



# CHAPTER 1

## Introduction



## 1.1 THE IMPORTANCE OF MOVING FROM A YOUNG AGE

180 minutes. That is the recommended duration of physical activity per day for toddlers and preschoolers in Singapore, but only 40% of them come close to clocking this number (1).

Early childhood physical activity is important because it helps to support a child's motor, physical, cognitive, social, and emotional development, setting the foundation for an active and healthy future (2,3).

On the other hand, excessive amounts of sedentary behaviour such as prolonged sitting while engaging in screen time may result in negative health effects for children, including weight gain, poorer cardiometabolic health and fitness, behavioural conduct, and reduced sleep duration. Moreover, if this behaviour persists into adulthood, there is a higher probability of developing conditions such as cardiovascular disease, cancer, and type-2 diabetes (4).

### SPORT SINGAPORE'S CONTINUAL EFFORTS IN PROMOTING PHYSICAL ACTIVITY

In 2010, the Fun Start Move Smart – Fundamental Movement Skills for Growing Active Learners resource guide by Sport Singapore was introduced and distributed to every preschool in Singapore. The guide, along with the Fun Start Move Smart introductory workshop, provided early childhood educators and coaches with more tips and ideas to overcome the common challenges that they may face.

This was followed by our flagship Nurture Kids programme in 2017, which was introduced to equip our educators with the necessary knowledge, skills, strategies, and ideas to teach fundamental movement skills to preschoolers.

Subsequently in 2019, a re-envisioning of our Sporting Singapore masterplan – Vision 2030 – was born, with a strong pledge to strengthen the support system for early childhood educators.

The **Children and Youth Sport Framework** was thus created with the goal of providing more opportunities for children and youth to play and pursue sport in and out of school. We envisioned a national-level breakthrough in growing our capabilities and capacities to support a child's holistic development and life journey. In order to better serve preschoolers and early childhood educators, it was essential for us to continue to nurture and grow partnerships with like-minded stakeholders, leveraging expertise and available resources to improve the ecosystem holistically. Working closely with the early childhood sector, Sport Singapore undertook a comprehensive year-long review of the fundamental movement skills resources in 2022, to further enhance our collaborative efforts in promoting physical activity for children.

More than 500 early childhood educators, curriculum specialists and preschool centre leaders were consulted through focus groups and a survey, allowing us to understand how our Fundamental Movement Skills for Growing Active Learners resource guide had served them in their respective areas, as well as identify potential gaps to better support the early childhood sector. Feedback reaffirmed fundamental movement skills' importance for preschoolers' physical literacy. It highlighted the need to integrate movement with outdoor learning and support children with diverse abilities.

We had also continued partnerships with the Early Childhood Development Agency, the Ministry of Education, the National Institute of Early Childhood Development, and the National Youth Sports Institute in this review. Together with representatives from the preschool anchor operators, we formed a workgroup to co-develop this resource guide. The generous sharing of experiences and expertise, exchange of ideas, and collective commitment to advance towards our mission has led to a robust review of the fundamental movement skills resources, and ultimately to the creation of this 2023 edition.



## LEARNING TO MOVE, MOVING TO LEARN

The title of this new resource guide, **“Learning to Move, Moving to Learn”** was coined by our workgroup. It embodies the key shift in focus, where movement is defined in a broader sense of being physically active through active play, outdoor learning, as well as integrated into other learning domains and during transition between lessons. With increased opportunities for movement throughout the day, preschoolers are likely to be more proficient at moving in various aspects of their life.

In addition to the new guiding principles, teaching strategies, resources, and activity ideas that would be introduced in this guide, Sport Singapore’s preschool website will be the go-to portal for complementary materials such as video tutorials and demonstrations. We also invite all early childhood educators to reach out to us, to contribute to the existing knowledge base and build a community of practice together.

This journey is not ours alone. Together with our partners, we will continue to develop the capabilities of early childhood educators and nurture happy, active preschoolers who all share a love of moving and playing.

## 1.2 OUR APPROACH TO MOVEMENT

Our guide embraces a shift from teaching fundamental movement skills in isolation to emphasising the integration of movement into all aspects of a preschooler’s daily activities in school. Through regular participation in movement during early childhood, our hope is that children will become physically literate individuals.

