

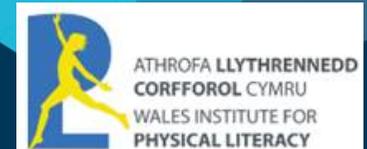


Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Change the Game Sweden 2017

Dr Nalda Wainwright
Wales Institute for Physical
Literacy
University of Wales TSD

Trawsnewid Addysg; Trawsnewid Bywydau
Transforming Education; Transforming Lives

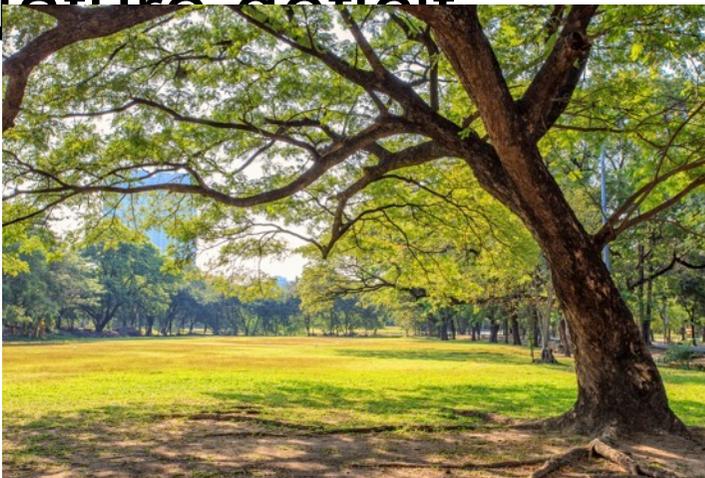


We need to lay the foundations for the physical literacy journey in early childhood



However young children are moving less...

- 'Toxic childhood' (Palmer, 2006)
- 'Cotton wool kids' (Gill, 2007)
- 'Nature deficit disorder'



- Baby gadgets
- Increased time in buggies
- Busy working parents
- Coffee shop culture



- Watching TV
- Playing computer game
- Phones
- A lack of free play



A Physical Literacy perspective

- Drawing on existentialism, Whitehead highlights how it is through physical ‘embodiment’ that humans ‘create themselves as they interact with their surroundings’ (Whitehead, 2010:26).



This is most evident in early childhood

Sensorimotor integration



Moving lays the foundations for learning

- 7 or 8 yrs of moving and play are required to give the child a sensorimotor intelligence that can serve as a foundation for intellectual, social and personal development
- Play consists of a series of adaptive responses that make sensory integration happen

(Ayres, 2005)

