



# Nurturing Early Learners

A Curriculum Framework for Preschool Education in Singapore

# Nurturing Early Learners

A CURRICULUM FRAMEWORK FOR  
PRESCHOOL EDUCATION IN SINGAPORE

Copyright © 2022, Ministry of Education  
Republic of Singapore  
Earlier editions published by Ministry of Education,  
Singapore in 2003 and 2012.

All rights reserved. This publication shall not  
be reproduced, stored in a retrieval system,  
or transmitted in any form or by any means,  
electronic, mechanical, photocopying, recording, or  
otherwise, without the prior written permission of  
the copyright owner.

All information contained herein is correct at the  
time of printing.

ISBN: 978-981-18-5622-8

# CONTENTS

MESSAGE	06	CHAPTER 5: <i>iTeach Principles</i>	61
FOREWORD	07	<ul style="list-style-type: none"><li>• integrated Approach to Teaching and Learning</li><li>• Teachers as Facilitators of Learning</li><li>• engaging Children in Learning through Purposeful Play</li><li>• authentic Learning through Quality Interactions</li><li>• children as Constructors of Knowledge</li><li>• holistic Development</li></ul>	
ACKNOWLEDGEMENTS	08	CHAPTER 6: Role of Teachers in Nurturing Early Learners	78
INTRODUCTION	10	<ul style="list-style-type: none"><li>• Teachers as Thoughtful Planners</li><li>• Teachers as Responsive Facilitators</li><li>• Teachers as Reflective Practitioners</li><li>• Teachers as Collaborative Partners</li></ul>	
CHAPTER 1: Preschool Education in Singapore	13	CONCLUSION	133
<ul style="list-style-type: none"><li>• Preschool Education Landscape in Singapore</li><li>• Key Stage Outcomes of Preschool Education</li><li>• Frameworks for Young Children</li></ul>		ANNEXES AND BIBLIOGRAPHY	135
CHAPTER 2: Nurturing Early Learners in Singapore	22	<ul style="list-style-type: none"><li>• Annex A: Knowledge, Skills and Dispositions of Social and Emotional Competencies</li><li>• Annex B: Learning Goals, Knowledge, Skills and Dispositions of Learning Areas</li><li>• Annex C: Summary of Theoretical and Research Bases of iTeach Principles</li><li>• Bibliography</li></ul>	
<ul style="list-style-type: none"><li>• Overview of the Nurturing Early Learners Framework</li><li>• Beliefs about Children</li></ul>			
CHAPTER 3: Values, Social and Emotional Competencies and Learning Dispositions	26		
<ul style="list-style-type: none"><li>• Foregrounding Values, Social and Emotional Competencies and Learning Dispositions</li><li>• Inculcating Values</li><li>• Developing Social and Emotional Competencies</li><li>• Fostering Learning Dispositions</li></ul>			
CHAPTER 4: Learning Areas and Learning Goals	36		
<ul style="list-style-type: none"><li>• Aesthetics and Creative Expression</li><li>• Discovery of the World</li><li>• Health, Safety and Motor Skills Development</li><li>• Language and Literacy (English Language and Mother Tongue Language)</li><li>• Numeracy</li></ul>			

## MESSAGE

Nurturing Early Learners: A Curriculum Framework for Preschool Education in Singapore (NEL Framework) sets the direction for quality teaching and learning of young children. In the 2022 update to the NEL Framework, we have placed greater emphasis on values, social and emotional competencies and learning dispositions. This is timely given that the world our children are living in is constantly changing, requiring them to be adaptable.

Our world is a hyper-connected one where constant change is part and parcel of life. Learning to discern different information and diverse views will be an important skill set for our children. It is also critical that our children develop the ability to make right decisions based on appropriate values and learn to act responsibly. The COVID-19 pandemic has taught us the importance of being resilient and innovative in a rapidly evolving situation. In the face of uncertainties, what stood out was the care and compassion Singaporeans extended to one another as we remained united as a community, values we hope our children will embody as well in time.

NEL Framework 2022 provides guidelines on the opportunities and experiences you can create for our children's learning and development. While literacy and numeracy are foundational to their learning, their character and holistic development are equally important. In developing their learning dispositions, you are also nurturing our children to become lifelong learners who are able to adapt and innovate in a dynamic world.

As preschool educators, you are one of our children's first educators and play a pivotal part in laying a strong foundation for our children to learn and live in a complex world. Together with parents, you play a key role in nurturing our children's values and social and emotional development so that they will grow up to be persons of character who contribute positively to the world they live in. Our children are our future – let us all commit to giving them the best start in life so that they can reach for their dreams and build a better world for all.

**Chan Chun Sing**

Minister for Education

**Masagos Zulkifli**

Minister for Social and Family Development and  
Second Minister for Health

## FOREWORD

Nurturing Early Learners: A Curriculum Framework for Preschool Education in Singapore (NEL Framework) provides guidelines for quality teaching and learning of our children aged 4 to 6, and the learning goals for children at the end of their preschool education. To give every child a good start in a rapidly evolving and complex world, NEL Framework 2022 emphasises the importance of holistic development and nurturing the joy of learning in our children.

There are three significant updates in NEL Framework 2022. Firstly, we have refreshed our beliefs about children as we believe children are joyful, curious, active and competent learners who play, learn and grow with others in a diverse and multi-cultural community.

Secondly, we have given greater prominence to the importance of inculcating values, developing social and emotional competencies and fostering positive behaviours towards learning. The foundation for character building and lifelong learning starts at preschool. Children, guided by a strong set of values, grow up to be citizens of good character who can contribute positively to their family, community and country. Research has also shown that emphasis on our children's social and emotional development promotes positive self-identity and responsible decision-making. When children develop social and emotional competencies, they learn how to communicate and build relationships, respect others and manage their actions. In turn, the positive relationships our children develop with others lay the foundation for them to address challenges effectively and lead fulfilling lives in the future. Fostering positive behaviours and attitudes helps our children nurture a love of learning, making them self-motivated lifelong learners. Our preschool educators will incorporate these key aspects into their children's daily experiences.

Thirdly, there will be deeper integration of Mother Tongue Language into NEL Framework 2022 to promote early childhood bilingualism and transmission of our cultural heritage, customs and traditions. This is particularly important given our unique socio-linguistic context and socio-demographics.

Efforts to uplift the quality of preschool education is critical. Our preschool educators play a critical role in partnering families and the community to support our children's learning and development. We encourage all educators to use NEL Framework 2022 together with the Educators' Guides for curriculum, educational programmes and their professional development. Let us work together to provide our children with a strong foundation for the years ahead!

**Tan Chen Kee (Mrs)**

Deputy Director-General of Education (Schools)  
and Director of Schools, Ministry of Education

**Tan Chee Wee**

Chief Executive Officer  
Early Childhood Development Agency

## ACKNOWLEDGEMENTS

The Ministry of Education wishes to thank the following consultants and resource persons whose professional guidance and valuable advice were instrumental in the development of the document:

### Consultants

- **Prof Stephanie Jones**  
Gerald S. Lesser Professor in Early Childhood Development and Director of the EASEL Lab, Harvard Graduate School of Education
- **Dr Beth O'Brien**
- **Prof Nirmala Rao**  
Serena H. C. Yang Professor in Early Childhood Development and Education, Faculty of Education, The University of Hong Kong

### Resource Persons

- **Dr Jeyarajadas Pandian**  
Academy of Singapore Teachers
- **Dr Raudhah Yahya**  
National Institute of Early Childhood Development
- **Dr Zheng Yingjiang**  
Singapore Centre for Chinese Language

We would like to acknowledge the members of the Nurturing Early Learners Framework Review Committee for their advice, feedback and recommendations on the document during the consultative process (2020-2021). The members were from Pre-school Education Branch, Mother Tongue Languages Branch, English Language and Literature Branch in the Ministry of Education and the following organisations:

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• <b>Dr Christine Chen</b><br/>Association for Early Childhood Educators (Singapore)</li> <li>• <b>Mrs Melissa Goh-Karszen</b><br/>NTUC First Campus Co-operative Limited</li> <li>• <b>Dr Hanin Hussain</b><br/>National Institute of Education, Nanyang Technological University</li> <li>• <b>Dr Ho Yin Fong</b><br/>National Institute of Early Childhood Development</li> <li>• <b>Assoc Prof Sirene Lim</b><br/>Singapore University of Social Sciences</li> <li>• <b>Dr Ng Ee Lynn</b><br/>National Institute of Education, Nanyang Technological University</li> <li>• <b>Ng Yeow Ling</b><br/>Yu Neng Primary School</li> </ul> | <ul style="list-style-type: none"> <li>• <b>Ms Ong Siew Teng</b><br/>PAP Community Foundation</li> <li>• <b>Ms N. Pushpavalli</b><br/>Ramakrishna Mission Sarada Kindergarten</li> <li>• <b>Dr Lucy Quek</b><br/>National Institute of Early Childhood Development</li> <li>• <b>Ms Caroline Seng</b><br/>Early Childhood Development Agency</li> <li>• <b>Ms Siti Nurrafidah Bte Samat</b><br/>MOE Kindergarten @ Punggol Green</li> <li>• <b>Dr Sum Chee Wah</b><br/>Singapore University of Social Sciences</li> <li>• <b>Tang Hui Nee</b><br/>KK Women's and Children's Hospital</li> <li>• <b>Ms Josephine Wong</b><br/>E-Bridge Pre-school Pte Ltd.</li> </ul> |
|---|--|

We are grateful to the curriculum specialists and educators from the various preschool headquarters, kindergartens, childcare centres and primary schools for their useful feedback and suggestions:

### Preschool Headquarters

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Ace @ Work Educare</li> <li>• Agape Little Uni</li> <li>• E-Bridge Pre-school Pte Ltd.</li> <li>• Iyad Perdaus Child Development</li> <li>• M.Y World Preschool Ltd</li> <li>• My First Skool</li> </ul> | <ul style="list-style-type: none"> <li>• Nurture Education Group</li> <li>• PAP Community Foundation</li> <li>• Persatuan Pemudi Islam Singapura</li> <li>• Safari House Preschool</li> <li>• Sunflower Childcare Group</li> <li>• Young Women's Christian Association of Singapore</li> </ul> |
|---|--|