To improve physical literacy in preschoolers, early childhood educators will be empowered to design enriched learning environments to provide children with continuous opportunities for varied movement experiences (5). Central to this idea, learning movement skills occur through the interaction of the child and the environment involving the world around them e.g., with others, in the classroom, outdoors, at the playground (6).

### WHAT DOES PHYSICAL LITERACY MEAN FOR PRESCHOOLERS?

A physically literate preschooler is one who:

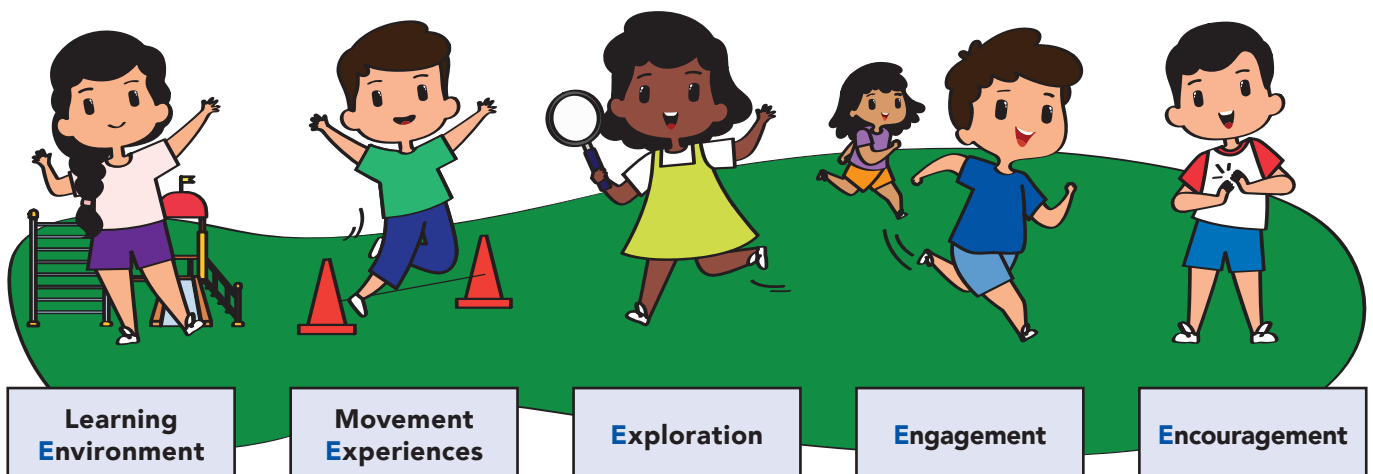
**Moves with Competence**

**Moves with Confidence**

**Enjoys Moving**

This is crucial to set a strong foundation for a happy, active, and healthy life.

### GUIDING PRINCIPLES TO FACILITATE MOVEMENT: THE 5Es FRAMEWORK



The 5Es framework will be elaborated in Chapter 3 and will guide how early childhood educators may choose to adopt and facilitate meaningful and positive movement experiences for preschoolers to become physically literate individuals.

## 1.3 WHY CHILDREN NEED TO MOVE

Physical activity is vital for a child's health, well-being, and development, both now and in the future. Children should be encouraged to participate in a wide range of movement activities and age-appropriate sport from young. A strong foundation in movement competency in early childhood also sets the child up for lifelong participation in physical activity and sport (2,7).

Being physically active in early childhood creates the conditions for **holistic development** in the following areas:

### How Physical Activity Nurtures Holistic Development

#### Motor Development

Participation in a wide variety of movement activities and sport helps children to:

- Develop fundamental movement skills proficiency<sup>1</sup>
- Build foundation to play more sport<sup>1</sup>

#### Physical Growth and Development

Regular participation in physical activity can have the following positive impacts on children at both early childhood stages and adulthood:

- Develop cardiovascular fitness<sup>2</sup>
- Build stronger bones and muscles<sup>2</sup>
- Reduce risk of obesity, osteoporosis, and other diseases later in life<sup>2</sup>

