Physical education in early childhood (PEECh): A play and resilience project

Professor Claire McLachlan, University of Waikato
and
Sophie Foster, Jumping Beans
New Zealand
Physical play in the New Zealand curriculum, Te Whāriki

- 95.6% of children attend an early childhood centre in the 6 months prior to starting school in 2014.
- One third of children are overweight or obese and children have too many sedentary opportunities and too little physical activity (Ministry of Health, 2013).
- Promoting resilience through physical play is key to Te Whāriki (Ministry of Education, 1996), but teachers lack knowledge and confidence to teach physical education (Kolt et al., 2006).
- A scoping exercise for Sport NZ (Kolt et al., 2005) found teachers were the major barriers to physical activity in ECE. Limited information, knowledge and skills were common; both pre-service and in-service PLD were limited; and teachers lacked confidence in providing PA.
- Early Years Advisory group (2015) report identifies teachers’ domain knowledge as an issue that needs to be addressed.
The research problem

• Children in childcare are less likely to achieve daily requirements for physical activity than children at home, and PA is influenced by gender, weight, ethnicity and parental patterns of activity (Tucker, 2008)

• Commonly assumed young children are naturally active, but growing evidence suggests children do not have sufficient PA and most activity is of low intensity, which does not ensure children gain improved bone density, aerobic fitness and motor skills (Gubbels, Van Kann & Jansen, 2012; Hnatiuk et al., 2012).

• Internationally there is evidence that PA in children has decreased significantly in the last 20-30 years, resulting in obesity levels reaching epidemic levels (Gunner, et al., 2005).

• Teachers’ perceptions of risk limited PA opportunities and responses to risky play for pre-schoolers (Dyment & Coleman, 2012, 2013)
PEECh study: Aims and objectives

Aim:

• Identify the benefits of a 3-month physical literacy programme on professional development in teachers and physical activity levels of pre-school children within Best Start ECE centres.

Objectives

• Examine the influence of a 3-month physical literacy and nutrition professional development programme on teacher knowledge, skills, attitudes and behaviour within an ECE environment (Best Start).

• Investigate the effect of a 3-month physical education intervention on physical activity levels, motor and cognitive skills, and emotional development in pre-school children.

• Explore the impact of a 3-month physical activity programme on parental satisfaction and understanding of curriculum, and child behaviour from a parent’s perspective.
Research design

• The research design is a mixed method, QUAL-quan exploratory design (Punch, 2009; Creswell & Plano Clark, 2011). Data was collected at three intervals: pre-phase, after treatment, follow up. Data was collected with children, teachers and parents using a range of quantitative and qualitative methods.

• Four “Best Start” ECE centres took part – two in South Auckland and two in Hamilton. All were in low SES communities.

• The intervention consisted of 10 weeks of physical activity classes designed to improve teacher knowledge related to physical activity, health, and well-being and improve physical literacy of children.
What is Jumping Beans?

Empowering caregivers & parents to raise happy, healthy, resilient children
What makes us different?

*Playing with under 5’s & their caregivers for over 30 years*
Intervention Overview

• Jumping Beans physical activity educators delivered 1 x 45-minute session per week over the 10-week period

• Teachers also received three professional development workshops on PA and nutrition
Example of manipulative skill: Ball skills
Physical activity assessment

• Accelerometer – works like a pedometer
• Provides ‘counts’ of data (movement in x, y and z directions)
• Converts to total activity, intensity of activity, sedentary activity etc.
Motor skill assessment

- Test of Gross Motor Development – 2nd Edition (TGMD-2)
- Suitable for 3-10 year olds and uses skill-specific performance criteria to assess object control, such as kicking and throwing, and locomotor skills, such as running and hopping
Teacher’s initial thoughts

• Nina, Assistant Manager, Tennessee Centre
Key findings from teachers: pre intervention interviews (n = 18)

• All qualified teachers. Most had little training on physical education in their teaching qualification.

• Few used specific planning for physical education – the main focus was on providing an interesting outdoor environment and supporting children’s interests.

• Physical play was seen by most as an outdoor activity and it was child initiated in all centres.

• Teachers were reasonably confident to promote physical play, but commented on issues related to resources, risks, roles, relationships, relieving teachers and practical ideas to change practice and challenge children.
Key findings: post intervention interviews (n = 16)

• Most teachers said they had gained important knowledge, skill and confidence in promoting physical activity in young children.

• The importance of the link between experiences of physical play and brain development was key for teachers. All teachers identified the need for intentional teaching of physical abilities for children.

• Teachers’ awareness of how to increase resilience in young children through free play and structured play had increased.

• Teachers identified new ways to use existing resources to promote physical play both indoors and outdoors.
Play and resilience in ECE: Implications of the PEECh study

Across the four centres, there were some fundamental conditions for successful implementation of professional learning:

• The necessity for participation in both PLD workshops and hands on involvements in the Jumping Beans programme.

• The need for team collaboration across indoor and outdoor physical play opportunities to establish and maintain new practices.

• They identified the need for ongoing professional learning, online resources, and workshops with parents.
Contact details

Professor Claire McLachlan
Faculty of Education, University of Waikato
Private Bag 3105, Hamilton, New Zealand
Email: c.mclachlan@waikato.ac.nz

Sophie Foster
Jumping Beans
Email: sophie@jumpingbeans.net