

# Physical Literacy in Children – The Underpinning Movement Competencies?

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## Introduction

Physical education in schools has become an important issue in the fight against obesity and maintenance of general health. The concept of physical literacy is not a new one and has become a key aspect of modern philosophies underpinning physical education [1]. Physical literacy has been identified by the United Nations General Assembly in 2002 [2] and is defined as the fundamental movement skills that allow a child to react and respond efficiently and effectively to the environment and to others with control in a wide range of physical activities [3,4]. There has been much published on the importance of physical literacy, however the common definitions of physical literacy fail to include the ability of the individual to move their body the way it was designed to move.

The literature reports several reasons why developing physical literacy is critical to the long term health. It has been shown that the mastery of basic movement capabilities was already lower in overweight and obese children putting them more at risk of being unable to achieve basic movement requirements on a daily basis [5]. The review conducted by Lubans identified a positive association between fundamental movement skills competency and physical activity in children and adolescents as well as an inverse association between FMS competency and weight status [6].

Current research suggests physical education in schools should have a physical literacy approach inclusive of the Fundamentals including body control skills, locomotor skills, as well as sending-receiving skills, and object manipulation skills [3]. Whilst the body control skills are mentioned as being important, many of these skills still relate to the participant performing tasks with the assumption that they are capable of moving their body in the required manner. Those movement competencies underpinning this capability certainly require further research and suggest the scientific community involved in physical literacy need to more clearly define such movement competencies.

Giles [7] states that every posture and movement pattern demands some form of force production, force reduction and force stabilisation. In order for the human body to develop these force qualities, the sequence of events that occur along the kinetic chain requires sound multi joint coordination and control. These basic movement competencies underpin all physical literacy and as yet have not been clearly identified in the literature. Giles also suggests that the seven basic movement competencies which underpin physical literacy involve the squat, lunge, push, pull, hinge (ability to bend at the hip joint without loss of lumbar posture), brace (control of the trunk under load), and rotation of the trunk.

A review of the literature suggests that firstly agreement on the performance indicators of these basic competencies needs to be established before they can be used to assess movement competency. Such issues are listed below.

- Squat and lunge patterns – movement of the knee relative to the toes [8,9], lumbar posture [10,11]

- Push and pull patterns – thoracic posture [12,13]
- Hinge pattern – lumbar posture [14,15]
- Brace pattern – control of the core [16-19]
- Rotation pattern – seated, standing posture and point of rotation [20-22]

In order to further develop the knowledge of the assessment and importance of these basic movement competencies, further research is required and agreement over the performance of these competencies must be more clearly defined. Several strategies towards this are available:

- Review the current literature on these movement competencies and identify performance indicators that may be used to assess these competencies
- Use these performance indicators to collect and report data on current physical literacy in primary schools to determine current competency of children and associated health behaviours and indicators
- Develop and intervention around these movement competencies to determine if they have the potential to impact on physical literacy and health of primary school children

## Conclusion

Physical education appears to be a major area of review worldwide as communities look towards developing strategies to combat loss of physical literacy and associated health issues. Researchers should consider the importance of understanding underpinning movement competencies and developing research to firstly better define such movement competencies and secondly to determine the role they may play in establishing guidelines for school based physical education and long term health.

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