PHYSICAL ACTIVITY & PHYSICAL LITERACY

Evidence Presentation Note 3
From the Creating an Active Wales Research Seminar Series

Measuring Physical Literacy – Brian Delaney, Senior Lecturer - Dept of Health & Physical Education at Stranmillis University College, Belfast.

Understanding Physical Literacy: What the literature tells us. - Paul Rainer, Senior Lecturer in Coaching Science, University of Glamorgan.

Hosted by University of Glamorgan 19th June 2012
CREATING AN ACTIVE WALES - RESEARCH SEMINAR SERIES

EVIDENCE PRESENTATION NOTE 3 – PHYSICAL ACTIVITY & PHYSICAL LITERACY

This evidence note collates the presentations given at the Creating an Active Wales Research Seminar on ‘Physical Activity and Physical Literacy’ at the University of Glamorgan on 19th June 2012.

Purpose: To explore issues and recent evidence related to physical activity and the physical literacy.

Content - 3 Presentations:

1. Measuring Physical Literacy – Brian Delaney, Senior Lecturer - Dept of Health & Physical Education at Stranmillis University College, Belfast.

2. Understanding Physical Literacy: What the literature tells us. - Paul Rainer, Senior Lecturer in Coaching Science, University of Glamorgan.
Physical Literacy: A definition

Sport Matters - The NI Strategy for Sport & Physical Recreation, 2009-2019

“The ability to use body management, locomotor and object control skills in a competent manner, with the capacity to apply them confidently through play and practice, in settings which may lead to sustained involvement in sport and physical recreation.”

Physical Literacy: A rationale

“Children who possess inadequate motor skills are often relegated to a life of exclusion from (the) organised and free play experiences of their peers and subsequently to a lifetime of inactivity because of their frustrations in early movement behaviour.”

Seefeldt, Haubenstricker & Reuchlien (1976)

Policy in Northern Ireland:

Key Northern Ireland milestones:

- 2003 – Long Term Athlete Development (LTAD)
- 2005 - Sport NI PL policy
- 2006 - Lifelong Involvement in Sport & Physical Activity (LISPA)
- 2008 - “Improving Physical Literacy”
- 2009 & 2010 - Sport NI research projects

Lifelong Involvement in Sport & Physical Activity (LISPA):
**Improving Physical Literacy 2008:**

**Recommendations**
- ... a tool to measure physical literacy ...
- ... assess the learning outcomes of structured programmes designed to develop Physical Literacy ...
- ... the observation of children’s quality of movement in the fundamental movement skills identified.
- Interviews with children and/or teachers with regard to the affective domain ...
- The study should be carried out in schools initially ...
- ... study should be carried out by specialists in the field of PE and sport. A modified version of the tool should be developed for use by non-specialists, after minimal training...

**Sport Matters:**

**Programmes Delivering Physical Literacy:**
- The Revised Northern Ireland Primary Curriculum
- Fundamental Movement Skills (FMS)
- Skills 4 Sport
- Gaelic Athletic Association (GAA), Irish Football Association (IFA) and other governing bodies.
Fundamental Movement Skills (FMS):

- Body Management
- Locomotor
- Object control

{22 discrete skills}

GAA & IFA:

- DENI Primary Schools Curriculum Sports Programme (c. 60 coaches in schools)
- “Develop the generic physical literacy skills ...”

Physical Literacy: Research Project

“The Assessment and Measurement of Physical Literacy in Children”
Sport NI 2009

Commissioned by Sport NI:
Joint research team from:
- Stranmillis University College and
- The University of Ulster.

Methodology:

- Ten schools (five FMS / five non-FMS)
  (“... the study should compare a range of representative fundamental movement skills in children who have experienced structured programmes, with a similar number of children who have not experienced such programmes.” IPL)
- c. 180, 6-7 year old children
- Physical domain (ten tasks):
  - Seven “discrete” and three “rich”
- Affective domain (two questionnaires):
  - Harter Self-Perception Profile for Children
  - Children’s Attitude to Physical Activity Scale (CAPA)

Physical Domain Matrix:
Physical Task Scoring:
e.g. Standing broad jump:

- Preparation - five measures
- Execution - two measures
- Recovery/landing - three measures
- Maturity of movement

Standing broad jump – procedure:
Instruction: “Stand with your toes behind the line, jump forwards off two feet and land on two feet.”

