



Review

Q3 Contextualizing physical literacy in the school environment: The challenges

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Received 1 December 2014; revised 27 February 2015; accepted 1 March 2015

Available online ■ ■ ■

Abstract

The intent of this paper is to conceptualize physical literacy in the school environment within the United States educational system. Evolution of physical literacy from both a general education and disciplinary focus is overviewed. The challenges of transitioning from a *physically educated* to a *physically literate person* as the primary learning outcome of physical education may inhibit progress. Five prioritized recommendations are made to assist teachers in overcoming such barriers: (a) whole of school approach, (b) effective, differentiated pedagogy, (c) integration of technology for individualized tracking of progress, (d) supportive school climate, and (e) alignment of local efforts with national initiatives.

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Keywords: Differentiated instruction; Physical activity; Whole of school approach

1. Introduction

Understanding why some individuals are physically active and others are not involves complex study that includes personal, environmental, and behavioral considerations. Since sedentary behavior has been identified as the fourth leading risk factor for global mortality,¹ promoting physical activity engagement across the lifespan is reasonable. Pursuant of that goal, terminology used to describe bodily movement has been reconceptualized and applied over time. Evolving from formal terms such as *exercise* (planned, structured movement) to the more acceptable term of *physical activity* (a behavior produced by skeletal muscles) that expends energy,² health communications have been reformed. Although such terms have useful parallels, the designations increase our comprehension of human movement and its corresponding benefits through the defined specificity.

Public health messaging is again at a semantical crossroads, with the introduction of *physical literacy* as the desired learning outcome of the National Standards for Physical

Education (American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) now called Society of Health and Physical Educators (SHAPE) America, 2013). Adoption of the concept of physical literacy as the disposition facilitating pursuit of a physically active life,³ did not immediately spark global interest, particularly among scholars from the United States (U.S.). With a nudge from global partners in the European Union and Canada, U.S. scholars have recently embraced the potential of fostering human capability inferred through the application of physical literacy. The present belief is that physical literacy may have broader representation and greater focus on self-sufficiency, thus maximizing student potential beyond the characterization of a “physically educated person”.

The belated acceptance of physical literacy should not come as a surprise since there was a similar trajectory surrounding literacy in general education. Literacy statistics have long been used to identify the educational level of adults. Yet today, illiteracy is a different issue than it was in the early years. Initial research considered extremely fundamental forms of reading and writing as acceptable and classified 20% and 4% of adults as illiterate in 1870 and 1930, respectively.⁴ Despite the reduction in illiteracy to less than 1% of the U.S. born adults, the question remains whether fundamental

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Peer review under responsibility of Shanghai University of Sport.

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literacy represents an adequate level of functionality in the modern world. It was not until the late 1990s when researchers and educators alike, finally acknowledged the complexity of literacy, as not just the ability to read and write, but also as a means to improve one's knowledge of a subject matter (e.g., financial literacy, emotional literacy, physical literacy).

Presently, literacy and its many forms represent prioritized learning outcomes and are monitored through high stakes accountability assessment. Given the emergence and application of the term "literacy" to academic disciplines, further discussions regarding the challenges faced by educators is both timely and warranted. The primary purpose of this review is to outline the evolution of literacy among educational settings in the U.S. In addition, the authors will elaborate on how global advancement is challenging teachers who are attempting to transition their physical education (PE) and physical activity programs toward the desired learning outcome of physical literacy.

2. Education and literacy

Until recently, the term literacy was associated with teaching children to read, whereby any potential added value of cross-curricular learning was not measured. Beginning in 1879 the field of education placed an emphasis on developing readability in children through rote memorization and oral interpretation of simple sound patterns.⁵ In response to this trend, McGuffey readers were developed to control student-learning experiences by establishing graded reading levels. Yet McGuffey readers went on to spark debate and curiosity about readability tactics and comprehension.⁶ Chall et al.⁷ concluded that such reading tools were developmentally inappropriate and the vocabulary was often too challenging for their readers, at a given level of difficulty. Although this research confirmed the saliency of challenging and motivating student learning, further investigation into pedagogical approaches to replace ineffective teaching practices such as use of rote memorization and oral interpretation was warranted. Over the course of the next several generations, reading curricula and our understanding of how children learn to read evolved with the emergence of new educational jargon and instructional strategies.

