

Evidence Energizer: Physical Activity In the Elementary School Setting



ROLE OF HEALTH & PHYSICAL EDUCATION

Quality Health & Physical Education (H&PE) provides an inclusive and supportive learning environment for all students to develop the knowledge and skills necessary to live a healthy, active lifestyle.

Supporting Rationale:

- According to the UNESCO *Quality Physical Education: Guidelines for Policy-Makers*¹, quality physical education is embedded into the school curriculum to provide developmentally appropriate and inclusive physical education learning experiences. Quality physical education serves as a foundation to provide students with the necessary physical, cognitive, emotional and social skills to engage in physical activity and sport across the lifespan.
- The vision of the Ontario H&PE Curriculum (Grades 1-8)² is to provide a learning environment where “the knowledge and skills students acquire in the program will benefit them throughout their lives... by helping them develop physical and health literacy, as well as the comprehension, capacity, and commitment they will need to lead healthy, active lives and promote healthy, active living” (p.6).
- The Ontario H&PE Curriculum supports and encourages an inclusive approach to H&PE, highlighting the need to create a learning environment which is accessible, flexible and supportive for students with varying abilities and provides tailored instruction based on student’s needs. By providing an inclusive and accessible environment, teachers can

reduce the number of students who are exempt from participating in H&PE class and engage students in physical activity to a greater extent.

- Physical education provides students with opportunities to develop fundamental and specialized movement skills and competencies, goal-setting and monitoring strategies and to learn about the rules and objectives of various sport and recreational activities^{3,4}.
- H&PE provides a setting to motivate and empower students which may instill a lifelong sense of awareness, value and enjoyment of physical activity. H&PE classes should be adaptable to foster an inclusive environment where all students, especially those most at risk for physical inactivity (such as girls, certain minority groups and students with disabilities), can learn skills that will facilitate healthy, active lifestyles⁵.

Health and Physical Education should be taught by qualified teachers.

Supporting Rationale:

- Both H&PE specialist and generalist teachers should be trained to deliver quality physical education.
- A few studies conducted before DPA implementation have identified differences between H&PE specialists and generalists. In Alberta, H&PE specialists report being more confident and prepared to teach H&PE, and spent more time devoted to physical education instruction compared to generalists⁶. Among a study of Toronto generalist teachers who teach H&PE, children were not engaged in physical activity daily or for the expected duration⁷. However with the implementation of DPA, generalist teachers have been provided with substantially more resources, training and support related to physical activity. This may have attenuated the differences suggested above.
- Newer evidence has suggested that physical education specialists appear to consistently deliver more effective H&PE programs and provide greater leadership to build a healthy school environment compared to generalists⁸. Yet a study with Ontario elementary school

teachers found no differences in the frequency, duration or intensity (i.e. amount of MVPA) of H&PE lessons between specialist and generalist teachers⁹. Although, it was noted that perceived lack of training appeared to be a greater barrier to teaching H&PE for generalist teachers⁹.

- While there are some suggestions that H&PE classes led by specialists provide students with greater skill development for healthy, active living¹⁰, recent reviews have suggested that both qualified elementary school teachers and H&PE specialists are capable of delivering quality, physical activity initiatives and programs^{11,12}.
- Action Schools! BC saw improvements in student physical activity levels after program implementation, which included the provision of training, resources and support to generalist teachers¹³.
- In 2015, 42% of Canadian elementary schools had a H&PE specialist¹⁴. While this is slightly less than the previous year, where 47% of Canadian elementary schools reported having a H&PE specialist, the number of H&PE specialists have risen substantially (from 30%) in 2004.
- New Brunswick requires all elementary schools to have a PE specialist¹⁵.
- According to the 2015 ParticipACTION Report Card¹⁵, 45% of Ontario elementary schools have a H&PE specialist.
- Geographic region appears to influence access to H&PE specialists, as only 21% of Northern Ontario elementary schools have a H&PE specialist compared to 74% in the Greater Toronto Area¹⁴.
- While H&PE specialists may be desired, there is typically insufficient funding in Canada for all elementary schools to have access to H&PE specialists¹⁴.
- Within the UNESCO *Quality Physical Education: Guidelines for Policy-Makers*, recommendations for building teacher capacity include increasing the number of qualified teachers to address the limited numbers of H&PE specialists available in elementary schools.