#### Cognitive Development

Physical activity has been linked to a child's cognitive development and evidence suggests that engaging in regular physical activity can:

- Improve mental alertness such as attention and working memory<sup>4</sup>
- Develop critical thinking, problem-solving, creative thinking, and decision-making skills<sup>5</sup>

#### Social-Emotional Development

Physical activity provides opportunities for social interaction and emotional regulation, which helps children to:

- Develop social-emotional skills<sup>3</sup>
- Build confidence through physical competency<sup>3</sup>

**To improve our brains, we have to move our bodies.**

Dr John J. Ratey (*Spark, The Revolutionary New Science of Exercise and the Brain*)



<sup>1</sup> Barnett LM, Beurden E, Morgan PJ, Brook LO, Beard JR. Childhood motorskill proficiency as a predictor of adolescent physical activity. *Journal of Adolescent Health*. 2009;44(3): 252-259.

<sup>2</sup> Carson V, Lee EY, Hewitt L, Jennings C, Hunter S, Kuzik N, et al. Systematic review of the relationships between physical activity and health indicators in the early years (0-4 years). *BMC Public Health*. 2017;17(Suppl 5): 854.

<sup>3</sup> Christian HE, Lester L, Al Marzooqi MK, Trost SG, Papageorgiou A. The Association Between Preschooler Physical Activity Duration and Intensity and Social Emotional Development: Findings From the PLAYCE Study. *Journal of Physical Activity and Health*. 2021;18(7): 844-850.

<sup>4</sup> Fedewa AL, Ahn S. The effects of physical activity and physical fitness on children's achievement and cognitive outcomes: a meta-analysis. *Research Quarterly for Exercise and Sport*. 2011;82(3): 521-535.

<sup>5</sup> Bidzan-Bluma I, Lipowska M. Physical Activity and Cognitive Functioning of Children: A Systematic Review. *International Journal of Environmental Research and Public Health*. 2018;15(4): 800.

As evidenced by research, adopting and cultivating an active and healthy lifestyle in early childhood is important in establishing a strong foundation towards a lifetime of good health and well-being (3,8,9).

While the teaching of fundamental movement skills and introducing active play opportunities may seem challenging for some educators, it is important to understand that movement and active play do not always have to be structured and confined within fixed settings. With some creativity and help from this resource guide, educators will be able to introduce and incorporate fundamental movement skills, movement, and active play opportunities to encourage our children to move with fun and grow.

## 1.4 PHYSICAL ACTIVITY GUIDELINES FOR EARLY CHILDHOOD

Physical activity for early childhood refers to any activity that gets children moving. It includes everyday activities, physically active play, and organised sport and exercise. Any and all forms of activity count. According to the revised Singapore Physical Activity Guidelines<sup>1</sup> (SPAG) 2022 and the Singapore Integrated 24-Hour Activity Guidelines<sup>2</sup> (for children under 7 years old), meeting the targeted recommendations will allow children to reap health benefits associated with regular physical activity and reduced sedentary behaviour (10,11).

However, a 2020 study on Singaporean preschool-aged children showed that on average, 7.8 hours per day are spent on sedentary behaviour, with only 30 minutes per day in moderate- to vigorous-intensity physical activity (12).

Recommendations from SPAG and Singapore Integrated 24-Hour Activity Guidelines:

### Physical Activity Guidelines for Preschoolers



#### 1 - 2 years old

##### Physical Activity

Spend at least 180 minutes doing a variety of physical activities, at any intensity, spread throughout the day.

Aim for daily outdoor play.

##### Sedentary Time

Limit the amount of time spent being sedentary, with recreational screen time not recommended.

Instead, engage in imaginative play, singing, reading, and storytelling activities.

##### Quality Sleep

11 to 14 hours with regular sleep and wake-up time.

#### 3 - 6 years old

##### Physical Activity

Spend at least 180 minutes doing a variety of physical activities, of which at least 60 minutes should be moderate- to vigorous-intensity activity, spread throughout the day.

Older children (5-6 years of age) should be exposed to a variety of age-appropriate vigorous-intensity play and engage in muscle- and bone-strengthening activities several times a week.