Curricular advancements called for more standards driven^{8,9} objective approaches¹⁰ and most recently the adoption of the common core.¹¹ Further, assessments were transformed from a benchmark and growth trackers¹² to high stakes accountability measures,^{13,14} where school funding and effectiveness classifications were directly linked to student performance on standardized testing. Although the aim of adopting standards and high stakes testing was to ensure student success, research suggests that no single educational instructional approach has led to superior achievement in language arts education.¹⁵

In general, the progression of language arts education continues to be a representative cycle that repeatedly returns to a "back to basics" focus. For example, phonics, the breaking down of words into sounds and syllables, dates back to the

early 1900s and is still a widely known and respected instructional technique.⁵ Additionally, one of the most distinguished and highly regarded practices is the "whole language approach", which came into practice in 1972 and is still known as the most significant movement in reading curricula.¹⁶ Separate from the trends surrounding instructional practice, research indicated that student literacy was rooted in metacognitive, conceptual, and content knowledge.¹⁷ New awareness of literacy's depth would later prompt curriculum reform aimed at integrating these knowledge components to enhance comprehension, vocabulary, decoding, and fluency skills.¹⁵ By the turn of the century, the inclusion of literacy had both political and national initiatives and had become the focal point of standards-based achievement.¹⁸

In sum, literacy is multi-faceted and therefore requires intentional and evidenced-based pedagogical strategies to obtain successful results.¹⁹ The learnings from empirical research in language arts has relevance to other academic disciplines attempting to achieve student literacy. One such example is the approach, which focused on enhancing literacy by immersing children in print rich environments.²⁰ The idea was to blanket the learning environment with opportunities for children to refine their literacy skills by covering the classroom walls with relevant vocabulary words, creating classroom libraries, adding computers, and establishing writing centers. In the case of physical literacy, the print would be related to health and PE content. Yet, upon further examination, improvement of student literacy actually required more than just creating a print rich environment.²¹

Another evidenced-based approach, engagement within the learning environment, was considered best practice because it helped children give meaning to their experiences and translate them into real-world action.¹⁹ Specifically, play was identified as an essential component of early literacy learning, because of the interactivity within the learning environment.²² Among older children, the incorporation of disciplinary literacy has been encouraged because it challenges children to utilize their content knowledge, assume a role of expertise, and solve problems.²³ Uniquely positioned, disciplinary literacy does not use literacy as a separate tool to memorize vocabulary or learn to read, but rather as an essential component embedded within each learning task. In the end, literacy is everywhere and is a critical component of all school subject matters. Despite a paucity of research related disciplinary literacy, initial findings have demonstrated positive effects on student achievement.²³ As such, integrating literacy across the curriculum, including physical literacy as a learning outcome of PE, is currently supported.

3. Physical literacy

There are different conceptions of the meaning and purpose of PE in society and academia. However, reform of the National Standards for Physical Education has established "the goal of PE is to develop physically literate individuals who have the knowledge, skills, and confidence to enjoy a lifetime of healthful physical activity".²⁴ The expectation is that a

1 quality PE program, provided by a highly credentialed PE
2 teacher(s) will result in refined motor skills, an awareness of
3 the benefits of physical activity, regular participation in
4 physical activity, attainment of physical fitness, and a value of
5 the importance of a physically active lifestyle.

6 As previously stated, the potential of having every child
7 regularly engage in moderate to vigorous physical activity
8 (MVPA; i.e., children meeting the recommendation of 60 min
9 or more of daily MVPA participation), has major public and
10 personal health benefits. Because of the dose—response, ef-
11 fects of physical activity children who are regularly active reap
12 multiple benefits such as performing better in school and
13 reducing the risk for disease.²⁵ Yet, seemingly lost in trans-
14 lation from “a physically educated person” to “a physically
15 literate person” are the inherent underpinnings upon which
16 physical literacy is grounded, such as individuality, a continual
17 monitoring of progress, self-regulation, agency, and plurality.
18 Specifically, physical literacy is predicated on the notion that
19 each individual will maximize his/her potential and that there
20 is no one set standard for all.

21 In general, there is a disconnect between standards-based
22 education (i.e., achievement of developmentally appropriate
23 criteria at a specified grade level²⁶) and individualization.
24 Because student learning in PE is assessed through learning
25 outcomes that were adoptions or adaptations of the national
26 PE standards, there is a lack of alignment with the application
27 of the physical literacy. Given the *all or none phenomenon* of
28 criterion-based assessment, how can a single standard ever
29 truly represent what is best for all children?