### Preschool Centres

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Ace @ Work Educare<br/>Jurong East Block 288B</li> <li>• MOE Kindergarten @ Northoaks</li> <li>• M.Y World @ Yishun</li> <li>• My First Skool at 51 Fernvale Link</li> <li>• My First Skool at Block 19 Jalan Sultan</li> </ul> | <ul style="list-style-type: none"> <li>• My First Skool at Block 120<br/>Canberra Crescent</li> <li>• Odyssey the Global Preschool Still Road</li> <li>• PCF Sparkletots @ Bedok Reservoir-Punggol Block 713</li> <li>• PCF Sparkletots @ Chua Chu Kang Block 10</li> <li>• Spring Brainy Kidz Group Pte. Ltd.</li> </ul> |
|--|---|

### Primary Schools

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Blangah Rise Primary School</li> <li>• Farrer Park Primary School</li> <li>• Fernvale Primary School</li> <li>• Hougang Primary School</li> <li>• Juying Primary School</li> <li>• Keming Primary School</li> <li>• Kranji Primary School</li> <li>• Kuo Chuan Presbyterian Primary School</li> <li>• Mee Toh School</li> <li>• Methodist Girls' School</li> </ul> | <ul style="list-style-type: none"> <li>• Nan Hua Primary School</li> <li>• Naval Base Primary School</li> <li>• Ngee Ann Primary School</li> <li>• Paya Lebar Methodist Girls' School</li> <li>• Pei Hwa Presbyterian Primary School</li> <li>• Punggol Cove Primary School</li> <li>• Red Swastika School</li> <li>• St. Andrew's Junior School</li> <li>• Tampines North Primary School</li> <li>• Telok Kurau Primary School</li> </ul> |
|---|--|

We would like to express our appreciation to the children, teachers and principals of the following kindergartens and childcare centres for their involvement in the photography sessions:

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• 7oaks Preschool – Bukit Batok</li> <li>• E-Bridge Pre-school Pte Ltd.</li> <li>• EtonHouse Pre-School Pte Ltd (Vanda)</li> <li>• Hebron Christian Preschool</li> <li>• Learning Vision @ TechPoint</li> <li>• MOE Kindergarten @ Punggol View</li> <li>• My First Skool at 6 Segar Road</li> </ul> | <ul style="list-style-type: none"> <li>• M.Y World @ Tampines Central</li> <li>• PCF Sparkletots @ Braddell Heights Blk 417</li> <li>• PCF Sparkletots @ Pasir Ris West Blk 517</li> <li>• Presbyterian Preschool Services</li> <li>• Star Learners @ Choa Chu Kang Sports Centre</li> </ul> |
|---|--|

# Introduction

## INTRODUCTION

*Nurturing Early Learners (NEL) – A Curriculum Framework for Preschool Education in Singapore* was first introduced by the Ministry of Education (MOE) in January 2003. The framework guides preschool centres in designing and implementing a quality curriculum for children aged four to six. It was refreshed in 2012 in line with research and practices current at that time. Educators' Guides and teaching and learning resources were developed to help preschool educators translate the principles and learning goals spelled out in the framework into teaching practices. A parallel set of resources was also developed to guide teaching and learning of the three official Mother Tongue Languages (Chinese Language, Malay Language and Tamil Language) in Singapore.

### Curriculum

is defined as all planned and unplanned interactions, experiences, transitions, and routines that occur within an environment designed to foster children's holistic development.

NEL Framework 2022 incorporates current developments, both local and international, in early childhood education policy, practice and research. It also captures the thoughts and aspirations of various local stakeholders such as early childhood educators, academics and teacher trainers. NEL Framework 2022 aims to help preschool educators nurture lifelong learners with the values, dispositions, knowledge and skills that are needed for them to be future-ready and to relate well with the world around them.

***“We cannot shield our children from all uncertainties and imperfections of this world. Nor should it be our aim. But we certainly can and want to equip them with the skills to manage the uncertainties and navigate the imperfections.”***

**Chan Chun Sing**

Minister for Education  
Committee of Supply 2022 Speech



**The key updates in NEL Framework 2022 include:**

- Refreshing our shared beliefs about who children are, what they are capable of and how they learn and grow in the specific social and cultural context in Singapore
- Strengthening the promotion of character building and lifelong learning by foregrounding values, social and emotional competencies<sup>1</sup> and learning dispositions
- Elaborating on the *iTeach* principles for quality teaching and learning
- Updating the learning goals and widely held expectations of what children should learn and be able to do at the end of preschool education in the five learning areas, namely, Aesthetics and Creative Expression; Discovery of the World; Health, Safety and Motor Skills Development<sup>2</sup>; Language and Literacy for English (EL) and Mother Tongue Language (MTL); and Numeracy
- Integrating teaching and learning of MTL more seamlessly to promote early childhood bilingualism

***“Learn for Life” is a value, an attitude, and a skill that our students need to possess, and it is fundamental in ensuring that education remains an uplifting force in society.***

**Ong Ye Kung**

Then Minister for Education  
2018 Schools Work Plan Seminar

Quality preschool education gives every child a good start in life. In these foundational years, it is important to help children develop holistically across a range of knowledge and skills that includes both cognitive and non-cognitive development to set them on a path towards learning for life.



<sup>1</sup> Taking reference from MOE's Character and Citizenship Education (CCE) 2021, social and emotional competencies comprise an updated set of knowledge, skills and dispositions articulated for the former learning area on Social and Emotional Development.

<sup>2</sup> This learning area was formerly known as Motor Skills Development.

# Chapter 1

## PRESCHOOL EDUCATION IN SINGAPORE

# CHAPTER 1: PRESCHOOL EDUCATION IN SINGAPORE

## Preschool Education Landscape in Singapore

The preschool sector in Singapore comprises childcare centres and kindergartens<sup>3</sup>. While preschool education for children aged four to six is not mandatory, almost all children in Singapore complete one year of preschool education before they enter primary school in the year they turn seven years of age.



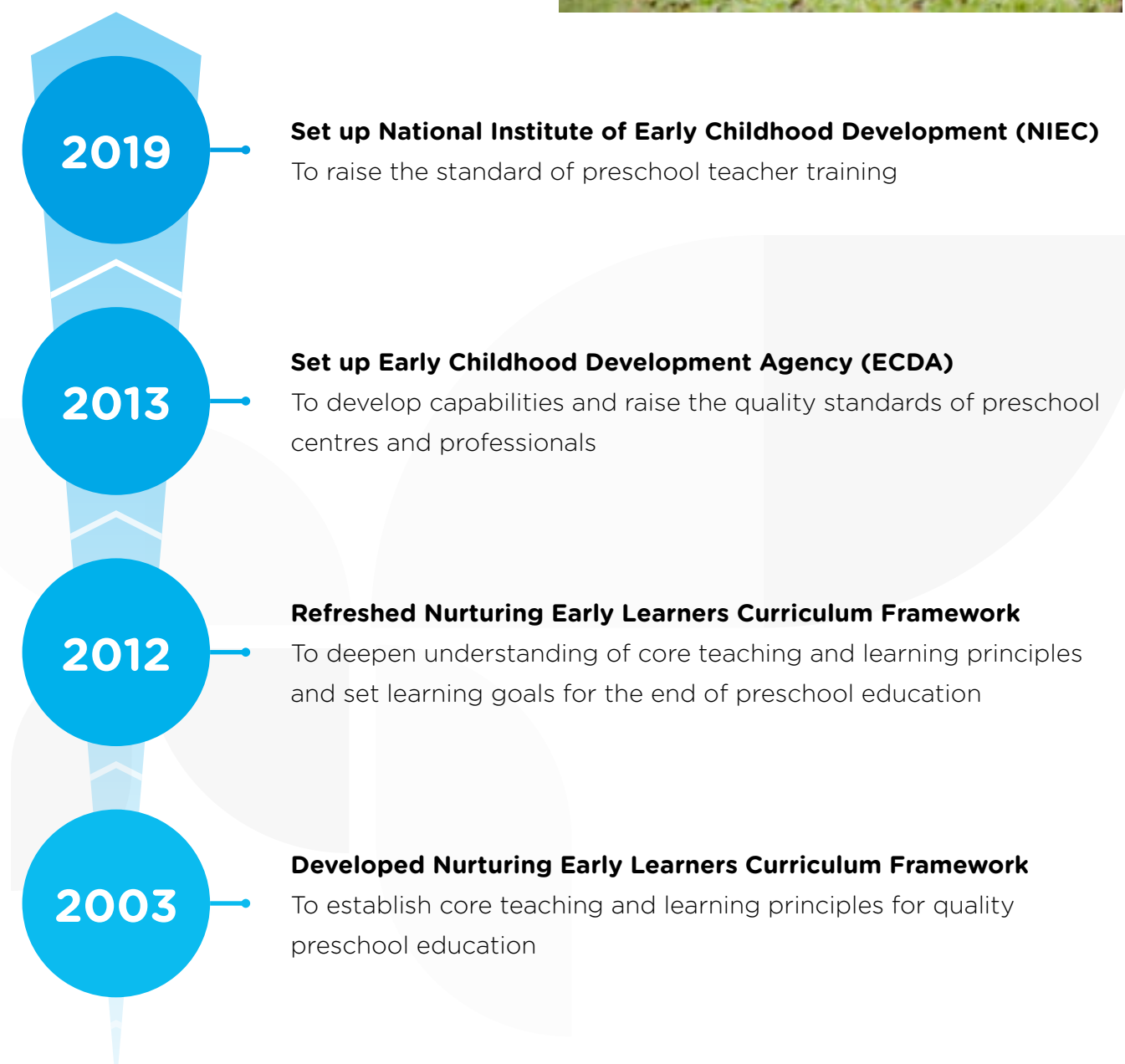
Quality preschool education is recognised as one of the important factors contributing to children’s well-being and development. Since 2000, the Singapore government has focused its efforts to raise the quality of preschool education. To drive quality curriculum development for preschool education, MOE first launched a curriculum framework, known as *Nurturing Early Learners: A Curriculum Framework for Kindergartens in Singapore*, or the Nurturing Early Learners (NEL) Framework 2003. The framework, which outlines key teaching and learning principles based on internationally recognised research and best practices in early childhood education, was refreshed in 2012. Since then, other significant enhancements have been implemented to strengthen the sector’s capabilities in providing quality, accessible and affordable preschool education to give every child a good start in life. Figure 1 shows the significant milestones in raising the quality of teaching and learning for preschool education in Singapore.

