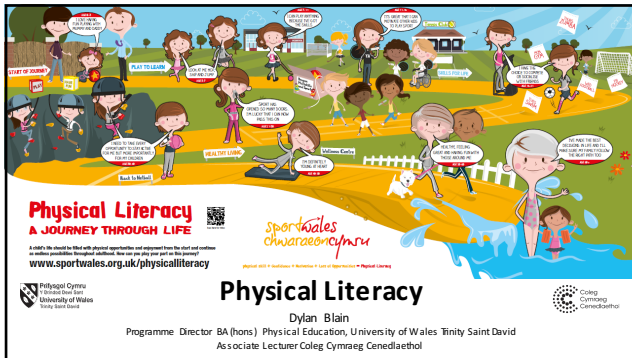




Outline

- Background
- Physical Literacy – an introduction
- The importance of Physical Competence in childhood
 - Movement Competence & Physical Fitness
- Developing Physical Literacy (School Based Interventions & Curriculum)
 - The Foundation Phase (WAG, 2015)
 - The SKIP Intervention
 - Secondary School Physical Education – The School Gym Programme

Physical Activity & Young People

what's the current situation?

2018

THE GLOBAL MATRIX 3.0 ON PHYSICAL ACTIVITY FOR CHILDREN AND YOUTH

Released on November 27, 2018 in Adelaide, Australia at the *Movement to Move* conference.

49

COUNTRIES

6

CONTINENTS

490

GRADES

<https://www.activehealthykids.org/>





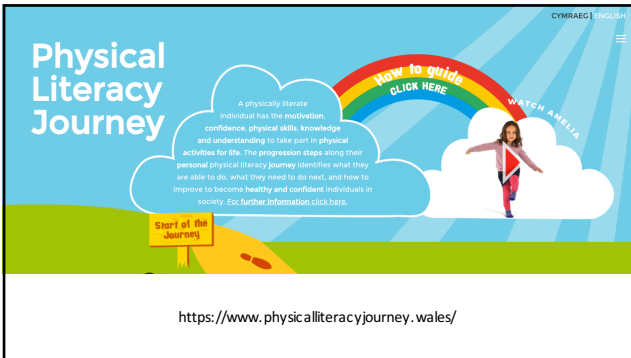
“Physical literacy can be described as the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life.”

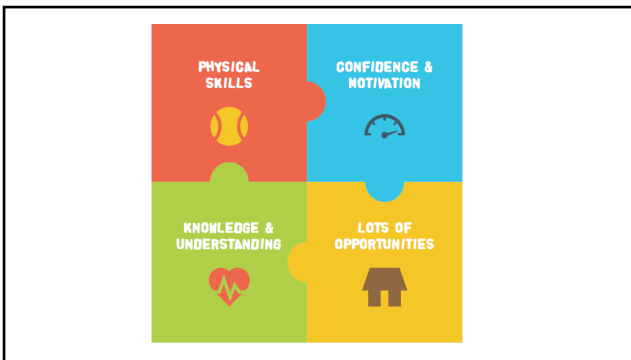


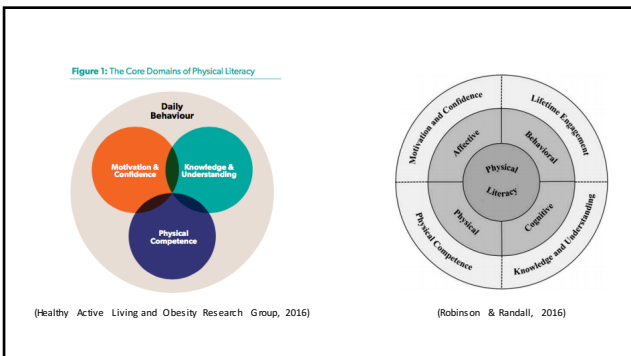
(International Physical Literacy Association, 2017)

(Edwards et al., 2016 – Review of Physical Literacy Definitions, Foundations & Associations)











Physical Literacy
A JOURNEY THROUGH LIFE

A child's life should be filled with physical experiences and enjoyment from the start and continue as a lifelong pursuit. Physical literacy is the foundation for a healthy, active life.

www.sportswales.org.uk/physicalliteracy

Sportswales chwaraeonymru

Physical Literacy is a journey through life. It is a lifelong process of developing the skills, motivation, confidence, knowledge and understanding to value and take responsibility for engagement in physical activities for life.