Early childhood also lays the foundations for later physical activity

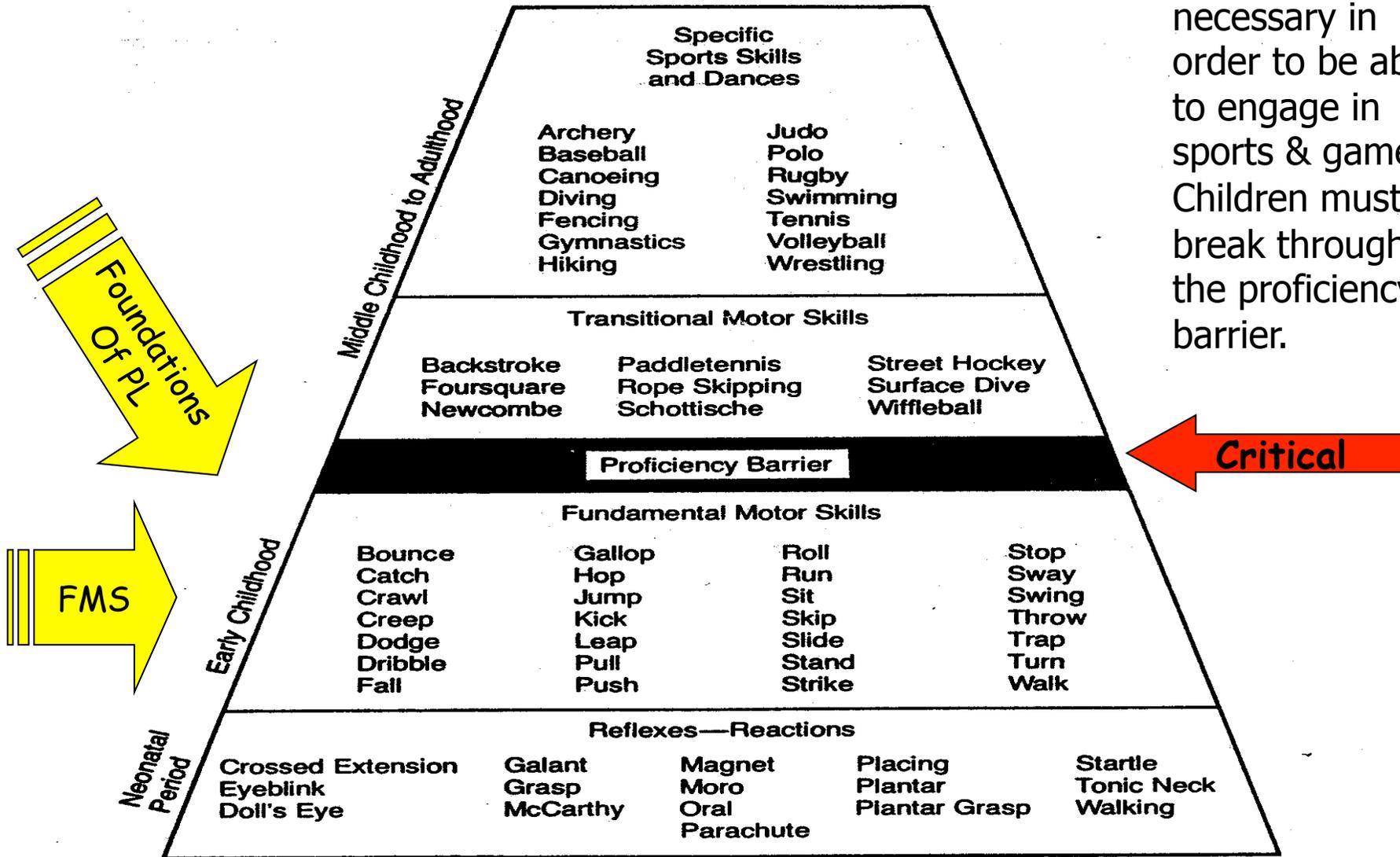


Figure 1. Progression of Motor Proficiency Skill Levels (from Seefeldt, 1980, p.317)

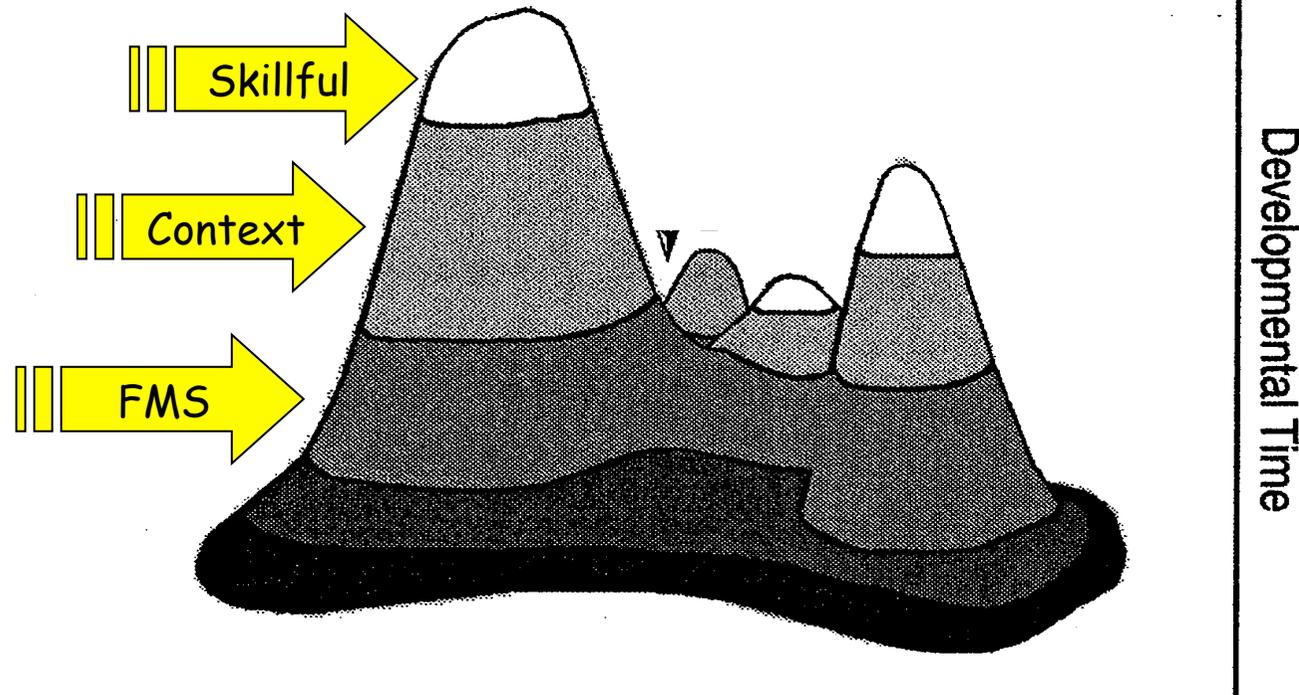
Climbing the Motor Development Mountain



Competence in FMS are necessary in order to be able to engage in sports & games. Children must break through the proficiency barrier.