30 Physical literacy is most appropriately quantified through
31 ispative assessment, measuring each individual’s progress
32 against their previously attained results as opposed to their
33 peers’ achievements.²⁷ Ispative assessment is how we track
34 progression during physical training (i.e., how did today’s
35 running time compare against my personal best?). Children are
36 individuals who develop at different rates and therefore
37 requiring all children to meet a given benchmark on a desig-
38 nated date fails to reflect individual student needs.

39 Beyond individuality is the need for self-sufficiency and
40 self-regulation. A physically literate person embodies a
41 physically active lifestyle. Individuals who are physically
42 literate have the knowledge, skills, and attitudes to lead
43 healthy lifestyles, as well as to assist others in acquiring these
44 skills.²⁸ Agency is a critical element within physical literacy,
45 as we are continually faced with healthy/unhealthy decisions.
46 If one elects to not participate in physical activity when
47 offered (i.e., a group provides an opportunity to go hiking, but
48 the child declines to participate), at some point, the individual
49 must facilitate reengagement. In general education, self-
50 regulation has been implicated as the most important compe-
51 tency for Kindergarten readiness,²⁹ which can be enhanced
52 through active play during recess.³⁰

53 If physical literacy is a disposition capitalizing on
54 embodied capability, then motivation, confidence, physical
55 competence, knowledge, and responsibility are interdependent
56 constructs that must be developed.³ Physical literacy’s plu-
57 rality is displayed through the dimensions of mind, body, and

58 psychosocial attributes attesting that physical literacy is not
59 simply one element but is interactive, the embodiment of the
60 physical, mental, and psychosocial aspects of human beings.
61 Philosophically, physical literacy begins to develop in infancy
62 and tracks through childhood, adulthood, and old age. Physical
63 literacy is an ongoing process, not a concept to be mastered, as
64 suggested by educational researchers who have examined lit-
65 eracy as a means to help children learn to read.

66 Some scholars question whether all school-aged children
67 can learn to the point of mastery.³¹ Although educational re-
68 searchers such as Bloom³² and Carroll³³ were supportive of
69 mastery, there are limitations to this conception. First, mastery
70 is immensely difficult to achieve and impractical to assess.³⁴
71 Second, if mastery were possible for all children, then why
72 do some children fail?³¹ Physical literacy, in our opinion, is
73 not about mastery but is instead a continuous work in progress.
74 On the surface, the idea of individual learning and achieve-
75 ment appears to be advantageous. Much like our health, which
76 is dependent on our decision-making and daily actions,
77 physical literacy is a series of decision-making prompts that
78 we must persistently navigate. In an ever-changing world,
79 physical literacy has merit given its adaptability and self-
80 regulation. The question remains how best can we bring
81 about this disposition within a standard-based, benchmark-
82 driven, criterion-referenced educational system in the U.S.?

83 4. Challenges of transitioning to physical literacy in 84 schools

85 In many U.S. schools, PE is a marginalized subject matter,
86 which is plagued by inadequate instructional time, large
87 classes, disproportional student-teacher ratios and often lacks
88 instructional rigor and accountability. Some highly qualified
89 teachers are effective disseminators and have a percentage of
90 children who achieve the national PE standards, having suc-
91 cessfully overcome contextual barriers.^{35,36} Despite the odds
92 of PE being offered for 150 min per week being significantly
93 enhanced by having a state or schools district policy legisla-
94 ting mandated physical activity minutes and/or PE standards,³⁷
95 the scarcity of such state, local, and school policies and
96 compliance make the provision of quality PE challenging.
97 While in general education, achievement gaps, health dispar-
98 ities and inequities inhibit student learning and academic
99 achievement. This section decomposes some of the challenges
100 faced by PE teachers who wish to refocus their programs to
101 physical literacy.

102 5. Relationship and inequities

103 Beyond the impact that the school environment has on
104 literacy development, one must also consider how interper-
105 sonal environments such as the community also influence the
106 development of physical literacy, which is contextually
107 embedded in human relationships and culture. The emergence
108 of physical literacy begins in the home environment, where
109 care providers engage in the process with their infants by
110 influencing their attitudes, speech and experiences. Pre-school,

1 elementary, middle, and high school contexts introduce varied
2 opportunities, classes, teachers, peers, relationships, and medi-
3 umms to facilitate physical literacy growth, while early
4 adulthood and adulthood find the individual making informed
5 decisions concerning their health, interactions and purposeful
6 physical pursuits as the journey through life.