<table>
<thead>
<tr>
<th>Preparation</th>
<th>Execution</th>
<th>Recovery/landing</th>
<th>Maturity of m’ment</th>
<th>Total score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bend in ankles, knees &amp; hips</td>
<td>Arms swing behind body</td>
<td>Straighten legs</td>
<td>Booth feet leave ground together</td>
<td>Arms swing forward &amp; upward</td>
</tr>
<tr>
<td>0/2</td>
<td>0/2</td>
<td>0/1</td>
<td>0/1</td>
<td>0/1</td>
</tr>
</tbody>
</table>

Affective Domains Questionnaires:

- Harter

Really true Sort of true Really true
for me for me for me for me

☐ ☐ Some children would rather BUT Other children would rather
play outdoors in their spare time watch TV.

- CAPA

<table>
<thead>
<tr>
<th>No always</th>
<th>No sometimes</th>
<th>Yes sometimes</th>
<th>Yes always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

I like playing outdoor games and sports.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>
Results – physical tasks:

• Children performed well across the tasks
• Little measureable difference in scores for physical tasks between FMS and non-FMS schools
• More marked differences between individual schools
• Some gender differences

Results – affective measures:

• FMS schools scored more highly on Harter Self-Perception Profile:
  – Scholastic competence
  – Social acceptance
  – Athletic competence
  – Global self-worth
• CAPA scale positive in all cases:
• A positive attitude to physical activity and sport

Limitations:

• School ethos
• Quality of teacher
• Quality of embedding/adoPTION of FMS in schools
• Pupils’ experience within and beyond school
• Sensitivity of tool


and Sport Matters is available at http://www.dcalni.gov.uk/sport_matters.pdf

These documents are available in other accessible formats on request, and online at www.sportni.net

Enquires:
Brian Delaney

e-mail: b.delaney@stran.ac.uk
Tel: +44 (0) 28 90 384 486
Understanding Physical Literacy: what the Literature tells us - Paul Rainer, Senior Lecturer in Coaching Science, University of Glamorgan

Ambiguity of Physical Literacy:
- Physical Literacy (Whitehead, 2010)
- Movement Literacy (Rossi 2006; Kentel, 2007)
- Games Literacy (Mandigo, 2008)
- Sports Literacy (Pill, 2010)
- Athletic Literacy (Giles, 2010)
- Aesthetic Literacy (Lussier, 2010)

The Emergence of Physical Literacy through Long-Term Athlete Development (LTAD) models:

Canadian Sport Centre LTAD Plan (2006) Sport Canada

Canadian Physical Literacy:
The development of Fundamental Movement skill and Fundamental Sport Skills that permit a child to move confidently and with control in a wide range of physical activity, rhythmic and sport situations. Physical Literacy also includes the ability to read what is going on around them in an activity setting and react appropriately.

Canadian Sport for Life – Sport Canada (2008)
Developing Physical Literacy: A guide for Parents of children aged 0-12 years. Canada Sport 2008; p.20

**South African Physical Literacy:**
- FUNdamental movements skills and FUNdamental sports skills = physical literacy.
- Physical literacy refers to competency in movement and sports skills.
- Physical literacy should be developed before the onset of the adolescent growth spurt.

**Physical Health Education Canada:**
Individuals who are physically literate move with competence in a wide variety of physical activities that benefit the development of the whole person. Physically literate individuals consistently develop the motivation to understand, communicate, apply, and analyze movement. These skills enable individuals to make healthy active choices throughout their life span...

PHE Canada (2009).
Domains of Physical Literacy – Lloyd, Colley and Tremblay 2010

Physical Literacy is a construct which captures the essence of what is a quality Physical Education programme or quality community sport or activity programme aims to achieve. It is the foundation of characteristics, attitudes, behaviours, awareness, Knowledge and understanding related to healthy active living and the promotion of physical recreation opportunities and positive health choices across the lifespan.

(Lloyd, Colley and Tremblay, 2010; p.179)


Strength & Conditioning:

“the ability to stimulate a number of muscle fibres collectively within a muscle (intramuscular co-ordination) and between groups of muscles (intermuscular co-ordination) to produce skilled movement is often referred to as physical literacy.” Brewer (2010).

Physical Literacy & Physical Education:
“to develop physical competence so that all children are able to move efficiently, effectively and safely and understand what they are doing. The outcome, physical literacy, along with numeracy and literacy is the essential basis for learners.”

Association for PE – Manifesto for a World Class Physical Education system (2008)

Why the need for Physical Literacy?
“Encouraging play as an essential component for healthy development and a foundation for Physical Literacy.”
“Ensuring that in the process of personal development, the acquisition of Physical Literacy is as important as the development of numeracy and literacy skills.”

Climbing Higher, 2005 (Sport Wales; p.18)

“We need to ensure that young people develop ‘Physical Literacy’ in their early years, including the acquisition of a broad portfolio of skills which they can practice throughout their teenage years.”


“Physical Education in schools, delivered through curricular and extra-curricular activity, can perform a crucial role in developing Physical Literacy and Sports Literacy, as well as allowing access those who might have become disillusioned about Physical activity.”