Task – your Physical Literacy Journey...
“Physical Competence, Motivation, Confidence, Knowledge and Understanding to value and take responsibility for engagement in physical activities for life.”

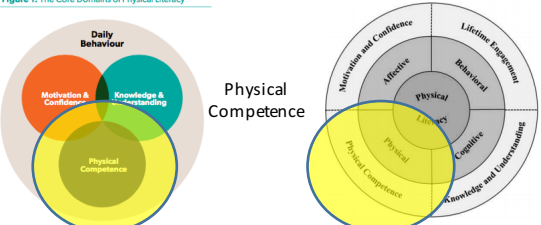
Figure 1: The Core Domains of Physical Literacy



(Healthy Active Living and Obesity Research Group, 2016)

(Robinson & Randall, 2016)

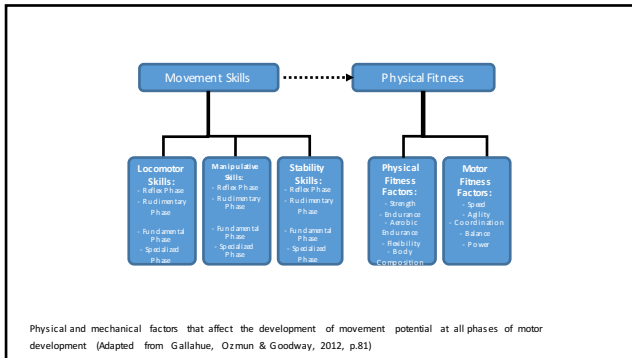
Figure 1: The Core Domains of Physical Literacy

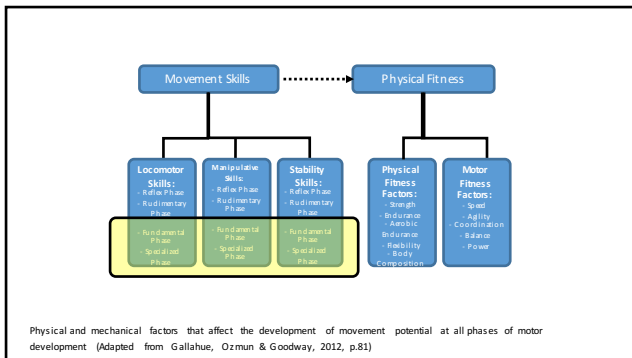


Physical Competence

(Healthy Active Living and Obesity Research Group, 2016)

(Robinson & Randall, 2016)

