval during which fouls are not called for one team but only for the other. It is likely that the frustration levels will increase among the team against which fouls are called. Conditions for teaching self-control have been established in this scenario, yet are presented within an enjoyable, contrived and thus 'protected' game context. The teacher would provide feedback and instruction regarding appropriate responding in the dissatisfying situation. In result, students learn

how to successfully address frustration (Rolider & Axelrod, 2000) and thus may become more socially competent in various settings (e.g., general education, natural settings) when experiencing frustration.

Programmed Exposure to Competitive Situations - Preparation for Real Life

Contemporary society is highly competitive as evidenced by its many social and professional systems. There are educators who claim that it is the education system's role to prepare youngsters for a competitive culture (e.g., Siedentop et al., 2004), while others suggest that educators and parents should minimize situations and games where competition is conspicuous, and emphasize cooperative activities instead (e.g., Kohn, 1992).

Competition is a fundamental characteristic of physical education-related activities (Siedentop et al., 2004). Despite the ongoing debate over the role of competition in physical education-related activities, children and youth like the action and challenge inherited in it. They like scoring, they get excited from evenly matched games, and they also use these activities to form friends and new relations (Siedentop et al., 2004). Provided that competition is framed, organized and conducted appropriately, it would entail great educational value and would result in students' empowerment (Siedentop et al., 2004; Zeidler & Kirch, 1999). Well-designed competition, therefore, may nurture healthy physical, emotional, and psychological growth (Siedentop et al., 2004; Zeidler & Kirch, 1999) and enhance the social learning of values (e.g., accepting wins and losses, respecting others, encouragement, equanimity, and coping with exasperating situations).

Furthermore, competition stimulates emotional responses from participants. For some, competition is associated with tension, anxiety and feelings of revenge, anger and frustrations. For others, it stimulates excitement, thrill, great pleasure and sense of belonging, satisfaction and self-confidence. The advantage of physical education-related activities resides in its ability to foster these emotional attributes, unlike other disciplines in which such emotions can be aroused to a lesser extent, if at all.

Once a competition is conducted, the teacher should make pedagogical adaptations aimed at teaching how to best respond to the emotional situation. For instance, the teacher can program exposure of students to dismaying emotional situations such as a higher defeat probability due to a pre-planned manipulated referee's call. The teacher would then instruct students how to self-control and to execute appropriate behaviors such as encouraging their opponent, despite the disappointing consequences and the negative-emotion arousing conditions (e.g., Eldar et al., 2006).

Implementation

The rationale portrayed here may be implemented in a variety of settings that involve physical education-related activities. While maintaining the physical practices, social educational goals such as teaching self control, respecting others, and cooperating with peers, may be embedded into the yearly curriculum and taught more explicitly in daily lessons as scripts (Eldar, 2006). Scripts are short teaching-segments (approximately 5 minutes) that are included in a lesson, which is part of a comprehensive unit plan.

The following guidelines are recommended when implementing educating through the physical (Eldar, 2008):

1. The level of learning activities matches students' abilities so that high success rates can be maintained, followed by emotional positive excitement.
2. Learning episodes are short and discrete so that students are provided with ample opportunities to encounter success, and with rapid chances to correct minor failures.
3. Students are provided with immediate specific feedback regarding their achievement of educational goals.
4. Teachers immediately encourage gradual approximations to a desired pro-social behavior. Sensitivity to minor improvement and change is critical.
5. Effective demonstrations of appropriate behavior by both teachers and students are continuously displayed.
6. Rules and routines are explicitly stated; their importance is explained and students take part in selecting and enforcing them.
7. The teacher continuously connects the activities, scenarios, rules and routines to everyday situations through verbal explanations and role-modeling.
8. Periodical assessment of students' learning is conducted.
9. Students are gradually exposed to emotionally stressing situations, and are well prepared to deal with them in a socially-appropriate manner.
10. Frustration levels and triggers for inappropriate behaviors are continuously monitored and evaluated.
11. Students are taught to self-identify their own emotional reactions to various situations. They also learn how to monitor their performance and progress, and use it as a motivational tool.
12. High frequency (favored) tasks should be introduced prior to more difficult ones. Every lesson should culminate with tasks that ensure high success rates.