<sup>3</sup> Childcare centres and kindergartens will be referred to as preschool centres in this document.

Figure 1: Significant Milestones in Raising the Quality of Preschool Teaching and Learning



## A GOOD START FOR EVERY CHILD





## Key Stage Outcomes of Preschool Education

Quality experiences in the preschool years have been found to make a difference in the future learning of children (Heckman, 2008; Shonkoff & Phillips, 2000; Sylva, Melhuish, Sammons, Siraj-Blatchford & Taggart, 1999).

The Key Stage Outcomes of Preschool Education spell out what the Singapore education system aspires to develop in our children. They reflect the importance of the holistic development of children, emphasising the need for them to build up confidence and social skills in the preschool years. They also indicate the necessary knowledge, skills and dispositions to prepare children for lifelong learning.

**These are the considerations that have shaped the Key Stage Outcomes of Preschool Education:**

The **Learn for Life** movement in Singapore's education landscape informs the Key Stage Outcomes of Preschool Education through these three thrusts:

- Igniting the joy of learning – Children take delight in discovering, exploring and learning from their environment. This ignites in them a greater desire to learn.
- Learning languages for life – Children are motivated to learn and develop a positive sense of their cultural identity. Learning languages also gives them an economic advantage in the future.
- Ensuring education is an uplifting force – Children are given a good start to lead fulfilling lives.

In the fast-changing world that our children live in, **21<sup>st</sup> century skills** become increasingly important and relevant. Taking reference from MOE's Framework for 21st Century Competencies and Student Outcomes, it is important to equip our children with the necessary values, social and emotional competencies and the needed skills for a globalised world. In particular, the following competencies are essential to prepare our young children to thrive in the future:

- The ability to work with people from diverse cultural backgrounds, with different ideas and perspectives
- The desire to learn, explore and be prepared to think outside the box
- The ability to communicate their ideas clearly and effectively

*21<sup>st</sup> Century Competencies, Ministry of Education, 2021*

Preschool education lays the foundation for children's subsequent stages of education so that they attain the Desired Outcomes of Education by possessing:

**A good sense of self-awareness.**

**A sound moral compass.**

**The necessary skills and knowledge to take on challenges of the future.**

Our children should also be:

### Confident persons

who have a zest for life, have a strong sense of right and wrong, are adaptable and resilient, know themselves, are discerning in judgment, think independently and critically, and communicate effectively.

### Active contributors

who are able to work effectively in teams, exercise initiative, take calculated risks, are innovative and strive for excellence.

### Self-directed learners

who take responsibility for their own learning, who question, reflect and persevere in the lifelong pursuit of learning.

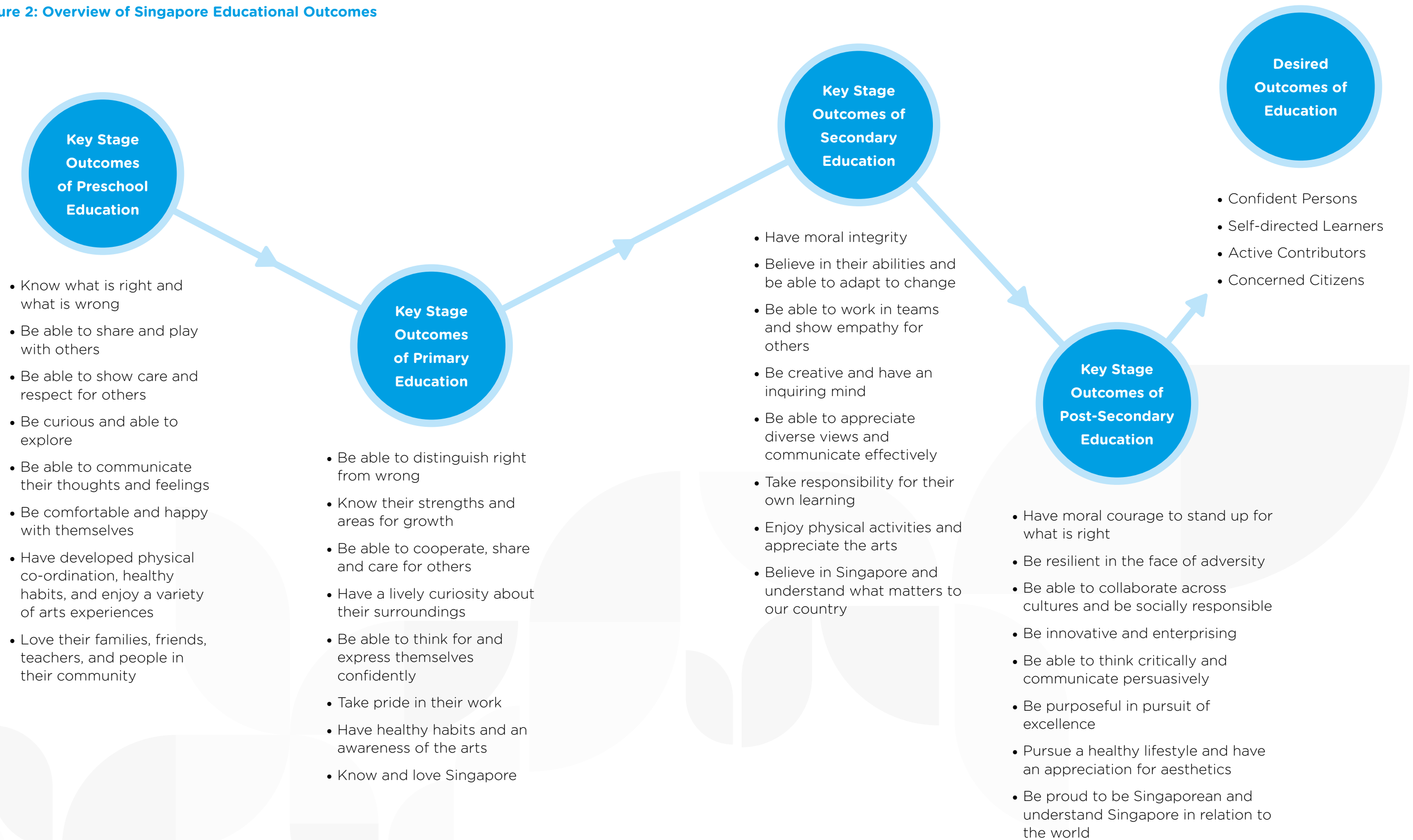
### Concerned citizens

who are rooted to Singapore, have a strong civic consciousness, are responsible to their family, community and nation, and take active roles in improving the lives of others.



Figure 2 lists the outcomes of the different key stages of a child's educational journey in developing the requisite competencies to achieve the Desired Outcomes of Education.

**Figure 2: Overview of Singapore Educational Outcomes**



Frameworks for Young Children

A good start for our children in their early years can make a positive and lifelong difference in their development to adulthood. The early years also form the building blocks for:



Two factors are critical in providing children from birth to six years with a good start:

Fostering **warm and responsive relationships with children** through **frequent and sustained interactions**

Creating **positive experiences for children** that would give them the **resilience to overcome challenges and adversity**

Adapted from Center on the Developing Child at Harvard University (2016). From best practices to breakthrough impacts: A science-based approach to building a more promising future for young children and families.

Two frameworks have been developed locally to guide early childhood educators to support children’s healthy development and learning:

- **Early Years Development Framework (EYDF)** published by the Early Childhood Development Agency (ECDA) for children from birth to three years
- **NEL Framework** published by MOE for children from four to six years

These are the key considerations that guide both frameworks:

- 01

**Our beliefs about who children are, what they are capable of and how they learn and develop.**  
These will guide the daily actions and decisions made by early childhood educators.
- 02

**Warm and responsive interactions between children and educators.**  
These help to create a positive environment for children to thrive in.
- 03

**Active engagement with families and other educators (preschool and primary school).**  
This is essential to facilitate a smooth transition for children through different care and education settings.

Both frameworks cover different age ranges and are written based on children’s different developmental needs and levels of readiness for learning. Early childhood educators should refer to the two frameworks to have a holistic understanding of children’s learning and development. This will help to ensure continuity and progression in the learning experiences created for the children throughout their preschool years.

When children from birth to three years receive quality care that supports their physical, social, emotional and cognitive development, a strong foundation is established for their further development when they are four to six years old. In working closely with families, early childhood educators also provide children with the necessary support to transit smoothly from home or other early years settings to preschool and subsequently to primary school.

## CHAPTER 2: NURTURING EARLY LEARNERS IN SINGAPORE

### Overview of the Nurturing Early Learners (NEL) Framework

The NEL Framework provides the key concepts for promoting quality learning and positive development of children in Singapore. Figure 3 visually represents how we can lay a strong foundation for our children so that they may achieve the aspired outcomes of education.

**Figure 3: Key Concepts of NEL Framework**

#### Beliefs about Children

- Children are joyful, curious, active and competent learners.
- Children play, learn and grow with others in a diverse and multi-cultural community.