Daily outdoor active play is highly encouraged.

##### Sedentary Time

Limit the amount of time spent being sedentary, keeping recreational screen time to less than an hour a day.

##### Quality Sleep

3-4 years: 10 to 13 hours

5-6 years: 9 to 13 hours

Children aged 5-6 years should engage in age-appropriate muscle- and bone-strengthening activities at least three days a week. These activities include doing gymnastics, running, jumping, climbing, and playing games at the playground (10).

<sup>1</sup> The revised Singapore Physical Activity Guidelines (SPAG) was launched in 2022 and provides national reference points on public health recommendations (for various sub-populations) on the amount of physical activity (Frequency, Intensity and Duration) required to achieve health benefits and mitigate health risks.

<sup>2</sup> The Singapore Integrated 24-Hour Activity Guidelines for Early Childhood (below 7 years) provides guidance to encourage Singapore infants, toddlers, and preschoolers to adopt a holistic approach towards integrating all types of activity within a daily 24-hour period.

## 1.5 WHAT THIS MEANS FOR EARLY CHILDHOOD EDUCATORS

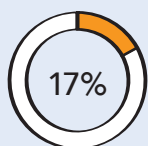
During our consultation with early childhood educators, we discovered some common obstacles that prevented them from including movement in their lessons. This guide not only provides practical techniques and ideas to tackle these challenges, but also aims to be easily comprehensible. By doing so, it empowers early childhood educators to confidently and independently integrate movement into their lesson plans, anytime, anywhere.

These challenges are summarised below:

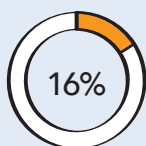
### Common Challenges in Integrating Movement Into Lessons

Sport Singapore's survey for fundamental movement skills resources, conducted in 2022, involved 455 early childhood educators who were asked about the difficulties they experienced when trying to incorporate movement into their teaching. The challenges identified by the educators can be grouped into three main categories:

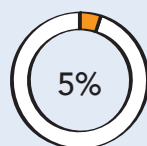
#### Challenges Related to Self-Perception and Assessment of Teaching Abilities



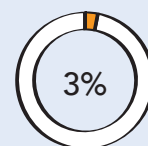
A lot of effort is required to plan and conduct lessons involving movement



I need more time for teaching other learning domains

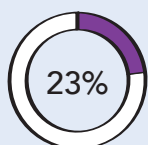


I do not have enough skills and knowledge on how to teach fundamental movement skills

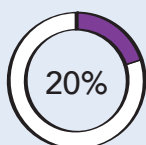


I do not have enough confidence in teaching fundamental movement skills

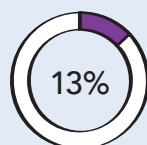
#### Challenges Related to Teaching Strategies and Tactics