Elementary schools should aim to provide students with 150 minutes of H&PE each week.

Supporting Rationale:

- The Canadian Society for Exercise Physiology recommends at minimum of 60 minutes of physical activity every day for children aged 7 - 17 through their Canadian Physical Activity Guidelines and Canadian Sedentary Behaviour Guidelines¹⁶.
- In the United States, the National Association for Sport and Physical Education recommends elementary school children receive a minimum of 150 minutes of quality physical education per week¹⁷.
- In most Canadian provinces and territories, elementary schools are working towards those recommendations by allocating 10% of total instructional time or 100-150 minutes a week to H&PE¹⁸. In Ontario, the curriculum time requirement is 70% of H&PE time on physical activity¹⁸.
- However, elementary schools are still not reaching this objective. In British Columbia, only 25% of elementary schools are meeting this recommendation and a typical school is offering 80 minutes per week of H&PE¹⁹.
- Less than half of Canadian elementary students are provided with at least 150 minutes of H&PE per week²⁰.

Modifications within Health and Physical Education (including teacher-focused, fitness-focused and active skill development strategies) should be made which eliminate barriers to effective H&PE while increasing the amount of moderate to vigorous physical activity that students achieve in H&PE class.

Supporting Rationale:

- Ontario elementary students who participate in at least two H&PE classes per week are more likely to achieve higher physical activity levels²¹.
- Effective strategies to increase physical activity during H&PE class include teacher-focused strategies and fitness strategies²², which provide 24% more active lesson time compared to making no changes to H&PE.
- Successful teacher-focused strategies for improving student physical activity include curricular changes, building teacher capacity through ongoing training and development opportunities related to H&PE and changes in class organization, management or instruction^{11,22,23}.
- One component of the Action Schools! BC model was improving scheduled physical education. Teachers modified the existing curriculum by adding new sports in physical education, and partnered with community sport and recreational organizations to provide H&PE lessons and equipment.
- Ongoing professional development and training opportunities which provide teachers with updated knowledge, resources and support should be a priority.
- Successful PE policies in US elementary schools recommend a minimum of seven hours of annual professional development training for physical education teachers²⁴, access to additional physical education equipment and resources²⁵.
- Fitness strategies commonly referred to as 'fitness infusion', supplement the existing H&PE lesson with high-intensity activity and strength training²². This approach typically reports greater improvement in MVPA levels^{26,27} compared to teacher-focused strategies. However, both strategies have been successful at improving student physical activity levels.
- Recent evidence has also identified the importance and effectiveness of focusing on active skill development to facilitate greater amounts of MVPA in H&PE^{11,17,22,23}. Active learning and instruction provides opportunities for children to develop physical, social and cognitive skills, that can be adapted based on student's abilities^{17,22,23}.
- Teachers feel most prepared and confident to teach sports, and least prepared and confident to teach dance and gymnastics²⁸.

- In Manitoba, classroom teachers have reported barriers to teaching quality H&PE as a lack of knowledge and time to prepare²⁹.
- Ontario teachers have reported various barriers to implementing the H&PE curriculum, including a lower priority for H&PE, lack of performance measures for physical activity and insufficient physical education infrastructure and resources.

¹ United Nations Educational, Scientific and Cultural Organization (UNESCO). (2015). *Quality physical education (QPE): Guidelines for policy-makers*. Paris, France: UNESCO Publishing.

² Ontario Ministry of Education. (2015). *The Ontario Curriculum, Grades 1-8: Health and Physical Education*. Retrieved from

<https://www.edu.gov.on.ca/eng/curriculum/elementary/health1to8.pdf>

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¹¹ Dudley, D., Okely, A., Pearson, P., & Cotton, W. (2011). A systematic review of the effectiveness of physical education and school sport interventions targeting physical activity, movement skills and enjoyment of physical activity. *European Physical Education Review*, 17(3), 353-378. doi: 10.1177/1356336X11416734

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Fundamental movement skill interventions in youth: A systematic review and meta-analysis. *Pediatrics*, 132(5), e1361-1383. doi: 10.1542/peds.2013-1167

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