#### Values

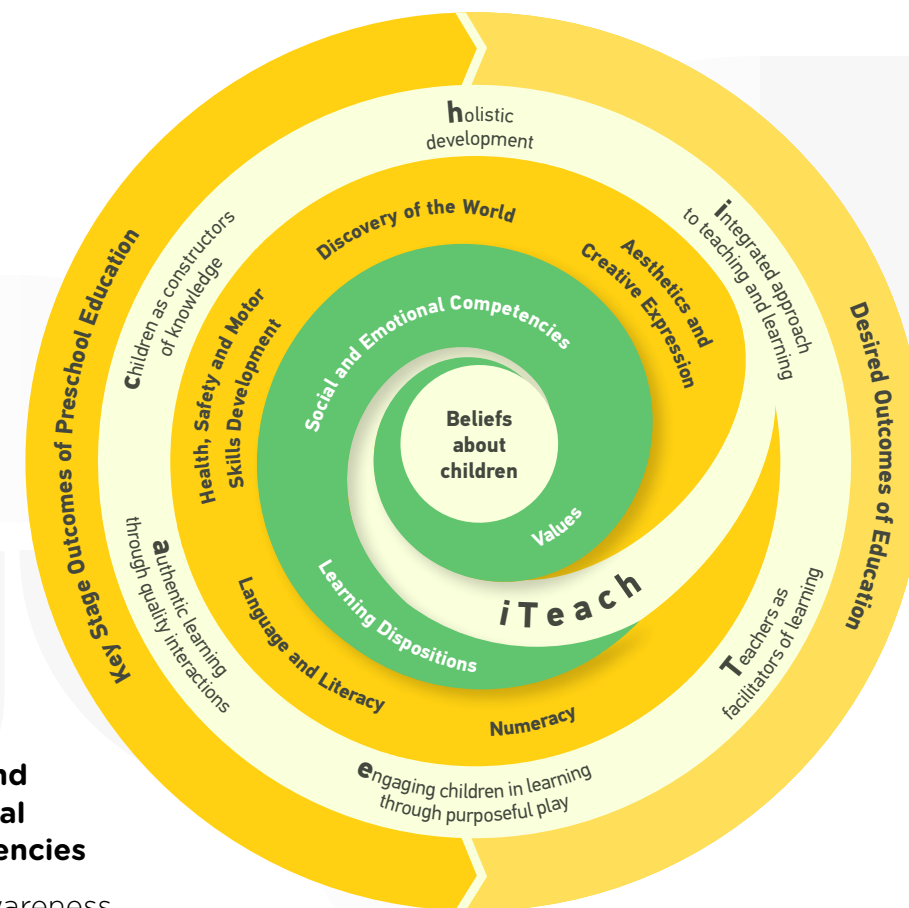
- Respect
- Responsibility
- Care
- Honesty

#### Social and Emotional Competencies

- Self-awareness
- Self-management
- Social awareness
- Relationship management
- Responsible decision-making

#### Learning Dispositions

- Perseverance
- Reflectiveness
- Appreciation
- Inventiveness
- Sense of wonder and curiosity
- Engagement



# Chapter 2

## NURTURING EARLY LEARNERS IN SINGAPORE

At the centre of the NEL Framework is our beliefs about children. Underpinning the holistic development of children are the values, social and emotional competencies and learning dispositions, as well as the key knowledge, skills and dispositions in the five learning areas. The effective support teachers provide children in their learning and development is key and central to the NEL Framework. The six *iTeach* principles for quality teaching and learning constantly guide teachers in planning, designing and facilitating appropriate and meaningful learning experiences for the children. These learning experiences will lay a strong foundation to help them achieve the Key Stage Outcomes of Preschool Education and develop the competencies that are aligned with the Desired Outcomes of Education.

## Beliefs about Children

Our beliefs about children are rooted in our specific social and cultural context in Singapore. The environment we live in also influences our image and understanding of children within our communities. Articulating our beliefs about children will clarify our understanding of who children are, what they are capable of and how they learn. These perceptions in turn influence and shape classroom practices and interactions.

**Our beliefs about children are reflected in the following statements:**

**Children are joyful, curious, active and competent learners.**

**Children play, learn and grow with others in a diverse and multi-cultural community.**

## Children are Joyful, Curious, Active and Competent Learners

Children are **joyful** learners who have an innate need to make sense of the world around them through play, exploration and discovery. They do not merely observe the world and ignore the challenges that confront them. Instead, they are naturally **curious** about the world around them. They **actively** explore and observe their environment with their friends and adults to discover why things happen and how things work. Children are also **competent learners**. They can learn almost anything given the right support and the right environment.

## Children Play, Learn and Grow with Others in a Diverse and Multi-Cultural Community

Children are social beings and at the heart of their growth and development, they seek to build positive and meaningful relationships with others. As Singapore is made up of diverse groups and people with different backgrounds, needs and interests, opportunities should be made available for children to play, learn and grow together with others, regardless of their background, age and ability. By interacting with others in caring and respectful ways, they learn to consider the needs of those around them and how to be other-centric.

Children in Singapore interact with the larger community (i.e., outside of their homes and schools) that is rich in both culture and language. They enjoy being immersed in an environment that celebrates ethnic diversity and are eager to learn more about the different cultures by participating in the traditions and practices of the local community. In doing so, they also learn to appreciate and show respect for diversity and the cultural heritage of the different cultures.

Hence, our beliefs about children embrace a view of the child as agentic and active in the process of learning and development. Reflecting the changing realities and aspirations for young children in Singapore, these guide preschool educators to intentionally plan and seize opportunities to develop the fullest potential of our children.



Children  
play, learn and  
grow with others  
in a diverse and  
multi-cultural  
community.





# Chapter 3

## VALUES, SOCIAL AND EMOTIONAL COMPETENCIES AND LEARNING DISPOSITIONS

### CHAPTER 3: VALUES, SOCIAL AND EMOTIONAL COMPETENCIES AND LEARNING DISPOSITIONS

Instead of having Social and Emotional Development as a learning area, the updated NEL Framework places an increased emphasis on nurturing values, social and emotional competencies and learning dispositions. These three aspects of development have an impact on the attitudes children adopt, their behaviours and how they make decisions. They cut across all the learning areas and help to set the stage for character building, lifelong learning and learning to live harmoniously with others in a rapidly changing and complex world. These should be intentionally and consistently incorporated across children's learning experiences.

Children's learning and development depend on the relationships that they have with others. Warm and positive relationships with their family, friends, teachers and people in their community provide a safe environment for children in which to explore and learn. Such an environment allows them to develop and grow into individuals of good character who are keen to help and contribute to the well-being of others.

#### Foregrounding Values, Social and Emotional Competencies and Learning Dispositions

Values, social and emotional competencies and learning dispositions enhance the learning experiences created to develop children's knowledge, skills and dispositions in the five learning areas.

- **Values** serve as guideposts for children and set standards and norms that guide their behaviour. They shape how children use the knowledge and skills they have learnt, whether they act when they should or need to.
- **Social and emotional competencies** complement values by providing children with the knowledge, skills and dispositions to understand themselves and to relate positively and constructively with others. Being a part of their community, children need to know how to interact well with others, be responsible citizens and navigate the various and new situations in which they find themselves.
- **Positive learning dispositions** place children in good stead to embrace lifelong learning. To thrive in a dynamic and varied world, it is important that they are motivated and actively learn new things throughout their lives.



## Inculcating Values

Values serve as a compass that guides children in their daily interactions and decisions. Children who are guided by a strong set of core values grow up to be citizens of good character who can contribute positively to their family, community and Singapore.

The four core values<sup>4</sup> identified by the NEL Framework are **Respect, Responsibility, Care and Honesty**. These core values are relevant to the lived experiences of children in Singapore and easily translated into actions in their daily life. In the preschool years, it is important for children to develop a sense of right and wrong, make responsible choices and become more aware of their roles in the community. In our multi-racial, multi-cultural society, a sense of shared values and respect allows us to appreciate and celebrate our diversity, so that we stay cohesive and harmonious.



### Respect

Being respectful helps children to recognise the intrinsic worth of all people, appreciating and accepting them for who they are, regardless of where they come from and what they are capable of doing.

Children who are respectful are courteous in their words and actions towards others. They also recognise and are appreciative of the support provided by people such as their family, friends, teachers and people in the community.

### Responsibility

Being responsible helps children to be dependable. They keep promises and accept the consequences for what they say and do.

Children who are responsible take pride in what they do and are motivated to see things through. They also do not make excuses or blame others when things go wrong.

### Care

Being caring helps children to look out for others, understand their needs and show empathy.

Children who are caring choose kind words and actions when playing or working with others. They show kindness and concern for others and will offer help to their friends and others in need.

### Honesty

Being honest helps children to know that being truthful is the right thing to do, even when being honest may upset or anger others.

Children who are honest tell the truth based on what really happened. They bravely accept the consequences of their actions and are willing to learn from their mistakes.

These four core values for preschool children are adapted from MOE's six core values for Character and Citizenship Education (CCE) 2021, namely, Respect, Responsibility, Resilience, Integrity, Care and Harmony. They serve to support coherence and continuity in children's learning and development, from preschool to primary school. These four values also take into account the core national family values identified by the Ministry of Social and Family Development, namely, Love, Commitment, Care and Concern, and Respect. These are important for the building of strong families in our nation. In teaching our children to embrace the four core values from young, we help them show respect, care, love and appreciation for their family which helps build stronger family ties. While the inculcation of values continues beyond preschool, it is during the early years when the foundation is laid. These values may be fostered through teacher-planned experiences and teachable moments arising from daily interactions and routines.



## Developing Social and Emotional Competencies

Social and emotional competencies help children understand themselves and develop a positive sense of themselves in relation to their peers, family and the community. These competencies also have a long-term positive impact on their behaviours, attitudes, motivation and academic performance (Collaborative for Academic, Social, and Emotional Learning, 2020; Hyson, 2004; Kostelnik et al., 2019).

<sup>4</sup> Preschool centres may include other values that are appropriate for their setting and community.

**The following five social and emotional competencies contribute to children's personal and social well-being:**

- Self-awareness
- Self-management
- Social awareness
- Relationship management
- Responsible decision-making



Learning the necessary knowledge, skills and dispositions associated with the building of these social and emotional competencies is a lifelong process and occurs through a variety of meaningful and authentic experiences. Teachers need to create, scaffold, and continually adapt these learning experiences to help children develop social and emotional competencies. Refer to [Annex A](#) for examples of what teachers could look out for to observe and evaluate children's learning and development in the five social and emotional competencies.