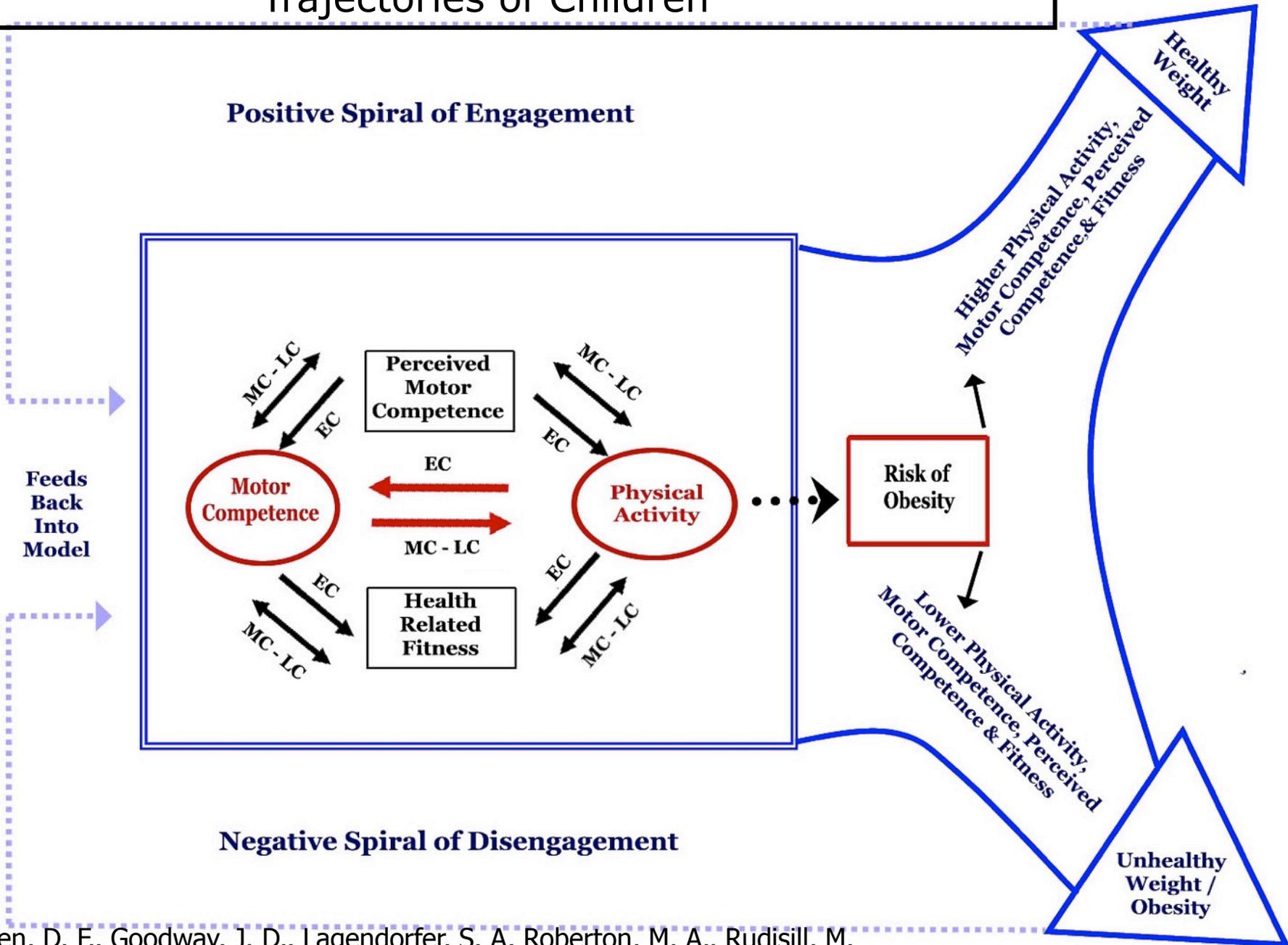
- Skillful
- Context-Specific
- Fundamental Motor Patterns
- Preadapted
- Reflexive



Clarke & Metcalfe (2003)