9 5.1. Relationships

10 If physical literacy is the goal, then relationships (i.e.,
11 student to teacher, peer to peer, content, connectedness, ex-
12 periences), pedagogy within schools (i.e., creating opportu-
13 nities, differentiation, assessments), physical competencies
14 (i.e., fundamental skills, knowledge, sports, games, ability to
15 read/interact with the environment), problem solving (i.e.,
16 strategies, adaptations, complex skills, reflections, decision
17 making), self-confidence (i.e., identity, motivation), and
18 outside of school (i.e., opportunities, motivation, connections)
19 provide the framework for overcoming challenges and
20 achieving success. Relationships are critical for the advance-
21 ment of physical literacy, as children need to feel safe,
22 accepted, engaged. When this relational environment is pre-
23 sent, autonomy is fostered from supportive interactions.^{38,39}
24 Humans create their individual being through interactions
25 with people and environments and these experiences build
26 upon prior knowledge that will foster their connectedness.
27 From this perspective, PE is an ideal environment to providing
28 opportunities for human interactions that foster physical lit-
29 eracy, through fair play affiliation, and cooperative learning
30 activities.

35 5.2. Inequities

36 With regard to school culture, Davis⁴⁰ found that children
37 largely learn from their immediate contexts. A community
38 either affords or deprives a child supportive relationships and
39 resources. Darling-Hammond⁴¹ suggested that children from
40 impoverished communities have vastly different learnings than
41 children from affluent communities, due to a lack of access to
42 adequate facilities, curriculum, and teachers. Broadly
43 speaking, children of diverse backgrounds and lower socio-
44 economic status are at increased risk of not having the level of
45 subject matter literacy necessary for the workforce. To over-
46 come such disparities it is imperative that children are given
47 the chance to flourish in positive classroom environments
48 where they actively engage in experiments, discussions,
49 reading and writing activities.⁴² In PE, this would mean highly
50 engaging, developmentally appropriate, and relevant, contex-
51 tually based lessons.

58 6. Variety of instructional practices

59 Physical, cognitive, and affective domains operate in con-
60 cert with one another, orchestrating the layers of capabilities
61 necessary to develop the whole person.^{43,44} specifically, a
62 child who is physically and cognitively healthy. PE lessons
63 have the capacity to provide opportunities for children to

engage in MVPA to increase their physical fitness⁴⁵ through
social interactions. Research on the potential impact of
improved fitness and exercise on cognitive function⁴⁶ psy-
chological health and learning⁴⁷ confirms the interrelatedness
of these domains and the holistic impact they might have on
children and adults. Yet despite the existence of over 230
studies confirming a positive association between physical
health and academic performance,⁴⁸ no single pedagogical
strategy, utilized within PE, has been implicated as the most
appropriate facilitator of academic success.

One evidenced-based instructional strategy that targets
enhanced literacy among children is the use of differentiated
instruction (DI). As Dixon and colleagues⁴⁹ explain, DI offers
children unique pathways through the learning process that
appropriately tap into their strengths and interests. Further, DI
provides teachers with a framework that requires them to
investigate individual learning needs and track individual
progress over time. Based on the knowledge gained about each
student's interests, motives, and abilities, teachers then can
respond to a range of learning needs by tailoring their lesson
presentation, content, and assessments to the unique needs of
the classroom instead of using a one size fits all approach.⁴⁹
Moreover, DI encourages the use of flexible grouping, a
fluid and temporary way of clustering children, where teachers
inventory or pre-assess children on a single objective and then
group according to strengths and/or interests for the given
lesson. According to Tobin and McInnes,⁵⁰ DI is an optimal
approach to addressing language arts components in the
classroom because it provides children which choices about
what they read and how they convey what they learned. DI is a
way for teachers to offer cognitive apprenticeship for children
enrolled in school.⁵¹ When teacher's model, coach, and scaf-
fold literacy concepts, children become independent scholars
engaged in authentic academic achievement. Although maxi-
mizing the effectiveness of instruction remains a challenge
regardless of subject matter, empirical evidence suggests that
DI may be applicable for physical literacy.

7. Lack of consensus regarding best practice in PE

U.S. scholars have struggled to achieve congruency
regarding the meaning and purpose of PE. Interestingly, the
recommendation for best practice are both disparate and
interdependent (i.e., motor skills cannot be developed without
physical activity participation). Tomporowski and colleagues⁵²
reported that physical activity for American children has re-
flected two views: (a) health-related fitness (i.e. public health
approach) or (b) affective development (i.e., a whole child
approach). While Silverman⁵³ suggested that PE's primary
purpose is for students to develop positive attitudes, motiva-
tion, and efficaciousness towards movement. Rink⁵⁴ has
focused her research on the delivery of quality instruction and
development of motor skills as the foundational purpose of PE.
Achieving the standards should be a minimum requirement
and teachers should extend the learning experiences beyond
those introduced in the curriculum standards.⁵⁵ Which should
also include content and pedagogical knowledge to create a

1 positive learning environment and enable the student to connect
2 to learning.⁵⁶ Without complete convergence and adherence
3 among all teachers, the lack of consensus among PE
4 scholars will continue to challenge teachers.

