

Bilaga 1

Physical Literacy Enriched Environmental Design - PLEED

Physical literacy has been adopted by the WHO¹ and numerous governments, organizations and agencies² around the world to combat physical inactivity and sedentary behaviour, as it has been proposed as the “gateway to active participation”³. The application of physical literacy to enhance the quality programming in sport, recreation and education sectors is clear⁶, however physical literacy also has a unique role for designs of places including playgrounds, parks, indoor and outdoor facilities, as well as urban design.

THE PHYSICAL LITERACY ENGINE

Physical literacy has also been described as a process⁴, which requires the construction of positive challenges for all members of society. In this way, fun (feeling during the activity) and enjoyment (reflecting back on the activity) are essential elements of active participation that need to be intentionally design, and not by chance. Further, connection to people, groups, places, or object also need to be intentionally designed into the programming and places to maximize the opportunity to established relatedness, which is well known to drive motivation. Connections of all forms need to be considered. It is not solely about developing friendships.

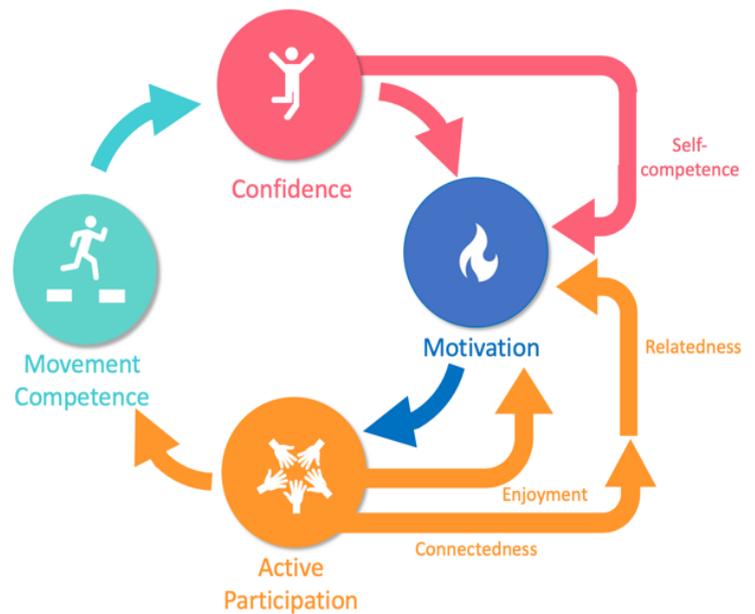


Figure 1. The physical literacy engine including the core positive feedback cycle of competence-> confidence ->

CONSTRUCTING POSITIVE CHALLENGES

This physical literacy engine illuminates a number of design considerations that are distinct of traditional physical activity approaches⁵. A key notion within physical literacy enriched design is that of *construction of positive challenges*⁶, where we view the environment as space that offers all individuals a challenge suited to their abilities and interests. This hinges

¹ WHO, Global strategies

² E.g. Sveriges riksidrottsförbund, Sport Canada, USA and Sweden Hockey organisations, Shape America, Let's get moving Canada and Canadian public health agency

³ CAIRNEY et al 2019 PL to PA to Health

⁴ IPLA, Sport Australia, SHAPE

⁵ IPEN project, and others

⁶ Jeffries et al 2019 Resilience paper

on “optimal challenge theory” which states that a challenge that is too easy will be discarded, and a challenge too difficult will be abandoned or not entered, and an optimal challenge will engage a participant into a competency progression. In design, this means our local community environments, whether indoor or out, have opportunities with appropriate challenge levels for all.

The first two guiding principles of PLEED are;

- 1) **a level of challenge for all levels of ability,** and
- 2) **a type of challenge for all interests.**

As an example, commuter bicycle paths without the construction of systems for all forms of cycling (mountain, fat, gravel, kick, three and four wheel, BMX, and road) or even other active transport methods (running, walking, skateboard, xcountry skis, etc) would not be inclusive by design. This would violate principles 1 and 2.