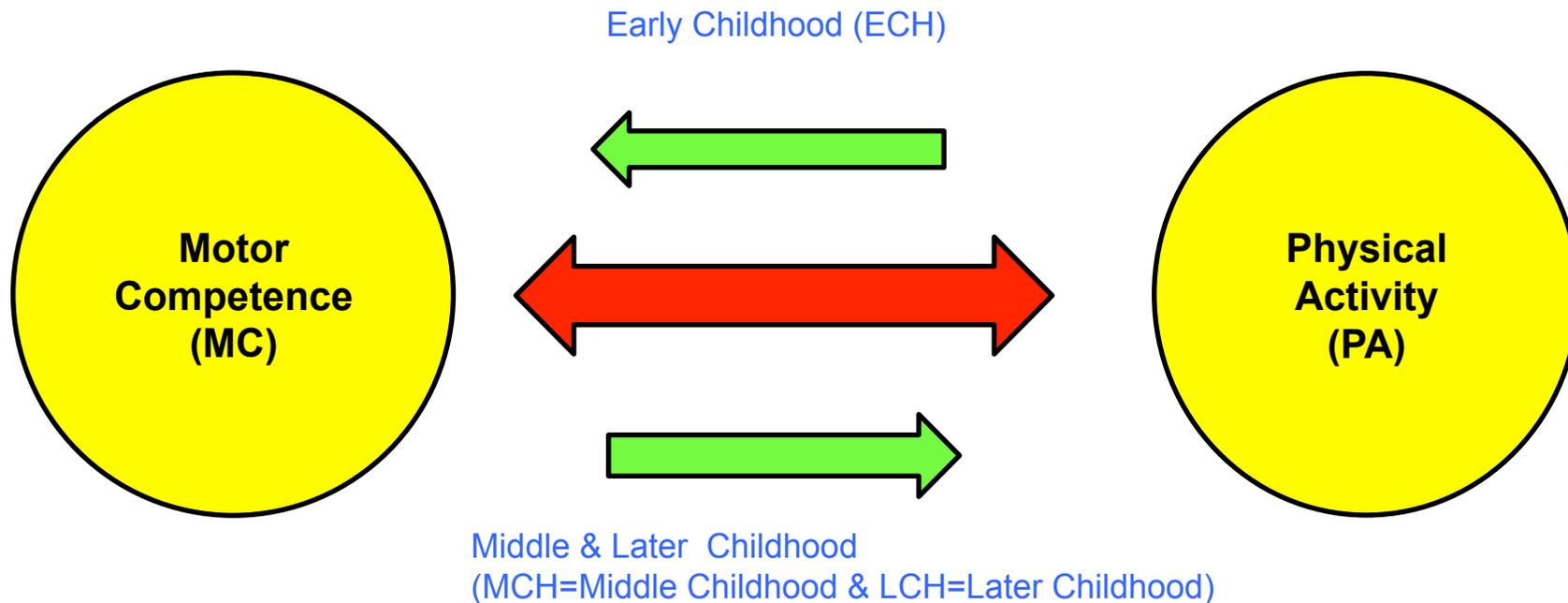
FMS are the “base camp” to the mount of motor development that allow. Each child to travel up the mountain on their own path.

Developmental Mechanisms Influencing Physical Activity Trajectories of Children



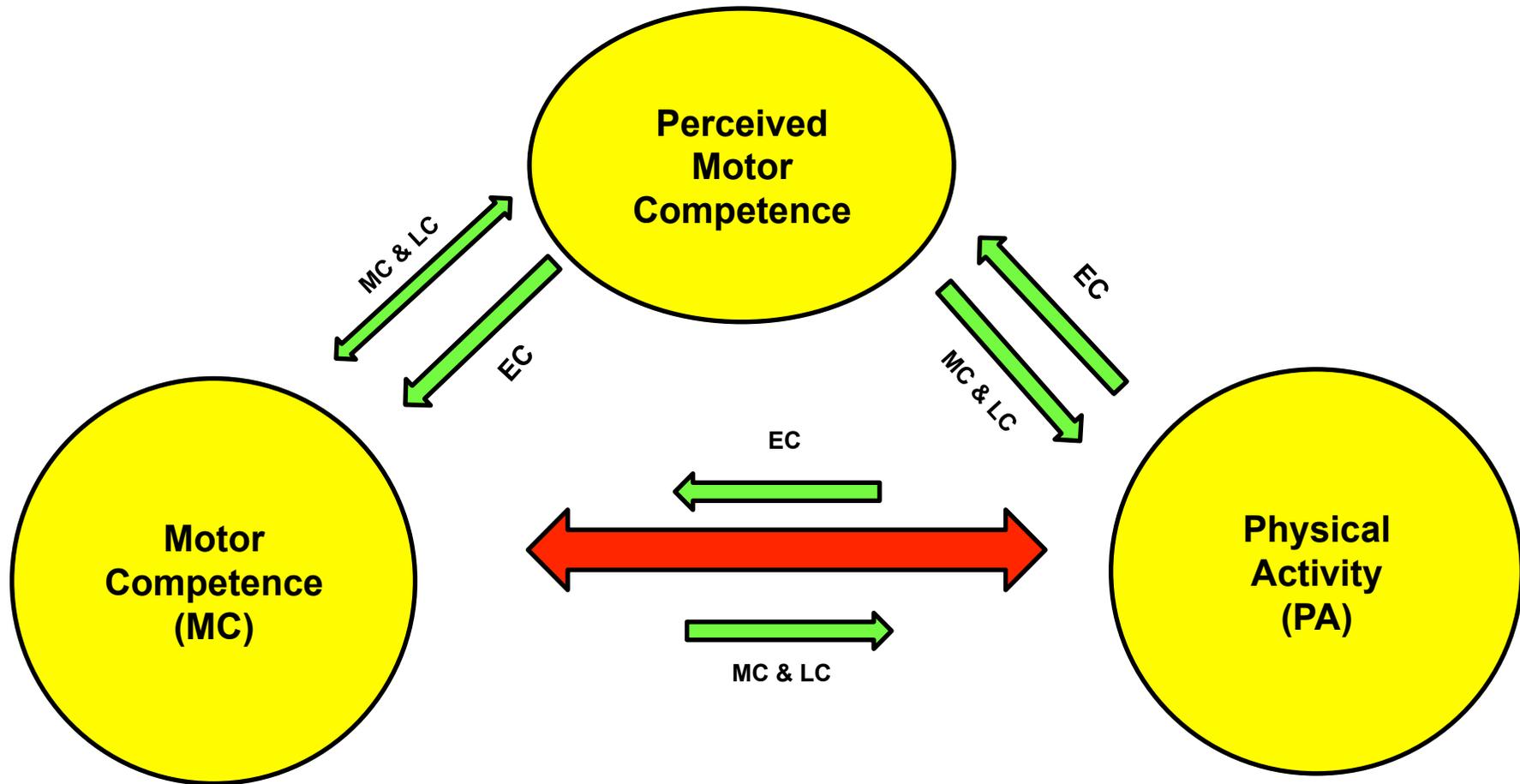
Stodden, D. F., Goodway, J. D., Lagendorfer, S. A., Robertson, M. A., Rudisill, M. E., Garcia, C., & Garcia, L. (2008). *Quest*, 60, 290-306.