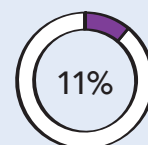
There are too many students in my class



There is not enough space to carry out physical activities

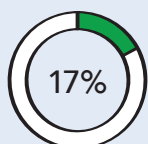


I do not have enough/suitable equipment

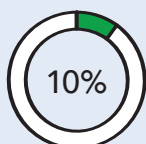


I am unable to cater to students with different abilities

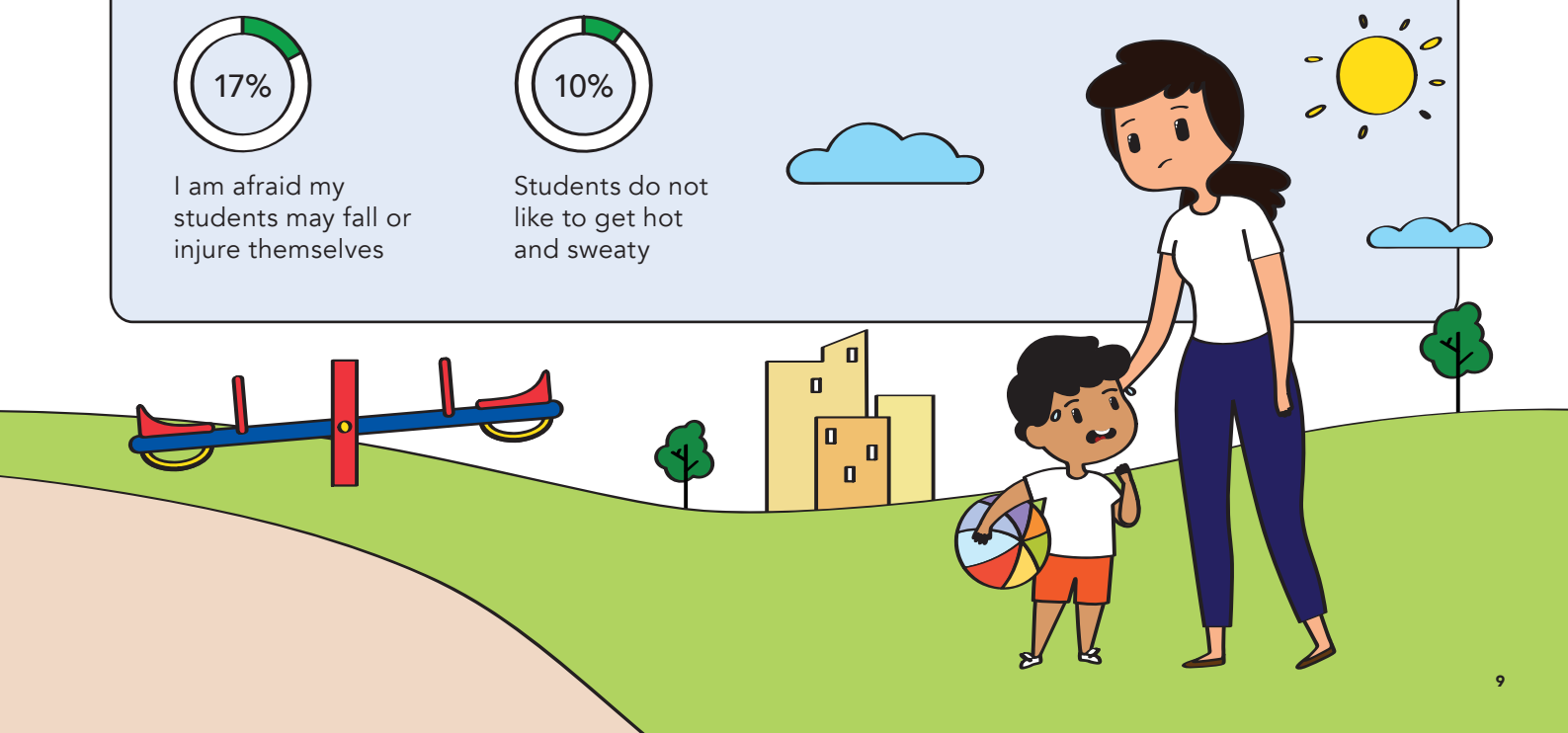
#### Challenges Related to Preschoolers' Well-Being



I am afraid my students may fall or injure themselves



Students do not like to get hot and sweaty



The following chapters of this resource guide and online materials will seek to address these concerns and serve as a useful tool for educators to carry out physical activities:

## CHAPTER 2

**Integrated Movement Approach** will demonstrate how educators can incorporate movement into children's daily learning experiences through place-making strategies and integrating them into other learning domains and daily routines.

## CHAPTER 3

**Facilitating Movement** will introduce the 5Es framework, movement concepts, strategies, and safety guidelines for movement activities.

## CHAPTER 4

**Movement Activities** will present a collection of activity plans integrating guiding principles from the 5Es framework and provide educators with a range of suitable activities for diverse learners, group sizes, and space constraints.

## CHAPTER 5

**Movement Skills** will consolidate the movement skills presented in this guide, and help educators to plan, observe, and assess children's movement skills.

Complementary content such as video tutorials and demonstrations of the movement concepts, as well as visual aids that help educators better understand and teach fundamental movement skills are referenced at specific sections of this guide for you to view on the website.

The website will also feature ground-up contributions by the sector to share real-life examples of how educators could create an active environment for children and make movement as a way of life.



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