Table 1
Features of the rationale for education through the physical

Feature	Contribution	Example	Generalization
Favored context	Increases motivation	Choosing to play soccer during a break from academic activity	Willingness to complete chores and undesirable tasks contingent upon access to physical activity
Context and content adaptability	Allows acquisition of pro-social skills	No dribbling games which increases cooperation between team players	Preparing a collaborative classroom project – students help each other
Discrete and repetitive activity	Enables programming of improvement and correction	Multiple tries to improve the long jump score	‘Make-up’ exam – try to improve your test score
Rules and routines	Promotes self-regulation	Adhering to games’ rules	Adhering to life rules at home and in public
Visible performance	Facilitates comprehension, its assessment and imitation	Imitation of the skill of shooting	Imitation of the skill of encouraging others
Measurable products	Encourages progress and self-management	Counting a game score; measuring a long jump	Saving money for a certain goal
Integrated frustrating situations	Promote the development of self-control	Opponent has an advantage in the game	A sibling is more successful in school
Programmed exposure to competitive situations	Prepares students for real life	Ball game, tag game – competing against others	Interviewing for a competitive job position

Summary and Recommendations

Table 1 summarizes the features explaining the rationale for educating through the physical. The table provides examples for programmed implementation and for generalizing the skills taught in the context of physical education-related activities to other settings.

The empirical evidence-base that supports the suggestion that physical education-related activities can be used to develop pro-social behavior is scarce to-date. A recent attempt to teach pro-social skills in a physical education context and subsequently to promote classroom behavior change, however, did show positive results (Eldar et al., 2008). The study employed a multiple baseline design across participants. Three highly disruptive students (10-12 years old) from three different classes in a special education school participated in a series of physical education sessions designed to improve their classroom performance. Results indicated improvement in the behavior of all participants during the individual physical education intervention as well as during academic learning. Furthermore, the learning climate improved in the three classes, affecting other students and enhancing their teachers' satisfaction.

The desired behavior change in this study generalized from the physical education context to the classroom due to specific strategies, based on Baer's and Stokes (1977) assertion that what is learned in a specific context does not automatically generalize to others. Therefore, we suggest that careful programming should accompany any physical education related-activities curriculum designed to produce behavior change and effective outcomes in other settings as well. Strategies for promoting such generality of behavior change are well documented in the literature (e.g., Baer & Stokes, 1997) as well as suggestions for adapting such strategies while educating through the physical (e.g., Eldar, 2008).

As mentioned before, the literature supporting the acquisition of pro-social skills through physical education-related activities is limited. The few studies conducted (e.g., Eldar et al., 2008) are of micro-scale nature and replications are still absent. Therefore generalization is limited as well. We suggest that the relationship between engagement in physical education-related activities and development of socially desired behaviors has yet to be adequately explored. More intervention-type studies are required, yet we argue that such a research line should be carefully designed and directly related to a coherent rationale (Hellison, 2003; Nichols, 1997; Ward & Barrett, 2002) like the one delineated in this paper. We hope that this paper would allow for a better connection between theory, research, and practice for teachers, clinicians and investigators who are or can be involved in physical activity settings.

While we keenly advocate for educating through the physical, it should be stated clearly that the main goals for most physical education curricula should remain educating about and in movement. A physical educator can teach the content of physical education such as field hockey, discussing and practicing the critical elements of the sport's technique and tactics, while still promoting the achievement of pro-social educational goals (Eldar et al., 2006; Siedentop et al., 2004). The attainment of pro-social goals in this case, is secondary to the attainment of the primary goals residing in the psychomotor domain. In other contexts such as a particular special education program, educating through the physical may become the main core of the curriculum in order to accomplish certain clinical goals such as teaching self-control, respect for others, and self-regulation (Eldar, 2006).

Finally, teachers and clinicians who choose to adhere to educating through the physical should be informed that its implementation entails at least two implications. First, teachers should be *committed* to instilling educational goals into and through their physical education curriculum (Eldar, 2006). They should be willing to allocate sufficient time for the explicit teaching of social skills that may occasionally come at the expense of more implicit teaching of psychomotor skills. Teachers should also be willing to present the content in various ways, which often differ, and are occasionally in contrast to traditional ways of teaching physical education (e.g., elimination of dribbling violates the primary rules of the game and praising cooperative behavior rather than an accurate shot). Second, teachers should acquire specific knowledge and tools for educating through the physical (Eldar, 2006); and should have strong content knowledge and pedagogical content knowledge that are required for adapting the content and the context properly (Chen & Ennis, 1995), for optimal achievement of the educational goals.

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