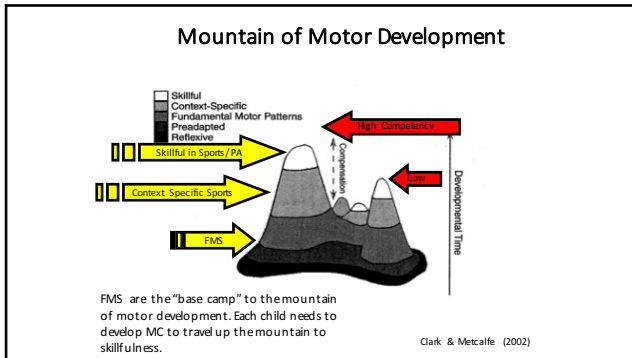


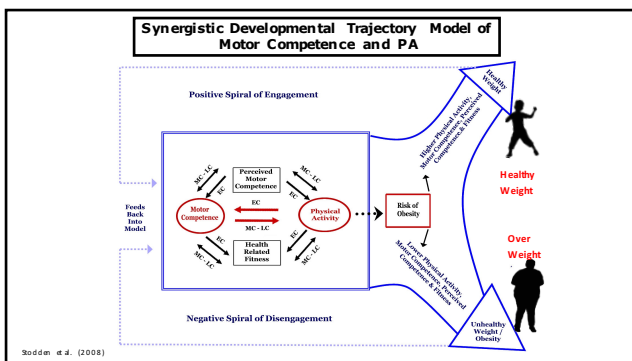


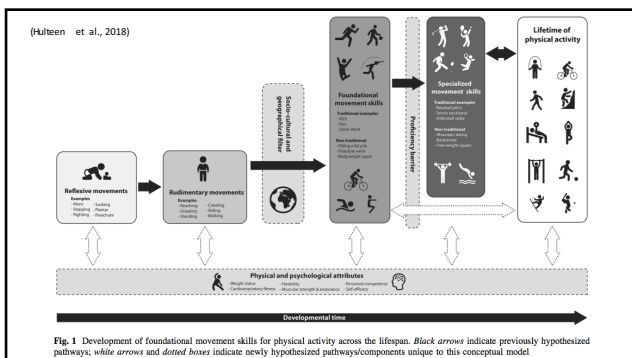
Fundamental Motor Skills (FMS)

- Manipulative/object control:
 - Throw
 - Catch
 - Kick
- Locomotor:
 - Run
 - Gallop
 - Skip
 - Jump
 - Hop
- Stability:
 - Balancing
 - Twisting

(Gallahue, Ozmun & Goodway, 2012)







Foundational Movement

Foundation Movement	Fundamental Sports Skills	Sport & Play Skills	Activities of daily Living
Squat	Vertical jump, sprint, hop, dodge, side gallop	?	?
Lunge	Sprint run, skip, hop, dodge, kick, static balance, catch, side gallop	?	?
Push Up	Overarm throw, strike	?	?
Pull Up	Throw, catch, strike	?	?
Hinge	Vertical jump, overarm throw, kick, dodge	?	?
Rotation	Sprint run, overarm throw, kick	?	?
Brace	Static balance, overarm throw, kick, sprint run, dodge	?	?

(Tompsett, Burkett & McKean, 2014)

Motor Competence – a note on measurement

- Test of Gross Motor Development 2 (TGMD-2; Ulrich, 2000)
- Canadian Agility and Movement Skill Assessment (CAMSA; Longmuir *et al.*, 2015)
 - Part of the Canadian Assessment of Physical Literacy (CAPL; HALO, 2014)
- Dragon Challenge (Stratton *et al.*, 2015; Tyler *et al.*, 2018)



What is CAMSA- Video

What is Dragon Challenge - Video

Benefits associated with FMS

- Review of associated benefits of FMS in children and adolescents.
- 21 articles identified that assessed eight potential benefits (i.e. self-concept, perceived physical competence, CRF, muscular fitness, weight status, flexibility, physical activity and sedentary behaviour).
 - Strong evidence for positive relationship between FMS competency and PA in children and adolescents
 - Positive association between FMS and CRF
 - Inverse association between FMS competency and weight status

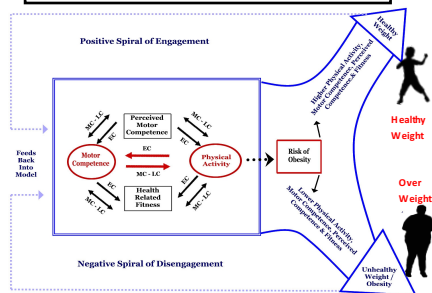
(Lubanset al., 2010)

Motor Competence & HRF

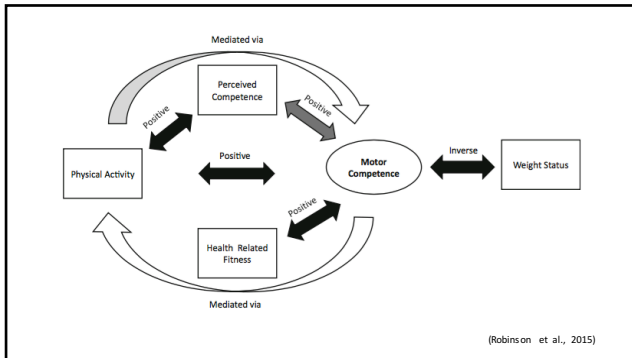
- Systematic review of motor competence (MC) & health related physical fitness in youth
- MC inversely associated with body weight (27/33 studies).
- MC positive associated with cardiorespiratory fitness (12/12 studies) & musculo-skeletal fitness (7/11 studies)
- MC – flexibility uncertain