5 Given the strong link between teacher-led instruction and
6 student performance, it is not surprising that opportunities for
7 educators to engage in professional development (PD) is vital
8 for curriculum development and enhancement in literacy instruction.
9 Teachers need time away from their daily instructional responsibilities
10 to explore common core and emergent pedagogical approaches.
11 Common core PD significantly influences lesson planning and
12 teaching approaches that target literacy as a learning outcome,
13 particularly when the teachers had an awareness of the student
14 prerequisite skills.

15 Another important aspect that PD offers teachers is an
16 opportunity to feel self-efficacious as they implement a new
17 program or use a new strategy. Effective PD has also been
18 implicated as a way to increase teacher efficacy about specific
19 instructional approaches. Many teachers work in isolation and
20 PD provides an opportunity to communicate with other
21 teachers. This is particularly important when teachers are
22 experiencing self-doubt associated with the implementation of
23 new practices.^{57,58} PD offers opportunities for feedback and
24 provides follow-up sessions facilitating increases in teacher
25 self-efficacy.⁵⁹ PD is a simple way to expose teachers to cutting
26 edge pedagogical strategies while providing them time to
27 gain confidence in mastering the instructional strategies that
28 go along with it. For PD to be effective for PE teachers it
29 should be specific to PE learning outcomes, collaborative,
30 continual, and aligned with the daily routine of teachers.⁶⁰

31 8. Addressing the challenges

32 There is no single way for PE teachers to address the
33 challenges that they will face when transitioning from the
34 perspective of a *physically educated* to a *physically literate*
35 *person* as the desirable outcome of quality PE experiences.
36 Based on the existing evidence in both the PE and public
37 health literature, five recommendations have been prioritized:
38 (a) whole-of-school approach, (b) effective, differentiated
39 pedagogy, (c) integration of technology for individualized
40 tracking of progress, (d) supportive school climate, and (e)
41 alignment of efforts with national initiatives. These assertions
42 are founded in the belief that physical literate individuals will
43 maximize their potential for educational success and optimal
44 health.

45 8.1. Whole-of-school approach and comprehensive 46 school physical activity programs (CSPAP)

47 In 2013, the Institute of Medicine⁶¹ report entitled
48 *Educating the Student Body, Taking Physical Activity and*
49 *Physical Education to School* proposed several recommenda-
50 tions to enhance physical activity among children. Central to
51 the committee recommendations was that a whole-of-school
52 approach be implemented as a means to address health issues
53 related to physical inactivity and enhanced academic

54 performance among children. Although, the report did not
55 directly make suggestions about how to enhance physical literacy,
56 the inherent disposition is closely related.

57 One framework that is considered to be a whole-of-school
58 approach is the Comprehensive School Physical Activity
59 Program (CSPAP), which has been implicated as the most
60 likely way to achieve physical literacy.⁴⁸ CSPAP provides
61 opportunities for children to be physically active through five
62 different intervention targets: (a) PE, (b) during school (i.e.,
63 recess, classroom physically active lessons), (c) before and
64 afterschool, (d) staff involvement (i.e., teachers have a chance
65 to participate in a wellness program, teachers promote and
66 provide physical activity opportunities across the school day),
67 and (e) family and community engagement.

68 One misconception is that CSPAP is an atheoretical, non-
69 empirical approach, when in fact, the CSPAP like the coordinated
70 school model which has been around since the 1930s, is grounded
71 in the health-belief model (HBM).⁴⁸ The HBM posits that
72 individuals will take health-related action if someone: (a) understands
73 how physical inactivity is related to disease, (b) believes that
74 there will be a positive outcome if they take action, and (c) thinks
75 that they can be successful, if they take action. Conceptually,
76 PE classes are primed as an ideal place to facilitate healthy
77 behavior change.