PA & Motor Competence



Relationship Between PA, MC & PMC

Perceptions of MC (PMC) become increasingly important



- Early childhood is a window of opportunity to make sure that our children lay the foundations for learning and for physical literacy

However a lack of play
in early childhood
means pupils are
entering school with
developmental delays



What we are doing to address this....

The Foundation phase in Wales 3-7 years olds

- Play based active learning
- Adult led learning



- Child led learning
- Use of the outdoors



The Foundation Phase contributes to the development of physical literacy

- Children had good gross and fine motor skills (GMQ 61st percentile, BOT 71st Percentile)
- Children improved their locomotor skills significantly ($p < .001$, Eta squared .75)
- Pupils were motivated to move in a variety of contexts during all aspects of their learning and they were highly engaged in their learning. (Mean Leuven score 3.7)
- In particular in choice activities and those that they perceived as play. ($p = .021$)



- Pupils were confident to move in a variety of contexts during all aspects of their learning; Pupils were highly independent in their learning they were confident and enthusiastic and able to make judgments about their own learning and achievements.

BUT despite having taught sessions and lots of play pupils did not improve object control skills

Teachers did not know how to teach these skills



Plugging the gap..

- Wales Institute for Physical Literacy manages the Physical Literacy Programme for Schools in the region for Welsh Government
- Using an evidence based programmeSKIP
- ...implemented a training programme to see if we can plug this gap in Foundation Phase.



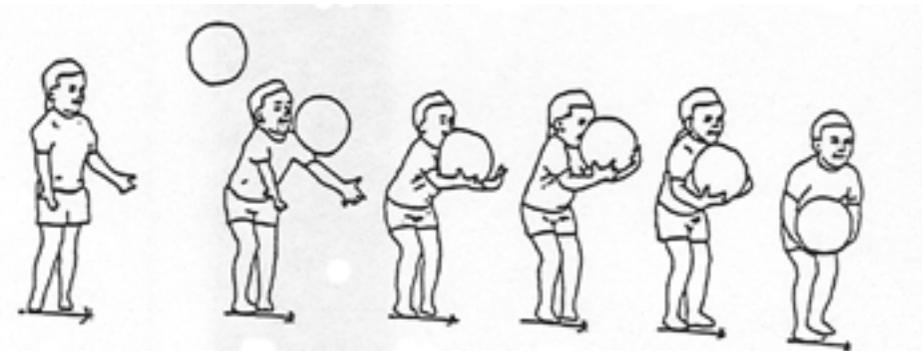
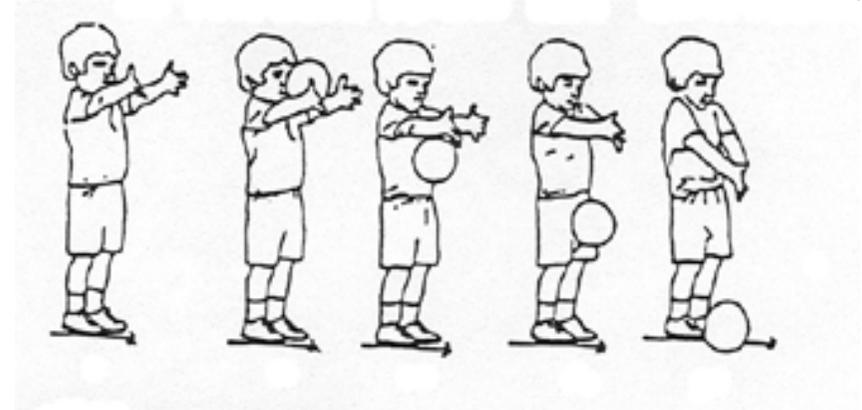
Project "SKIP" Professor Jackie Goodway