(Catuzzo et al., 2016)

Synergistic Developmental Trajectory Model of Motor Competence and PA



Sutton et al. (2008)



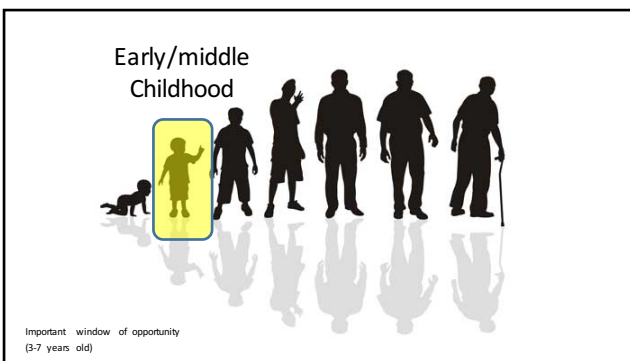
Interventions

Intervention Effectiveness

- Systematic review & meta-analysis on effect of interventions on FMS
- Twenty two articles (6 RCTs, 13 quasi-experimental trials, 3 pre-post trials)
 - All studies reported significant intervention effects for ≥ 1 FMS.
 - Large effect size for **Gross motor proficiency** (SMD = 1.42, 95% CI = 0.68-2.16, $Z = 3.77$, $P < .0002$)
 - Large effect size for **Locomotor skill competency** (SMD = 1.42, 95% CI = 0.56-2.27, $Z = 3.25$, $P < .001$)
 - Medium effect size for **Object control skill competency** (SMD = 0.63, 95% CI = 0.28-0.98, $Z = 3.53$, $P < .0004$)
- Many studies scored poorly for risk of bias items

(Morgan et al., 2013)





Early Childhood

- The Foundation Phase Curriculum (WAG, 2015)
 - Play-based curriculum (Play to Learn)
 - No formal Physical Education
- Impact on FMS Supported the development of physical literacy (Wainwright *et al.*, 2016)
- Supported FMS development – other than manipulative/object control skills
- Government funded project Intervention for OC – plug the gap (NASPSPA presentation, 2016) – evidence based

Early Childhood (SKIP Intervention)

- Successful Kinesthetic Instruction for Preschoolers (SKIP) (Goodway & Branta, 2003) – The Ohio State University.
 - Motor Skill Intervention
 - Pupils from deprived backgrounds – bring children out of developmental delay
 - TGMD-2

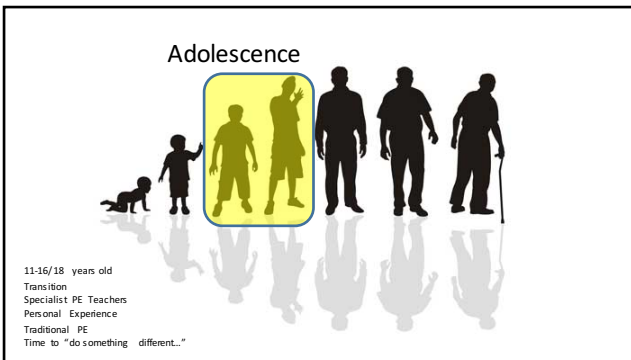
SKIP Intervention

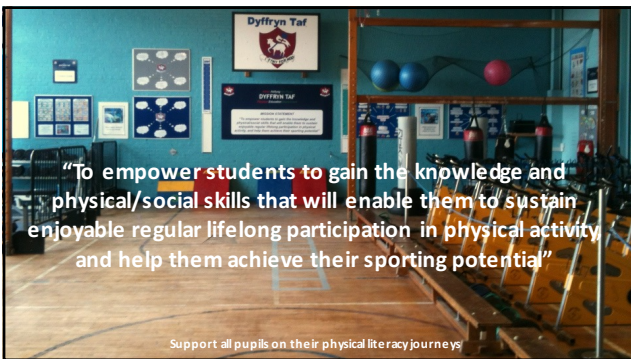
- Training programme for teachers and adults for pre-school (3-7 yo).
 - 1-2 days training & equipment
 - Developmental stages of FMS
 - Dynamic systems theory
 - Recognise stages and alter the constraints
 - 200 children in quasi-experimental design (3-6 years old, across south west wales) – pre-post-retention (10 week)
 - Significant improvement in FMS (Locomotor & object control in intervention compared to control)
 - Expertise in early childhood pedagogy – but lack the practical knowledge – “once they had it they were away”

SKIP (cont.)