78 When CSPAP is in place, physical literacy has the greatest
79 potential to develop given the consistent messaging across the
80 curriculum, the continual opportunities to engage in physical
81 activity, integration of self-regulation strategies, and plurality of
82 the intervention targets. Because CSPAP can be adapted to the
83 context and because they can originate before school, during the
84 school day or after school, implementation of the CSPAP
85 framework should be an early focal point for teachers.⁶²

86 8.2. Effective, differentiated pedagogy

87 Pedagogy, devoted to creating an environment that builds
88 confidence, enthusiasm and a desire to learn facilitates the
89 advancement of physical literacy.⁶³ As such, teachers must use
90 effective, evidenced-based instructional strategies, build a
91 positive class climate, provide lessons that are adaptable to
92 individual needs; however, a comprehensive, school-wide
93 approach has emerged as most appropriate way to address the
94 outlined challenges that face PE teachers.

95 PE lessons should include opportunities to be physically
96 active, investigate, reason, strategize and reflect, as each of these
97 experiences build critical literacy skills.⁶⁴ Cooperative activities
98 help build listening and speaking skills culminating in working
99 together for success. In general, employing a broad range of
100 student-centered and teacher-centered pedagogical approaches
101 leads to varied experiences and allows time for skill practice
102 (including healthy decision-making). Teachers must have an
103 awareness of and be responsive to each student's prerequisite
104 skills. Beginning with the current context permits teachers to
105 support the students on their journey to physical literacy.

106 One additional strategy to engage students in their own
107 learning and apply the concept of maintaining a physically
108 active lifestyle, a portfolio workbook was formulated in an

effort to interject self-assessment, student centered learning experiences and reflection aimed to improve physical activity levels.⁶⁵ Workbooks of this type enable students to log activity participation and perceptions both during and outside the school day stimulating reflection and growth. Physical literacy is a lifelong process that finds adults influenced by the media, home environments, relationships and policies (employer and/or government) as they strive to realize their potential.

8.3. *Integration of technology for tracking student progress*

In addition to the previously outlined approach of differentiation, various technologies could also be implemented to capture students' attention and provide feedback on their skill attainment. Tablets and other electronic devices can be incorporated to facilitate a more student-centered approach to learning and evaluation. The ability to recognize (upon viewing) and implement the appropriate modifications to their fundamental movements increases the likelihood of successful application. These fundamental physical competencies provide the necessary scaffolding for children to access the essential knowledge requisite to develop skills that are more complex and maintain an active lifestyle. Upon understanding why physical activity is good for them, children's motivation and participation become recursive. Once those skills are internalized, children are able to read the environment and assess when to utilize a certain skill.⁶⁶ Critical thinking skills are further enhanced by increasing the opportunities to read diverse environments and self-regulate appropriate choices.

8.4. *Supportive school climate*

Reflecting on past movements in addition to anticipating future initiatives involved with strategy and creativity further advance physical literacy. Self-confidence may be improved by establishing a nurturing environment, which promotes a culture promoting independence and empowerment, connectedness and the collective responsibility to pursue goals established. Children's early experiences of sport and physical activity have implications for their subsequent involvement. It is well documented that helping children develop and sustain a physically active lifestyle helps children to become motivated.⁶⁷

The resulting autonomy from supportive classroom climates facilitates self-determination. Engaging in behaviors deemed relevant to the individuals and surrounding community⁶⁸ helps to actualize the overarching goal of lifelong participation in physical activity. Through this process, the individual's identities begin to emerge and redefine what is possible.

8.5. *Alignment with national initiatives*

Many current initiatives can provide help for teachers. For example, teachers can provide positive physical literacy support via the Presidential Youth Fitness Program, Healthy

Schools, CSPAP, National Physical Activity Plan, Let's Move! Active Schools, vertical teaming K-12 for districts, offering extra-curricular opportunities for students to extend their learning, professional development for teachers or they can maintain negative barriers including inadequate facilities, lack of time allotted per day/week for physical activity, hegemony, location, large class sizes, lack of professional development opportunities and negative classroom experiences.

9. **Implications for PE teachers and child physical literacy**

PE classes in schools are one of the few places that can influence every child's health behaviors. Although there are clear limitations with the immediate application of physical literacy as the primary outcome of PE experiences, in U.S. schools, the benefits likely outweigh the challenges. Implementing CSPAP and effective pedagogical strategies that align with national initiatives is a logical place to start.

Educators have a great opportunity and responsibility to create an environment that will positively impact children throughout their lives. The experience each child has concerning physical activity magnifies over their lifespan, highlighting physical, cognitive and affective domain implications either positively or negatively. If people in and beyond school share their passion for movement and create a community of support, all children and the physical literacy facilitators will be rewarded by the benefits of a physically literate society.

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