- **Successful Kinesthetic Instruction for Preschoolers**
- Motor skill programs in preschools
- Focus on FMS, MVPA, & movement knowledge
- 9-12 weeks in length
- 2 X per week for 30 to 45 mins/session
- Each sessions consisted of:
 - 10 mins of sustained activity introduction (games, dance)
 - 30 mins (3 X 10 mins) of skill instruction stations
- Participants - 4-6 year olds
 - African American, Hispanic, low income



Developmental stages of FMS

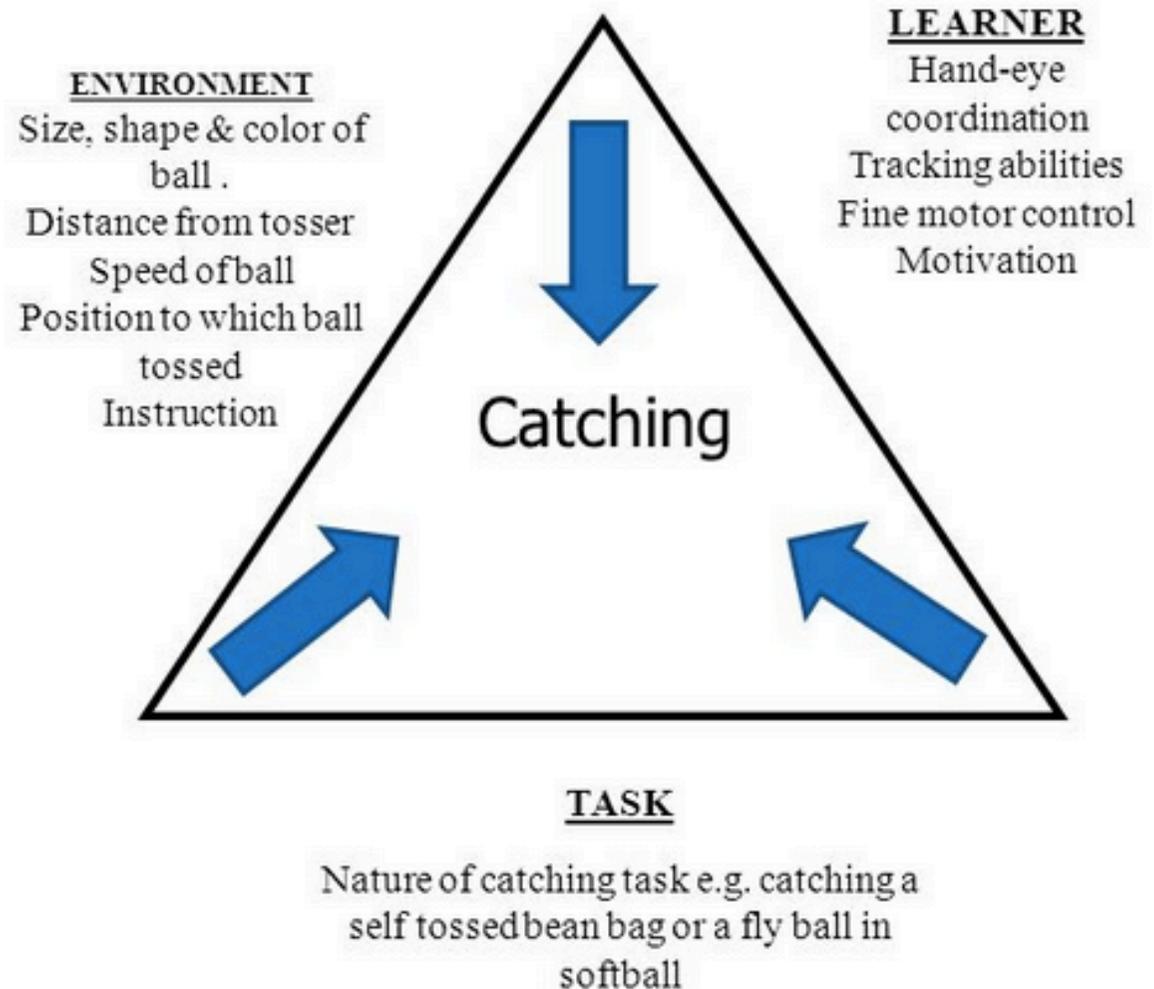
- Children don't magically learn to develop these skills
- There is a developmental sequence of stages



Newell's Constraints Model

Dynamic systems theory recognizes that movement is the product of interaction between constraints from the child (learner), task & environment.

- Individual, environmental & task constraints influence a child's motor performance but can also be manipulated by teachers, coaches & clinicians to promote motor development of children.



SKIP & The Foundation Phase

- Incorporated SKIP into the pedagogical approach of the Foundation Phase
- Brings another layer to the learning
- School ethos



Advocacy then training

- Speak to the education authority
- Advisory service
- Head teachers – whole school approach
- Train teachers / Coaches / Sports officers
- TAs
- Parents

The regional project

- Working across the region we have trained staff from 110 schools, 239 teachers, 78 TAs, 63 AYP, 44 EY staff.
- Involved over 600 parents, and impacted between 4000 and 7000 pupils (depending on class size).