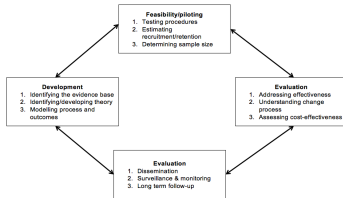
- Community based – collaboration with local providers
- Parental involvement (SKIP-PI)
 - Parental sessions
 - Loaned bags of equipment
 - Trained in SKIP (basic)
 - Initial success with traditionally difficult to engage parents





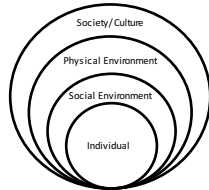
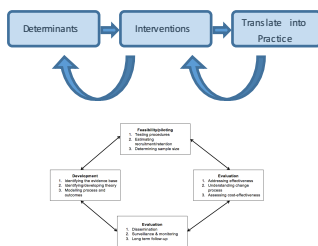


Devising Complex Interventions



MRC guidelines for devising complex interventions (Craig *et al.*, 2008)

Towards Intervention Design

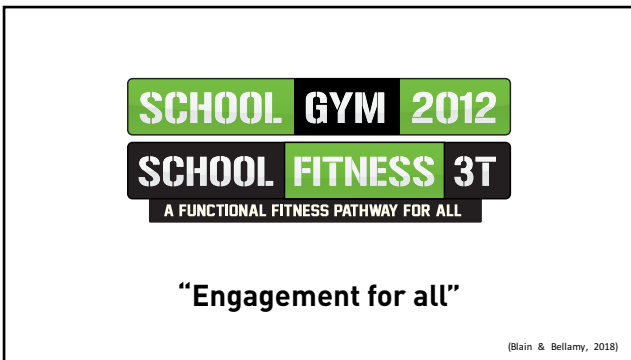


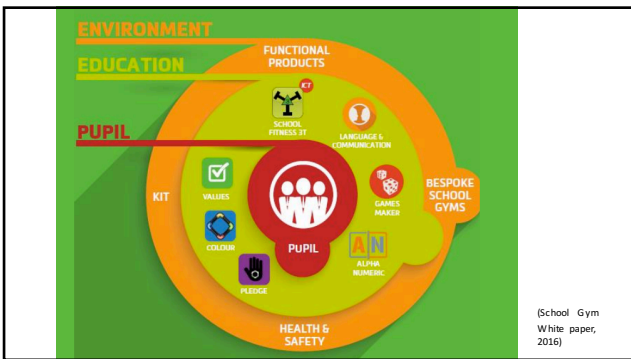
(Biddle, Mutrie & Gorely, 2015; Craig *et al.*, 2008;allis & Owen, 1999)