### Competency 1: Develop self-awareness

Self-awareness allows children to recognise and understand their thoughts, values and personal goals which enable them to construct an understanding of who they are. Children with an awareness of personal identity are able to identify their own abilities and personal qualities. By building upon these abilities and qualities, they will grow in confidence and develop a positive self-concept. Having a positive self-concept also empowers children to feel competent, make decisions and take appropriate risks. Children's personal identity also extends to their sense of belonging to a socio-cultural group as they begin to understand themselves in relation to the people around them. This helps children in becoming positive and contributing members of society. Hence, teachers could provide opportunities for children to:

- 1.1 Identify and talk about aspects of personal identity (e.g., their name, age gender, abilities, likes and dislikes)
- 1.2 Develop a positive self-concept (i.e., feel good about their own competence and characteristics)
- 1.3 Recognise that they are part of a socio-cultural group (e.g., their family, preschool centre, community, ethnic group, country) as they develop a sense of self-identity

### Competency 2: Develop self-management and regulation

Self-management enables children to identify and self-regulate their emotions, thoughts and behaviours, achieve personal well-being, demonstrate pro-social behaviours and choose to be their best selves. For children to manage and regulate their emotions and behaviour, they need to be able to identify and label their emotions. Giving children the language to describe how they are feeling helps them understand, explain, and manage their emotions. This extends to their ability to express their negative emotions (e.g., anger, disappointment, frustration) appropriately and exercise control over impulsive behaviours. Hence, teachers could provide opportunities for children to:

- 2.1 Identify emotions in themselves and others
- 2.2 Express and respond to own feelings and emotions appropriately

### Competency 3: Develop social awareness and show respect for diversity

Social awareness enables children to develop cognitive and emotional empathy, understand the perspectives of people from different backgrounds and cultures, and become more sensitive to the social environment and the needs of others. Singapore is a multi-cultural and diverse community where people of different races, religions, languages, backgrounds and cultures live harmoniously. It is important that children are aware of the diversity in their community and are respectful towards people around them. Hence, teachers could provide opportunities for children to:

- 3.1 Develop an awareness that everyone is unique in terms of their backgrounds, abilities, needs and/or opinions
- 3.2 Develop an awareness of the importance of showing respect towards people they interact with and who are from diverse backgrounds and with different abilities, needs and/or opinions
- 3.3 Respond to what others are going through and how they are feeling through appropriate actions and/or words
- 3.4 Recognise the need for rules and routines for people to live, play and work together harmoniously

## Competency 4:

### Build relationships with family, friends and significant adults

Relationship management enables children to build and maintain positive relationships with others in accordance to social norms and culture. They also develop empathy through practising perspective-taking and understanding the impact and consequences of their actions on others. Learning how to interact and build relationships with family, friends and significant adults in children's lives enriches their learning and supports their holistic development. Through healthy and stable relationships with others, children can be given the safe space to make mistakes and learn from them. Disagreements that may arise when interacting with others present an opportunity for children to explore and learn how to resolve them in a positive manner. Hence, teachers could provide the opportunities for children to:

- 4.1 Develop an awareness of the need to show appreciation and care for others
- 4.2 Develop an awareness of and use appropriate strategies to establish and maintain friendships and positive relationships with others
- 4.3 Develop an awareness of and use appropriate strategies to manage disagreement

## Competency 5:

### Take responsibility for their actions

Responsible decision-making enables children to apply moral reasoning and sound values-based judgements in the choices they make. At this young age, children are beginning to develop an awareness of the effect or consequences of their choices and actions. They would need the support of teachers and parents to guide them in problem-solving and thinking through the effects of their actions. By supporting them in reflecting on the consequences of their actions, teachers can help children develop a sense of responsibility and make better decisions when similar situations occur. Hence, teachers could provide opportunities for children to:

- 5.1 Learn to make choices on their own or with support
- 5.2 Learn to take ownership and be responsible for their actions

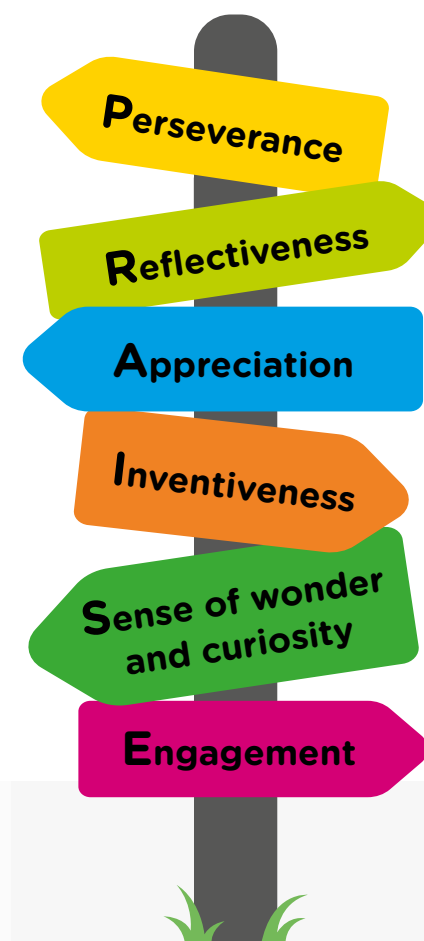
Helping children learn and develop social and emotional competencies should be intentional and consistent as these competencies do not develop naturally as children mature. Children need to learn how to identify, regulate and manage their feelings, thoughts and behaviours. When children are able to recognise and talk about their feelings, they are able to seek help when they feel hurt or unsafe and to adjust their behaviour accordingly to accommodate others. In doing so, they build stronger interpersonal relationships that have a positive impact on their physical and mental health, as well as in their overall learning and development.



## Fostering Learning Dispositions

Building positive behaviours and attitudes to learning is fundamental for learning to take place as “the acquisition of knowledge and skills alone does not guarantee that they will be used and applied” (Katz, 1993, pg. 17). Children with positive learning dispositions are open to learning from others and will be motivated to keep learning and exploring, applying what they have learnt to different situations, despite the challenges or difficulties they might face. Such children will have a strong start in becoming lifelong learners and they will thrive in a rapidly changing world.

To foster among children these behaviours and attitudes which promote the joy of lifelong learning, teachers could cultivate the following learning dispositions<sup>5</sup> **(PRAISE)**:



### Perseverance

- Perseverance enables children to keep working at a task to complete it.
- Children with perseverance are not easily discouraged and do not give up even though they face challenges.

### Reflectiveness

- Reflectiveness enables children to think about what they have done, seen, heard or felt in their experiences to generate alternative ideas and gain new knowledge.
- Children with reflectiveness think back on their learning experience and can learn from it by considering alternative ways to improve their learning.

<sup>5</sup> Preschool centres may include other learning dispositions that are appropriate for their setting and community.



## Appreciation

- Appreciation enables children to work as a team and learn from all as they recognise that everyone has ideas to contribute.
- Children who show appreciation listen to the views of others and value the contributions of others.

## Inventiveness

- Inventiveness enables children to be flexible in their thinking and generate different solutions to solve a problem.
- Children with inventiveness will explore doing things in different and creative ways.

## Sense of wonder and curiosity

- Sense of wonder and curiosity enables children to express their wonderment and get excited about learning.
- Children with a sense of wonder and curiosity show an interest in the world they live in, are not afraid to ask questions and like to explore and discover new things.

## Engagement

- Engagement enables children to stay focused and be deeply interested and actively involved in learning.
- Children who show engagement pay attention, enjoy learning and are motivated to learn. They take ownership of their learning and do the best they can.

To nurture these learning dispositions, teachers should engage children's affect (HEART), as well as their intellect (HEAD) so that they are able to exhibit the dispositions in their actions (HAND). It is important to have children internalise the dispositions so that it becomes a habit that they will display them in all learning situations.

Values, social and emotional competencies and learning dispositions are to be incorporated across children's learning experiences that teachers plan and facilitate. In general, teachers can nurture these three important aspects of children's learning and development through their daily learning experiences in the following ways:

### Role-model

Role-model the values they would like children to adopt through their daily interactions with children and other stakeholders (e.g., colleagues, parents).

### Explicitly teach

Explicitly teach social and emotional knowledge and skills through stories, games and interactive activities (e.g., role-play, dramatisation) (Jones, et al., 2017).

### Foster

Foster learning dispositions through meaningful learning experiences where children learn to recognise these dispositions being exhibited in various contexts (e.g., through the actions of fictional characters, real-life personalities, people in the children's lives) and adopt and demonstrate these learning dispositions in their own learning experiences where appropriate.

While many opportunities to nurture values, social and emotional competencies and learning dispositions may arise naturally during daily routines such as during arrival, snack and indoor and/or outdoor play time when interactions take place more spontaneously, learning opportunities should also be **intentionally and thoughtfully planned** for in the learning experiences and environment teachers create for the children. Additionally, teachers should **seize teachable moments** to introduce or reinforce these three key aspects of children's development so that the children are constantly reminded to look out for and apply what they have learnt in their daily life. Preschool centres are also encouraged to **build a positive culture** that exemplifies the values, social and emotional competencies and learning dispositions more intentionally and consistently through **modelling appropriate behaviours and language** used by teachers and other staff.



# Chapter 4

## LEARNING AREAS AND LEARNING GOALS

### CHAPTER 4: LEARNING AREAS AND LEARNING GOALS

Values, social and emotional competencies and learning dispositions are important in helping children build positive and meaningful relationships with others. These three key areas of development are core to children's holistic development and enhances their learning and development in the following five learning areas:

- Aesthetics and Creative Expression
- Discovery of the World
- Health, Safety and Motor Skills Development
- Language and Literacy (EL and MTL)
- Numeracy

***“Human relationships, and the effects of relationships on relationships, are the building blocks of healthy development.”***

National Academy of Sciences, 2000

**Learning goals** have been set for each of the five learning areas. These learning goals reflect widely held expectations about what children should know and be able to do upon completion of preschool education at Kindergarten 2 (K2). They are pitched at a level such that the majority of children are able to attain them. While some children will have exceeded the expectations at the end of K2, others, depending on their developmental needs, will continue to work towards some of these goals in primary school.

Each set of learning goals is translated into **key knowledge, skills and dispositions** for the learning areas (Refer to [Annex B](#) for details). These goals serve to guide teachers in planning a developmentally appropriate curriculum and creating meaningful learning experiences that will promote and support children's learning and holistic development. It is recommended that teachers provide opportunities for children to acquire the necessary knowledge, skills and dispositions using a **spiral progression** approach. In this approach, teachers introduce and reinforce concepts and skills from simple to complex and in increasing breadth and depth. They constantly revisit these concepts and skills in different ways to build on children's knowledge and understanding across the curriculum.

Aesthetics and Creative Expression

Art and music and movement experiences help promote children’s creativity and imagination. Therefore, it is important that children participate in these activities, and enjoy themselves in the process of exploring, expressing, and creating.

The focus of Aesthetics and Creative Expression is to provide children with ample time and space to enjoy art and music and movement at their own pace. This will build their confidence in responding spontaneously in these areas and encourage them to be expressive, creative and imaginative.

Teachers should support children’s learning and development of the knowledge, skills and dispositions through meaningful and authentic learning experiences to achieve the following learning goals for Aesthetics and Creative Expression.

Learning Goal 1

Enjoy participating in art and music and movement activities

Provide opportunities for children to:

1.1 Develop an interest in art and music and movement activities

Diverse art and music and movement experiences should be provided, so that children’s interest can be stimulated (e.g., exploring a variety of art materials, musical instruments, and different ways to create a piece of artwork or move their body). Furthermore, art and music and movement activities can be avenues that promote choice and autonomy as children decide how they want to express their thoughts and ideas through their artwork and other creations. In the long run, children will develop an interest and grow in confidence and enjoy participating in art and music and movement activities.