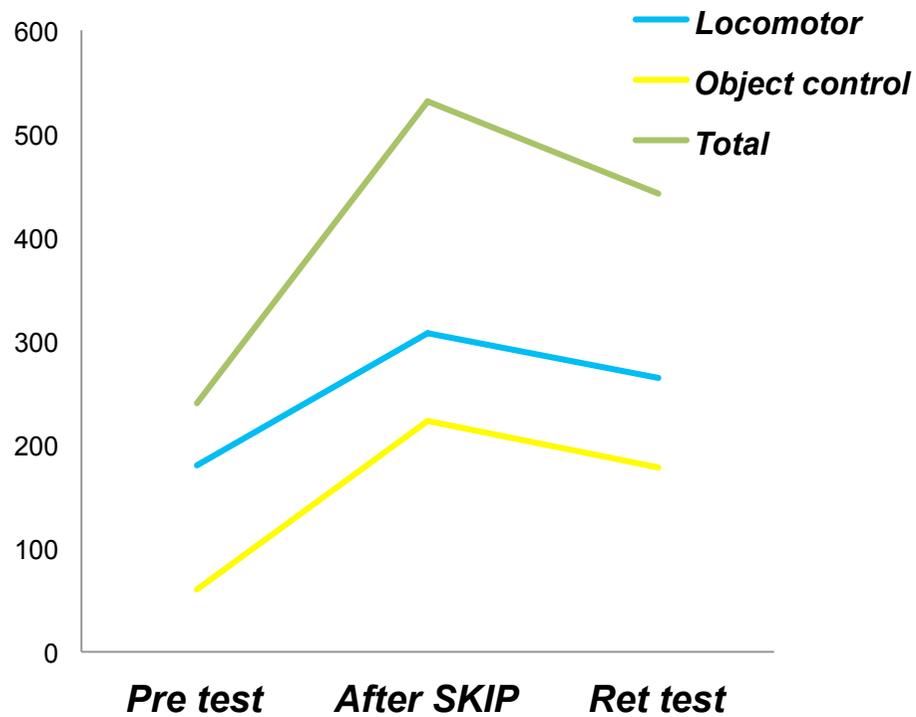
Tested a sample using TGMD3.

- Participants were children aged 3-6 years assigned to a SKIP condition (n=142) and Comparison condition (n=85). The SKIP group engaged in 10 weeks of the SKIP FMS program as part of their typical Foundation Phase curriculum taught by their classroom teacher who had received a 1.5 days training on SKIP with mentoring.

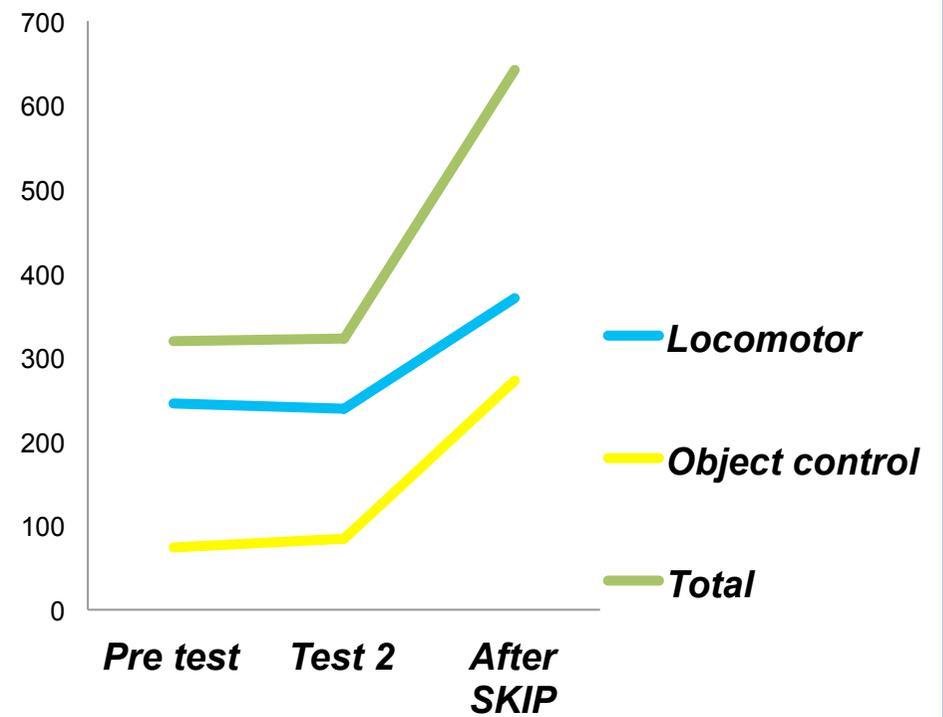
The impact

- All children were pre-and-post-tested on the Test of Gross Motor Development-3. ANOVA with repeated measures on Total, LM and OC (ball) raw scores resulted in a significant interaction effect for all scores ($p < .001$)
- Comparison children made little change