School Gym Video









SCHOOL GYM 2012

SCHOOL FITNESS 3T

A FUNCTIONAL FITNESS PATHWAY FOR ALL

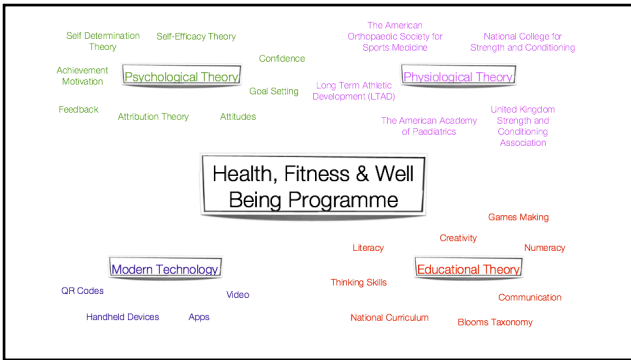
Gamification

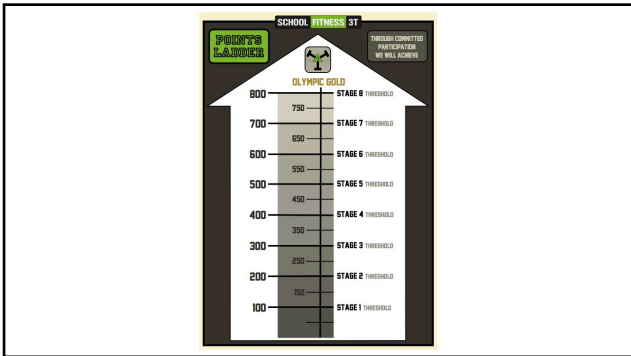
"the use of game design techniques and mechanics to solve problems and engage audiences"

Points

Achievements

Beginner Tutorial





SCHOOL FITNESS 3T		ACTIVITY LADDER										Y	
		LOWER BODY		UPPER BODY		JUMPS AND LANDINGS		CORE		SPEED		COORDINATION	
		STRETCH	WARM UP	PULL	PUSH	STRETCH	PULL	STRETCH	PUSH	STRETCH	PULL	STRETCH	PULL
10	10	10	10	10	10	10	10	10	10	10	10	10	10
9	9	9	9	9	9	9	9	9	9	9	9	9	9
8	8	8	8	8	8	8	8	8	8	8	8	8	8
7	7	7	7	7	7	7	7	7	7	7	7	7	7
6	6	6	6	6	6	6	6	6	6	6	6	6	6
5	5	5	5	5	5	5	5	5	5	5	5	5	5
4	4	4	4	4	4	4	4	4	4	4	4	4	4
3	3	3	3	3	3	3	3	3	3	3	3	3	3
2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	1	1	1	1	1	1	1	1	1	1	1	1	1

GOBLET HALF SQUAT HOLD

HALF SQUAT AND ISOMETRIC HOLD

Start with feet shoulder-width apart
Feet pointing forward
Head, shoulders, hips, and ankles in a vertical line
Spread the feet (feet) backwards on outside of feet

Sit down by moving hips back & down
Drop upper leg is halfway to parallel with floor hold the position
Keep back straight (arch lower back)
Keep knees in line with toes
Head up looking forward

Push down on the floor
Straighten legs and hips to stand tall
Hold legs straight at the top square shape by holding
Head up looking forward

POINTS ZONE

10 SECS HOLD = 1 POINT
MAXIMUM OF 2 POINTS PER SET

AVAILABLE ACHIEVEMENTS

ACHIEVEMENTS

HANDHELD DEVICE ZONE

VIDEO SCOPES... MAKE IT EASIER... MAKE IT HARDER...

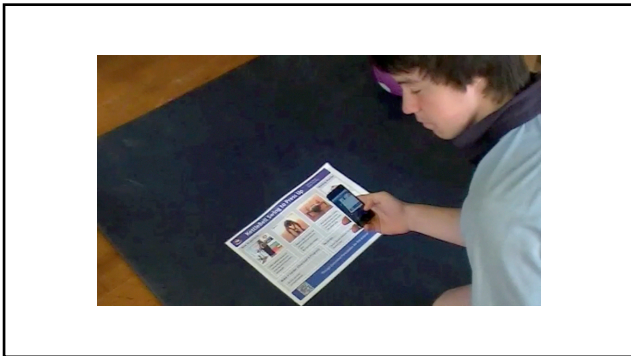
LEARNING ZONE

G A I N S

GRADUALLY MAKE HARDER APPLY TO EVERYDAY LIFE IMPROVE AND REINFORCE

NEVER GET OVERSTRETCHED AT ALL TIMES IN ALL AREAS

SCHOOL FITNESS 3T







Summary

- Low levels of Physical Activity amongst young people
- Physical Literacy
- The importance of Physical Competence in childhood
 - Movement Competence & Physical Fitness
- Developing Physical Literacy (School Based Interventions & Curriculum)
 - The Foundation Phase (WAG, 2015)
 - The SKIP Intervention
 - Secondary School Physical Education – The School Gym Programme (Blain & Bellamy, 2018)

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