Learning Goal 2

Express ideas and feelings through art and music and movement

Provide opportunities for children to:

- 2.1 Develop an awareness of the elements of art (e.g., lines, colours, shapes, textures)

2.2 Explore and use elements of art to represent ideas and feelings in creating their artworks

2.3 Explore creating two- and three-dimensional art using a variety of media, tools, techniques and processes

2.4 Develop an awareness of the elements of music (e.g., dynamics, tempo, pitch, rhythm)

2.5 Explore and use environmental sounds, vocal sounds, body percussion and/or simple percussion instruments to demonstrate awareness of the elements of music
- 2.6 Keep a steady beat using body movements (e.g., clapping, tapping, marching) when listening or moving to music

2.7 Create music or sound effects using vocal sounds, body percussion and/or percussion instruments in response to a stimulus (e.g., music, song, story, rhyme, sounds in the environment)

2.8 Explore and use different body movements to express ideas and feelings in response to a stimulus (e.g., music, song, story, rhyme)

2.9 Sing a variety of songs with or without accompanying actions, body percussion, or percussion instruments

2.10 Perform a simple movement or dance routine

Developing an awareness and exploring the elements of art and music stimulate children’s creativity and imagination. Time and space for experimentation and engagement in artistic processes help children grow to value their own expression and interpretations. This gives them a sense of accomplishment and contributes to their enjoyment and appreciation of art and music and movement.

## Learning Goal 3

### Appreciate art and music and movement

Provide opportunities for children to:

- |  |   |
|--|---|
| <p><b>3.1 Observe and develop an awareness of the aesthetics in the immediate environment and experiences</b></p> <p><b>3.2 Develop an awareness of different artworks and art forms (e.g., paintings, sculptures, architecture, photographs) from local and global cultures</b></p> <p><b>3.3 Share ideas and feelings about their own artworks and those of their peers and others</b></p> | <p><b>3.4 Develop an awareness of sounds in their immediate environment and from a variety of sources</b></p> <p><b>3.5 Develop an awareness of different types of music and dance performances (e.g., bhangra, Chinese opera, dikir barat, joget, lion dance, modern dance) from local and global cultures</b></p> |
|--|---|

Teaching children to be aware of and appreciate art and music and movement through everyday experiences and activities helps to develop their aesthetic sensitivity. Aesthetic development in children helps to enrich their quality of life as they learn to observe their immediate surroundings, appreciate the art forms of different cultural groups and begin to recognise and appreciate the beauty of nature, as well as what they see, hear and feel around them. This further enhances children's creativity and imagination, and their enjoyment of art and music and movement activities.

## Discovery of the World

Discovery of the World is about helping children make sense of the world around them through everyday experiences and involves stimulating and sustaining children's sense of wonder and curiosity. Teachers plan and facilitate learning experiences that allow children to explore and interact with all aspects of their environment, including their homes, schools, neighbourhoods, cultures, events and the natural world. Through such experiences, children also learn the importance of being responsible and showing care and respect for their environment, as well as for people from different backgrounds, cultures and settings. These are important for a sustainable future.

This learning area also involves supporting children in developing essential process skills to help them find out and understand why and how things happen around them. This lays the foundation for learning in the areas of geography, history and science in the later years of their education. The essential process skills that children can develop in the early years are:



**Observing**



**Questioning**



**Reasoning**



**Comparing**



**Investigating**



**Recording**



**Classifying**



**Inferring**



**Drawing conclusions**



**Sequencing**



**Predicting**



**Communicating**

These process skills can also be developed through other learning areas and they are not arranged in any sequential order.

The table below suggests some areas for exploration through which teachers can help children develop the necessary knowledge, skills and dispositions of this learning area:

Areas for Exploration:	
<p><b>People and Cultures</b></p> <ul style="list-style-type: none"> <li>Family members, friends, and neighbours</li> <li>People in school and their roles</li> <li>People in the community and their roles and occupations</li> <li>Diversity in ethnicity, culture, age, ability and perspective</li> </ul> <p><b>Places and Spaces</b></p> <ul style="list-style-type: none"> <li>Home</li> <li>Preschool centre</li> <li>Places in the neighbourhood (e.g., playground, park, hawker centre, supermarket)</li> <li>Places of interest (e.g., Botanic Gardens, Gardens by the Bay, River Safari, Science Centre, Singapore Zoo, Sungei Buloh Wetland Reserves)</li> <li>Countries of the world</li> </ul> <p><b>Time and Events</b></p> <ul style="list-style-type: none"> <li>Changes over time (e.g., the past, present and future; changes that occur in the environment such as day and night, weather, life cycles of plants and animals; growth in size and height; melting of ice cream, freezing and boiling of water)</li> <li>Significant events in history and in the present (e.g., Singapore history, National Day, Racial Harmony Day, celebrations, festivals)</li> </ul>	<p><b>Natural and Built Environment</b></p> <ul style="list-style-type: none"> <li>Plants and animals (e.g., local flora and fauna, endangered species, pets and wild animals, fruits and vegetables)</li> <li>Natural resources (e.g., water, air, land, rocks, forests)</li> <li>Objects and/or things around us (e.g., stationery, clothing, cutlery, crockery, communication tools)</li> <li>Public property (e.g., bus stops, library books, tables and seats at the void deck and hawker centre)</li> <li>Concepts of recycling and reusing resources, and reducing consumption of natural resources, as well as showing care and respect for the environment</li> </ul> <p><b>Inventions and Technology</b></p> <ul style="list-style-type: none"> <li>Everyday objects (e.g., comb, toothbrush, fork, spoon, clock, standing fan, television)</li> <li>Transportation (e.g., aeroplanes, buses, Light Rail Transit or LRT system, Mass Rapid Transport or MRT system, trains)</li> <li>Information and communication technology (e.g., camera, computer, mailing system, mobile phone, telephone)</li> <li>Inventors and the process of invention (e.g., stories of inventors, scientists), including allowing children to create their own inventions (e.g., make their own toys, design and make simple tools and machines)</li> </ul>

Teachers should support children’s learning and development of the knowledge, skills and dispositions through meaningful and authentic learning experiences to achieve the following learning goals for Discovery of the World.

### Learning Goal 1

Show curiosity and an interest in the world they live in

Provide opportunities for children to:

- 1.1 Develop an awareness of their immediate environment (e.g., people, animals, plants, places, events)
1.2 Ask questions about their immediate environment, why things happen and how things work

Children are naturally curious about their surroundings. This natural tendency should be sustained and encouraged continually by allowing children to explore the world using their senses, through questions and investigations to discover why and how things happen and work around them.

### Learning Goal 2

Use essential process skills to make sense of the world around them

Provide opportunities for children to:

- 2.1 Develop skills to gather information about the world around them
2.3 Develop skills to interpret information gathered
2.2 Develop skills to organise information gathered
2.4 Develop skills to communicate information gathered

To learn about the world, children need opportunities to explore the environment and gather information through a variety of sources. This helps them to develop important skills such as observing, comparing, predicting, reasoning and making representations of information gathered to develop, communicate and extend their understanding of the world around them.

### Learning Goal 3

**Develop a sense of responsibility, care and respect for the world around them**

Provide opportunities for children to:

- |  |   |
|--|---|
| <b>3.1</b> Develop an awareness of the importance of showing care and respect for people from different backgrounds, cultures and settings | <b>3.3</b> Develop an awareness of how human behaviours and their actions might affect their immediate environment and the world they live in |
| <b>3.2</b> Develop an awareness of the need to show responsibility, care and respect for plants, animals and things in the environment     | <b>3.4</b> Show responsibility, care and respect for living and non-living things   |

To support children in learning about the world, positive attitudes should also be developed alongside knowledge and skills. Children need to learn about their role and responsibility in the social, natural and built environments around them. This is essential for them to be able to respond to and manage a rapidly changing world, as well as new local and global challenges, allowing them to contribute towards achieving Singapore’s mission for sustainable development.

## Health, Safety and Motor Skills Development

Health, Safety and Motor Skills Development focuses on cultivating healthy habits and developing safety awareness which lay the foundation for children to keep safe and to enjoy an active and healthy lifestyle. Children will learn how to take care of their health, establish good hygiene habits, practise personal and group safety, as well as develop both fine and gross motor skills which are critical to support the functioning of their daily life activities.

Teachers should support children’s learning and development of the knowledge, skills and dispositions through meaningful and authentic learning experiences to achieve the following learning goals for Health, Safety and Motor Skills Development.

### Learning Goal 1

**Develop healthy habits and safety awareness at home, in school and at public places**

Provide opportunities for children to:

- |   |  |
|---|--|
| <b>1.1</b> Develop an awareness of the importance of keeping themselves healthy, clean and safe | <b>1.2</b> Develop an awareness of their role and responsibility in keeping the environment clean and safe |
|   | <b>1.3</b> Demonstrate appropriate behaviours that promote individual and group safety                     |

Children need to learn the importance of healthy eating habits, good personal hygiene practices and regular exercise to maintain good habits and a healthy lifestyle. They should also learn appropriate behaviours that promote self and group safety (e.g., at home, in school, on the road, in public places). It is also important for children to develop body safety awareness and acquire the knowledge and skills to keep themselves safe. These include the ability to recognise safe and unsafe touch, talk about their feelings and seek help from adults when they feel hurt or unsafe.

### Learning Goal 2

**Enjoy participating in a variety of physical activities**

Provide opportunities for children to:

- 2.1** Develop an interest in doing a variety of indoor and outdoor physical activities

When opportunities are provided for children to participate in regular, vigorous and fun physical activities, they develop body coordination, control, strength and endurance. This helps children to build confidence in body movements and more importantly, experience enjoyment. These in turn promote in them a positive attitude towards participating in both indoor and outdoor physical activities.