Experimental group



Control group



Interviews with a sample of 14 teachers – identified 5 themes

- Impact on pupils – skills, confidence collaboration and enjoyment
- Impact on staff – motivation, confidence and autonomy
- Variety in activities in the school
- School ethos
- Supporting other staff



- ‘The children's self-esteem, confidence and self-belief greatly improved and children were more willing to ‘Have a go’
- ‘whatever’ s going on people want the space for physical literacy’
- ‘Parents have commented on SKIP and the impact it is having on their children’
- ‘I feel as a teacher it is a delight to see a strategy put into practise that has such a promising impact on the lives and development of our young children’

SKIP & The Foundation Phase

- By teaching the teachers the pedagogy of learning in the physical domain they are able to significantly impact on pupil outcomes.
- The ethos of the school is transformed and the community are becoming involved
- Parents have become confident, gained qualifications and work

The work has gained interest from the media and the Health Minister

Why we need to get pupils moving

Helping pre-schoolers stay active and feel physically confident improves concentration and motor skills, a programme in Wales has shown.

Pupils at 100 primary schools have taken part in the SKIP project – Successful Kinesthetic Instruction for Pre-schoolers – which aims to develop pupils' motor development in the Foundation Phase.

Families and teachers have been involved with parents taking part in engagement sessions, bags of equipment sent home with children to keep them active and, in some cases, parents even the running of sessions.

The programme, part of the Welsh Government-funded Physical Literacy Programme for Schools, is run by the Wales Institute for Physical Literacy at the University of Wales Trinity Saint David.

Institute director and leader of the SKIP programme, Dr Niala Wainwright, said: "It's great news that our research on the SKIP programme in Wales has shown that in so little right weeks there is a significant impact on motor skills."

"Teachers also report huge improvements in the children's concentration, focus and engagement in the classroom."

"We have been assessing the impact of the project on samples of pupils from schools across the region. The analysis of the data thus far shows we are having a significant impact on pupils' motor skill development. Importantly, teachers are developing their understanding and confidence so we are building real capacity for sustainable long-term change."

Abbie Wightwick
Education editor
abbi.wightwick@walescentre.co.uk

UWTSU, SKIP trains teachers, teaching assistants and parents about the importance of early movement for child development.

"The training shows how children learn to move through developmental stages, how to alter tasks and the environment and how they can master skills needed for life long physical activity."

"We are facing issues that we have never encountered before in our society. As a result of the increased levels of inactivity in children it has been predicted that they may die five years earlier than their parents despite improvements in modern medicine," added Dr Wainwright.

"The bill to the NICE is estimated to be £30bn for the treatment of conditions linked to inactivity, which is one of the leading risk factors for death worldwide."

"Changes in society have created a 'perfect storm' for sedentary behaviours. Modern technology, lack of green space, fear of strangers, a habit of driving, baby gadgets, coffee shop culture and screen time have all eroded time that would have been spent moving."

"Research into the implementation of the Foundation Phase shows that in Wales we have a potential solution to this with a world leading play-based early childhood curriculum."

"However, this potential has not been realised as teachers and supporting adults don't always have the necessary knowledge to ensure chil-



▶ Rebecca Evans AM, Minister for Public Health and Social Services, visits the Meads Infant School to see one of the university's projects in action at Meads Infant School, Milford Haven, Pembrokeshire

Adam Davies

brain development and life-long physical activity.

"Drawing on research which identified the gap in knowledge, a programme of training and support was implemented in target schools."

One of the 100 schools trialling the scheme is Meads Infant and Nursery School in Milford Haven.

Active head teacher Soria Groves

"Since beginning the SKIP project we have been overwhelmed with the improvement in our pupils' physical well-being."

"The training that the staff received has enabled them to teach vital skills of physical literacy in a developmental and sequential way. This means that pupils' motor skills have improved significantly as well as

provided an opportunity for parents and children to work together to build co-ordination and physical stamina."

"The weekly workshops have allowed parents, children and staff chance to engage enthusiastically in SKIP activities."

"Parents thoroughly enjoy the 'Parental Engagement' bags that the

to get their children physically active."

"As a result of the success of the project, staff have been proactive in developing opportunities to integrate SKIP skills across the curriculum. Getting children moving at this young age is vital for their long-term health and for the health of the community. It is crucial that the skills of

The programme has also had praise from Minister for Social Services and Public Health.

Visiting the Meads Infant and Nursery School to see for herself how SKIP works Rebecca Evans said: "We are committed to creating opportunities for children to develop healthy behaviours and I encourage all schools to develop

Cost effective and sustainable

- School as hub in the community
- Access to families change habits at home
- Training existing staff to build capacity
- Regional sports development officers as mentors
- Liaise and collaborate with clubs in the community
- Respond to the context and local

environment



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- We need to use the window of opportunity in the early years to get children moving well, and lay the foundations of Physical Literacy for life.

Diolch yn fawr

n.wainwright@uwtsd.ac.uk

@naldaw

@Phys_Lit_Wales

<http://physicalliteracy.cymru/>