Children’s Participation in Sport & Physical Activity (Sport Wales, July 2007; p.26)

“The provision of high quality Physical Education and the effective delivery of Physical Literacy is essential for young children to have the skills and confidence for lifelong participation in sport and physical recreation.”

“prioritise interventions that encourage the development of physical literacy and participation in physical activity by the least active.” (p.35)

Creating an Active Wales (Welsh Government 2009).

“Every child and young person is provided with the skills and confidence from an early age to be physically literate through high quality, engaging experiences. To achieve this we believe that Physical Literacy needs to be given the same status in schools as Literacy and Numeracy as outlined in Assembly Government policy.”

Sport Wales Vision (2010; p.31)
“Stakeholders indicated that evidence is required to support and justify culture change to ensure that Physical Literacy is held in the same regard as literacy.”

Evidence to support the Community Strategy for Sport (2012; p.29).

Why do we need to address it? : Physical Activity – What we Know
There is a drop off in young people’s participation with age
Fewer young people participate in physical activity beyond the age of 15
The drop off in participation is more acutely felt in girls

Sport Wales Vision (2010; p. 18)

35% girls and 53% boys participate in 60 mins of physical activity on 5 days or more per week
21% of 15 year olds in Wales overweight or obese

Health Behaviour in Children Study 2009-10

Welsh Adults – Physical Activity
• 29% of adults perform moderate activity on 5 days or more per week
• 34% of adults day-to-day activities limited because of poor health
• 57% classified as overweight or obese

Welsh Health Survey (2011)

We also know:
– Physical activity tracks from childhood to adulthood
– Fundamental movement skill, physical fitness, physical activity and knowledge are related
– Attitude, motivation, confidence, enjoyment all impact on FMS, Physical activity, and Physical fitness

How does Physical Literacy support Physical Activity?
• All can be physically literate
• The disposition is valuable at all stages of life
• The disposition is evidenced by a desire to be active, born out of pleasure and satisfaction individuals experience in participation
• Physical literacy is a goal for all forms of Physical activity.

What is Physical Literacy?
It is not a new concept!
“To be physically literate, one should be creative, imaginative, and clear in expressive movement, competent and efficient in utilitarian movement and inventive, versatile, and skillful in objective movement. The body is the means by which ideas and aims are carried out and, therefore, it must become both sensitive and deft”


‘...or as a combination of kinaesthetic intelligence and the ability for skilful actions (Arnold, 1979).
‘a disposition acquired by human individuals encompassing the motivation, confidence and physical competence that establishes purposeful physical activity as an integral part of their lifestyle.’
(Whitehead, 2011)

What does a Physically Literate person look like?

- Literacy (Mind)
  - Understands
  - Anticipates
  - Knowledge
  - Understanding
  - Reads movement
  - Interacts
  - Motivated
  - Communicates
  - Empowered
  - Autonomous
  - Problem solver
  - Confidence

- Physical (Body)
  - Athletic
  - Competent
  - Physically active
  - Skilful
  - Movement

Summary of key points:

- It is applicable to all
- It is a journey and not an end-state
- Founded on monist principles
- It is more than Movement Competence and Fundamental Movement Skill
- Consider motivation, confidence, knowledge and understanding
- A goal for all areas that encompass physical activity,
- Cradle to grave – Physical Literacy is not complete by the age of 12 years
- Not the sole responsibility for PE and not just Primary education
- It cannot be taught – it is not a programme

What can Physical Literacy offer for the future?

- Awareness of “What is Physical Literacy”
- Clarification of “What is Physical Literacy”
- Synergy in agendas – consistency
- Agency
- Integrated approach – who is best place/appropriate to deliver
- Development of existing staff
- Development of future staff
- True assessment of Physical Literacy
References:


For more information please contact
Paul Rainer
Senior Lecturer in Coaching Science
Faculty of Health, Sport and Science
University of Glamorgan
Tel: (01443) 483632
prainer@glam.ac.uk
This report was compiled by the Physical Activity & Nutrition Networks for Wales. Please direct any queries, concerns or requests to;

Catherine Evans, the Co-ordinator of the Physical Activity Network for Wales at:
Tel: +0044 (0)2920 827624
e-mail: Catherine.evans10@wales.nhs.uk

or

Malcolm Ward, Principal Health Promotion Specialist, Public Health Wales:
Tel: +0044 (0)2920 827628
e-mail: Malcolm.ward2@wales.nhs.uk

Further copies of these reports can be viewed and downloaded from the Physical Activity & Nutrition Network for Wales website:
www.physicalactivityandnutrition.wales.org.uk

Or the Planet Health Cymru (Planning for Environment, Transport & Health) website:
www.planethealthcymru.org