### Learning Goal 3

#### Demonstrate control, coordination and balance in gross motor activities

Provide opportunities for children to:

- |  |   |
|--|---|
| <b>3.1 Develop body awareness</b><br>(i.e., what the body does)    | <b>3.3 Develop effort awareness</b><br>(i.e., how the body moves)             |
| <b>3.2 Develop space awareness</b><br>(i.e., where the body moves) | <b>3.4 Develop relationship awareness</b><br>(i.e., with whom the body moves) |

Gross motor skills involve children using the large muscles of their body. These include:

- **Locomotor skills** that involve movement of the body from one place to another such as walking, running, jumping and hopping
- **Non-locomotor skills** that involve movement of the body at the same place such as balancing, bending, stretching and turning
- **Manipulative skills** that involve handling and controlling an object, especially with the hands and feet such as throwing, catching, bouncing and kicking

Children need ample opportunities to explore the use of their body and proper instruction through appropriate guidance and prompts, in order to acquire the mature stage of many fundamental movement skills. Teachers should help children be aware of what their body can do (i.e., body awareness) and how to control their movements, whether individually or with a friend. Opportunities can be provided for children to practise their gross motor skills in a safe manner through a variety of games and activities. Besides planning games and activities to develop body awareness, teachers need to provide opportunities for children to develop other movement concepts that include:

- **Space awareness** (i.e., where the body moves) such as walking backwards and running along a zigzag line
- **Effort awareness** (i.e., how the body moves) such as running slowly, kicking a ball hard and bouncing a ball lightly
- **Relationship awareness** (i.e., with whom the body moves) such as throwing a ball to a friend and skipping alongside a friend

As children participate in activities that allow them to practise their gross motor skills, they develop better muscle control, body coordination, balance, as well as cardiovascular and muscular endurance and strength. These build their confidence and competency in their body movements.

### Learning Goal 4

#### Demonstrate control and coordination in fine motor activities

Provide opportunities for children to:

- |  |   |
|--|---|
| <b>4.1 Manipulate tools and objects with dexterity</b> | <b>4.2 Develop eye-hand coordination in performing fine motor tasks</b> |
|  | <b>4.3 Develop appropriate pencil grip</b>                              |

Fine motor skills involve using smaller muscles of the body, such as using fingers and hands to perform a task with precise and accurate motions. These skills are essential for children to perform everyday activities such as using a spoon, brushing teeth and fastening buttons. Children develop and improve their fine motor skills by engaging in activities that allow them to explore and manipulate a variety of tools and objects to strengthen their manual dexterity and eye-hand coordination.

### Language and Literacy (English Language and Mother Tongue Language)

Language is about making meaning and communicating within a system that has its own rules and conventions. Literacy is the ability to understand and interpret printed materials and to convey meaning using print.

Language and literacy development is crucial to children’s thinking and learning. Children use language and literacy to make meaning of their interactions with friends, adults and texts, as well as to convey meaning by expressing their needs, feelings, ideas and experiences through spoken or written forms.

In Singapore, language and literacy development includes both EL and MTL. The bilingual policy is a cornerstone of our education system. While EL is the common language of communication in multi-cultural Singapore, the bilingual policy promotes the study of MTL as it plays an important part in affirming a sense of cultural identity among Singaporeans, ensuring the transmission of cultural heritage and values between generations. Research has also shown that there are cognitive benefits in learning two languages such as having greater focus and stronger concentration skills.

Being able to listen with understanding and communicate with others help build confidence in children and contribute to their personal growth. These skills lay the foundation for them to communicate effectively and develop into confident persons who contribute to society in positive and constructive ways. In addition, when children learn MTL, they develop an awareness of their local traditions and customs and grow to appreciate their culture.

Teachers play a vital role in children’s language development. Research on child language acquisition shows that both quantity and quality of language input matter. Since the development of children’s listening and speaking abilities precedes their early literacy (i.e., reading and writing), teachers should provide children with authentic and interesting listening and speaking experiences.

**With consideration of children’s home language background, teachers need to provide ample opportunities for children to:**

- Listen to and use the language in a wide range of settings and situations, both informal and formal
- Be immersed in a print-rich environment
- Be exposed to a variety of texts such as rhymes, songs, stories, poems, information books and charts
- Represent their ideas using different forms of writing (e.g., drawing, mark making, using symbols, writing using invented and conventional spelling)

**Language and Literacy (English Language)**

Teachers should support children’s learning and development of the knowledge, skills and dispositions through meaningful and authentic learning experiences to achieve the following learning goals for Language and Literacy (EL).

**Learning Goal 1**

**Listen for enjoyment and information**

**Provide opportunities for children to:**

- 1.1 **Develop an interest in listening to stories, songs and rhymes**
- 1.2 **Understand and follow verbal instructions involving at least two steps**
- 1.3 **Understand everyday conversations**

When children are given opportunities to hear language being used in a variety of contexts (e.g., in conversations, through songs and rhymes, reading of storybooks), they develop the capacity to listen attentively and increase their understanding of language, as well as knowledge about themselves and the world around them.

**Learning Goal 2**

**Speak with confidence to convey meaning and to communicate with others**

**Provide opportunities for children to:**

- 2.1 **Develop conversational skills**
- 2.2 **Express personal needs and wants, thoughts and ideas with appropriate phrases and sentences**
- 2.3 **Ask and respond appropriately to questions (e.g., “who”, “what”, “where”, “when”, “why”, “how”) during large and small group discussions and activities**
- 2.4 **Speak using an appropriate volume and tone during conversations with friends and in class discussions**
- 2.5 **Speak with appropriate non-verbal gestures (e.g., occasionally making eye contact, nodding their head)**

When children’s talk and questions are valued and they are encouraged to respond and verbalise their thoughts and ideas, they become more confident speakers. As confident speakers, they are able to initiate and sustain a conversation with others. Over time, they understand that the way they speak (e.g., volume and tone used) will depend on the people they are communicating with (e.g., friends, family members, teachers) and the context in which they are communicating in (e.g., in school, at the playground, at a library, on the bus).

Learning Goal 3

Read with enjoyment and understanding

Provide opportunities for children to:

- 3.1 Develop an interest in reading books and other printed materials (e.g., signs, labels, posters, brochures, recipes, other printed materials)
- 3.2 Develop book and print awareness
- 3.3 Develop alphabetic knowledge
- 3.4 Develop phonological awareness
- 3.5 Develop word recognition and emergent reading skills
- 3.6 Develop comprehension skills

Children need opportunities to develop early reading skills so that they can learn to read and understand the meaning of words and texts. Their interest in books and reading is built when they are given choices from a wide range of reading materials. Nurturing in children a love for reading is key to their learning and development. Reading with enjoyment has been reported as something that is more important for children’s educational success than their family’s socio-economic status (OECD, 2002).

Teachers should provide opportunities for children to develop early reading skills which include:

- **Book awareness** – This involves children having an understanding of book orientation by holding the book correctly, turning the pages from right to left, indicating where to begin reading and identifying the front and back covers, and the title of a book.
- **Print awareness** – This involves children having an understanding that print carries meaning for the reader and that sentences are made up of words separated by spaces and can be read from left to right and top to bottom.
- **Alphabetic knowledge** – This involves children naming the letters of the alphabet and recognising the letter symbols (both upper and lower case) in print.
- **Phonological awareness** – This involves children having an understanding of the sound structure of oral language at the following levels:
  - Word level (e.g., recognise that sentences are made up of words)
  - Syllable level (e.g., identify syllables, onset and rime in words)
  - Rhyme level (e.g., identify rhyming words)
  - Phoneme level (e.g., identify beginning and ending sounds of spoken words, blend individual sounds to form a spoken word, segment a word into individual sounds)
- **Word recognition and emergent reading skills** - This involves children decoding words using letter-sound matches, recognising high frequency and other sight words, and using contextual clues.
- **Comprehension skills** – This involves children making sense of texts (both oral and in print).

Learning Goal 4

Use symbols, letter-like shapes, letters and words with invented and conventional spelling to communicate ideas and information

Provide opportunities for children to:

- 4.1 Write upper and lower case letters of the alphabet
- 4.2 Write their own name
- 4.3 Copy words, phrases or short sentences with basic writing conventions
- 4.4 Write phrases or short sentences to communicate thoughts and ideas using basic writing conventions and invented or conventional spelling

Children write to communicate thoughts and ideas and they use their drawing and writing to help them clarify and remember the thoughts they wish to convey. Children first learn to capture their ideas through symbols, beginning with pictures and scribbling. They eventually learn the letters and/or characters that are used in their society. When developing early writing skills, children are developing two important skills, which are their handwriting skills, as well as expressing themselves in writing (i.e., composing).

Physical readiness such as sitting with a good posture, small muscle development, eye-hand coordination, tool manipulation, and upper body strength are some of the necessary building blocks for children to develop handwriting skills. Before they are able to write, children will need ample opportunities to develop their small muscles, fine motor skills and eye-hand coordination, such as through beading, tying their shoelaces and knowing how to use a pair of scissors. This enables them to develop their hand and finger strength for controlling the movement of the pencil, the ability to use information received from the eyes to guide their hands in writing, and a correct pencil grip that helps them in writing legibly.

More than just the physical readiness and the mechanics of writing, children should be given learning experiences that build their confidence in expressing their thoughts and ideas through various forms of writing. These forms of writing could range from drawing, scribbling, mark-making, and words using invented and conventional spelling. These should also take place in authentic and meaningful contexts such as creating greeting cards, writing a note to a friend, or drawing up a menu for their pretend play. These opportunities will interest and motivate children to use writing to express themselves.

Learning to spell is important. Before children learn the conventional spelling of words, they may use invented spelling (e.g., ‘wot’ for ‘water’), write words that seem to follow rules (e.g., sheeps), represent an entire syllable with one letter and may not use proper spacing between words. As their writing matures, they will spell more of their words conventionally. Most parents, teachers and schools are familiar with the traditional spelling instruction which involves children memorising assigned lists of spelling words for the weekly spelling tests. However, newer research has shown that rote memorisation is not the only way to learn spelling (Reed, 2012, Schlagal, 2007). Spelling of whole words is made possible when children understand that words are made up of speech sounds and that letters represent these sounds. Children’s ability to notice patterns within words will develop as their knowledge of language, letters, sounds, and other phonological processes develop (Putman, 2017).

## Language and Literacy (Mother Tongue Language)

The aim of MTL teaching and learning is for children to enjoy learning language in an active and interactive manner so that they will be able to develop their interest and confidence in using the language on a daily basis. To achieve this, three broad objectives have been outlined and they are a) **Communication**, b) **Culture and** c) **Connection**.