Interestingly, for people that use wheelchairs for mobility, it is common to provide a level asphalt surface for commuter transport but if the participant wished to participate in three-wheel mountain biking, this commuter path would be insufficient as a positive challenge for their inclusion in recreational pursuits. So, the creation of trails that meet the levels of challenges for two-wheel mountain bikes and 3 or 4 wheels must also be considered for universal design.

Mobility enriched environments are ones that cater to the abilities and interests of the entire population, and not simply for commuter activity (active transport).

INCLUSION

Physical literacy has inclusion and accessibility as a foundational principle⁷. Physical literacy has been able to bring all the key sectors together for the creation of programming, training of people, and creation of spaces. Physical literacy requires that the simultaneous and deliberate consideration of Programs+People+Places for the development of physical literacy enriched communities. Inclusive places and programs would certainly include considerations for sex and gender, cultural aspects including indigenous culture, as well as newcomers to a country.

Belonging emerges from having a place in community for everyone. Conformity is not belonging. Design of places and programs needs to include opportunities for the physical literacy cycle for all

Inclusion would prepare a diverse set interests and range of challenges that allows participation for people independent of age or ability. Inclusion would consider active participation through all seasons and climatic circumstances, where design would look through the lens of summer, as well as winter.

⁷ Canadian consensus statement

RISK and ADEQUATE SAFETY

The notion of risk is integral to the achievement of the overall goal of physical literacy, which is safe, active participation (not physical activity per se). In physical literacy design, risk is postulated a neutral construct where any activity can result in positive outcomes, like joy of movement, and negative outcomes like physical injury. As such, physical literacy enriched design will provide adequate safety, and not surplus safety. Surplus safety (risk adversity) eliminates both the positive and negative short-term outcomes, and therefore results in medium- and long-term negatives associated with absence of active participation.

MOVEMENT INTERSECTION

Movement intersection is the third and final overarching design principle of physical literacy enriched environmental design. This is a critical aspect for consideration. The concept of movement intersections requires the consideration of providing spaces where there can be a meaningful and authentic intersection of cultures, ages, abilities and interests. In many design contexts facilities are separated geographically and or segregated by function. In some cases, it is necessary, but in many circumstances a design that permits movement intersection enables greater participation of the community. For instance, many facilities are designed for single activities of children and youth, and the parents of must then transport children between facilities and then become spectators rather than participants themselves. Movement intersection would create designs which would provide for simultaneous activity of multiple children in the same geographical locale, as well as provide for activity of the parent(s). Also, by enabling movement intersection between cultures, ages, and abilities the level of empathy of the population increases and the sense of belonging is enhanced.

Physical literacy enriched environmental design provides a rather unique perspective on design at the facility level to the community level, which is distinct from designs looking to maximize physical activity. There are many examples of successful physical literacy enriched designs from playgrounds to trails to gymnasiums to parks. Physical literate people are grown in physical literacy enriched communities. Considering the physical literacy engine provides unique solutions to the design of places and spaces which can combat the movement suppressed culture we live in.

The CRC and Design involving Children

The United Nations Convention of the Rights of the Child (CRC) was enacted into law in January 1, 2020 to enhance implementation of a child rights-based approach in all public sector activities.

The CRC requires that the “voice of the child” (Article 12) is used in the design process. The voice can be heard in many ways but should be formally integrated into the process. The range of abilities and interests of children is diverse, including children with disabilities (Article 23), and children in minority like newcomers to the country (Article 30), so all views

need to be considered so design will act to serve the best interests of children (Article 3), so as to achieve an adequate standard of living to fulfil the child's physical, social and emotional well-being (Article 27). When designing spaces in the education sector, Article 29, states that the education sector must provide programming (curriculum) and therefore have suitable facilities that develop every child's personality, talents and physical and mental abilities to the full. Finally, Article 31, mandates that a community including schools must provide adequate time for children to relax, play and join in a wide range of cultural and artistic activities.

Physical Literacy Enriched Environmental Design and the over-arching principles described above are highly complementary, coherent with and useful for addressing the relevant articles of the CRC in the design context.

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