In the teaching and learning of MTL, opportunities are provided for children to develop foundational language and literacy skills to enable them to interact with their family members, friends and the community. These also help them develop a sense of cultural identity in Singapore and appreciation for their local ethnic culture. The three broad objectives of MTL teaching and learning are translated into a set of learning goals for Chinese Language, Malay Language and Tamil Language at the preschool level, which takes into consideration Singapore’s complex sociolinguistic environment.

Teachers should support children’s learning and development of the knowledge, skills and dispositions through meaningful and authentic learning experiences to achieve the following learning goals for Language and Literacy (MTL).

## Learning Goal 1

### Enjoy and show an interest in learning Mother Tongue Language

**Provide opportunities for children to:**

- |   |  |
|---|--|
| <p><b>1.1 Develop an interest in participating in MTL activities (e.g., listening to stories, singing, dramatising)</b></p> | <p><b>1.2 Develop an interest in looking at books and other printed materials in MTL</b></p> |
|---|--|

Children participate actively in activities in MTL when they feel that they are in a safe and secure environment to use the language. Some children may not be comfortable speaking in MTL when they are learning MTL as a second language (Krashen & Terrell, 1983). However, they are able to actively participate in MTL activities by performing actions such as pointing, nodding, gesturing or shaking their heads. When children have been learning MTL for some time, they are able to give a verbal response and participate actively by attempting to use MTL in their responses or conversations.

Children enjoy activities in MTL and express their interest and enjoyment in many ways. They may make up characters and/or words in MTL, have an interest in a particular MTL book, retell or act out a story in MTL. When children enjoy and actively participate in MTL activities, they pay greater attention to what they have to learn, developing foundational language and literacy skills in MTL and are excited to learn more about their local ethnic culture.



## Learning Goal 2

### Develop foundational language and literacy skills in Mother Tongue Language

Provide opportunities for children to:

**2.1 Listen with understanding**

**2.2 Speak to convey meaning**

**2.3 Recognise words and read with assistance**

**2.4 Make marks, draw symbols and write letters, characters and/or words to represent ideas**

Children who have developed foundational language and literacy skills in MTL are able to communicate with people confidently. The four foundational language and literacy skills for MTL identified for children to acquire at the end of K2 are:

#### Listen with understanding

Developing children's listening comprehension skills is the first step towards developing their reading comprehension in the later stages (Perfetti, Landi, & Oakhill, 2005). When children are given opportunities to hear language being used in a variety of contexts, such as in conversations, rhymes, songs and reading of storybooks, and they are given opportunities to respond to the language verbally or non-verbally, they build their capacity to listen attentively and increase their understanding of MTL. They discover new words or phrases when they have opportunities to use the language that they learn and when teachers model more complex language. They are also able to follow one- or two-step verbal instructions.

#### Speak to convey meaning

Children develop confidence in expressing themselves when their talk is valued, and they are encouraged to respond and verbalise their thoughts and ideas. Meaningful daily conversations can occur during structured time, such as a planned conversation in MTL, and unstructured time, such as arrival and dismissal times and snack time. Through these daily interactions and play, children explore the meaningful use of words and phrases in different settings such as role-playing during pretend play (Harris, Golinkoff, & Hirsh-Pasek, 2010).

Children are encouraged to use MTL for communication with their teachers and friends. When teachers model how to ask a question, children also learn to use a variety of sentence structures from simple statements such as "I want to play with you." and "I want a crayon." to questions such as "What is that?" and "Can I play with this?", in order to continue the conversational loops. This develops children's listening and speaking skills and lays the foundation for them to understand how oral language and print complement each other.

#### Recognise words and read with assistance

Children are encouraged to cultivate good reading habits and to explore picture books and other appropriate reading materials in MTL. Cultivating a habit of reading will help children to become lifelong learners of the language (Duncan, 2010).

When reading picture books, children are actively engaged in constructing meaning of what they have read with the aid of teachers or their friends. Children will also have the opportunity to recognise simple familiar characters and/or words and phrases presented in the picture books. Children gain confidence from being able to read an appropriate picture book and this motivates them to learn more about the language (Bair, 2001). In addition, they will gain an awareness of some basic features of MTL and use that knowledge to read the words or characters that they frequently encounter in their immediate environment such as the home, classroom, and neighbourhood.

#### Make marks, draw symbols and write letters or characters and/or words to represent ideas

Children enjoy scribbling, mark-making, drawing and using symbols to convey their thoughts and ideas. They explore the lines and shapes of letters or characters by drawing them in the sand or using clay to form an outline. Gradually, children develop their fine motor skills, eye-hand coordination and good posture for writing. They will also come to the understanding that these lines and shapes form letters or characters and in turn, putting letters or characters together will form words and phrases (Neuman, 1999).

The mechanical writing practice on individual words or sentences is not recommended for children in the preschool years. At this stage, children's hand muscle and bone maturity are not fully developed and requiring children to practise handwriting in order to perfect their penmanship skills is not developmentally appropriate. In addition, learning to spell words or characters through memorising lists of spelling words may lead to rote learning of MTL which is not meaningful for the children. Teachers can provide opportunities for children to write and spell in more purposeful ways by tapping their daily experience and authentic learning contexts, such as writing a note to a friend who helped them, labelling their items and recording information gathered.

Children also enjoy sharing with a willing audience, be it their teachers or friends, what they have drawn or scribbled. This encourages them to communicate in MTL and develop the understanding that drawing and scribbling can represent their thoughts and ideas. Children are not expected to know the sequence of writing strokes for a character and/or letter if they have yet to develop their fine motor skills and eye-hand coordination. Nevertheless, they can observe and gradually learn from their teachers who should be good role models in holding a pencil in the correct way and writing with the correct sequence of strokes.



## Learning Goal 3

### Develop an awareness of their local ethnic culture

Provide opportunities for children to:

#### 3.1 Be aware of local customs and traditions of their culture

The learning of MTL is closely intertwined with the customs and traditions of the children's culture. Children should be given opportunities to learn about local customs and traditions, and folktales, as well as actively participate in culturally-related activities. These help them to be aware of various aspects of their own culture such as festivals that are celebrated in Singapore, and moral values to help them understand right and wrong behaviour. These moral values that are often depicted in culturally-related stories or practices can be made relevant to the everyday life of children when they are given opportunities to retell and talk about them, as well as put them into practice.

At a young age, children are aware of their cultural identity and the ethnic group that they belong to (Vandenbroeck, 2000). Knowing one's customs and traditions is a step towards building a positive sense of self-identity. A child with a positive sense of identity develops resilience and overcomes the challenges of growing up (Brooker & Woodhead, 2008).

Language learning does not take place only in the classroom, it can occur at any time and place (Hyland, 2004). Likewise, children can learn more about the local ethnic culture through their family, friends, and the community, especially when they are able to listen to a folk story or song shared by their family members, or actively participate in the customs and traditions with them during celebrations of festivals, such as Chinese New Year, Hari Raya and Pongal. Through such interactions, children can be fully engaged in learning MTL and experience MTL as a living language that is relevant to their daily life.

#### 3.2 Interact with family, friends and the community

## Numeracy

Numeracy development in the preschool years involves helping children to identify and use numbers, understand the relationship between numbers, count accurately, and recognise patterns and shapes. These abilities enable children to use numeracy concepts and skills confidently in their daily life.

Provision of early numeracy learning experiences should build on children's prior knowledge with an emphasis on learning from the manipulation of concrete materials. Through the use of manipulatives, children learn about the relationships between sets of things to be sorted, counted, shared and represented. As numeracy concepts are abstract, teachers should model the application of numeracy concepts and skills consistently and use questions and/or prompts (e.g., "What pattern did you create? Tell me about your pattern.", "How many biscuits are there on each plate? Which plate has more biscuits?") to promote and support children's numeracy development. By role-modelling the use of mathematical language and encouraging children to use mathematical language to express their thoughts and ideas, teachers will help them develop and deepen their understanding of numeracy concepts and skills.

Numeracy development in the early years should focus on helping children to develop basic number concepts and skills that involve understanding of numbers and number relationships. This helps lay the foundation for mathematics learning in primary school. Developing children's conceptual understanding of numbers starts with counting with small numbers and understanding the relationship between the numbers before they can build their understanding of larger numbers. When children are able to count accurately in small numbers, determine whether one set of objects is more or fewer than another set of objects, and identify a quantity in terms of its part-whole relationship, they would have the foundational knowledge and skills to understand concepts, such as addition and subtraction. With a good understanding of shapes and spatial relationships, they would have the foundation for understanding geometry in the later years.

Providing children with regular exposure to numeracy concepts and skills helps develop and extend their understanding, as well as develop their interest in numeracy learning. This is done through thoughtful planning of a wide range of everyday activities such as playing with building blocks, doing art and craft activities, playing outdoors, singing and reading stories. Early positive experiences in numeracy also help children to develop dispositions such as curiosity, imagination, flexibility, inventiveness, and perseverance, as well as essential skills such as logical thinking, reasoning and problem-solving. These dispositions will contribute to their future success in and out of school (Clements & Conference Working Group, 2004).

Teachers should support children's learning and development of the knowledge, skills and dispositions through meaningful and authentic learning experiences to achieve the following learning goals for Numeracy.

## Learning Goal 1

### Enjoy learning and using numeracy concepts and skills in daily experiences

Provide opportunities for children to:

- |   |  |
|---|--|
| <p><b>1.1 Develop an awareness of how and why numeracy ideas and processes are useful in their daily life</b></p> | <p><b>1.2 Use mathematical language (e.g., “bigger than”, “smaller than”, “more than”, “fewer than” or “less than”, shape names) in their daily life</b></p> |
|---|--|

Children's motivation and interest in numeracy learning can be sustained when children learn through play and recognise how the numeracy concepts and skills are an integral part of their everyday activities. Children's daily encounters (e.g., observing the numbers on buses and blocks of flats around them, counting the biscuits that they would like to have during snack time and using the patterns on a chequered tablecloth to come up with their own game) can foster their interest and a positive attitude towards numeracy learning. Teachers should model the use of mathematical language consistently and make numeracy learning enjoyable, meaningful and interactive by helping children to connect and apply their learning in different contexts and their daily life.

## Learning Goal 2

### Understand relationships and patterns

Provide opportunities for children to:

- |   |   |
|---|---|
| <p><b>2.1 Match, sort and compare things by at least one attribute (i.e., colour, shape, size, length, height and/or child-determined attributes)</b></p> | <p><b>2.3 Recognise, extend and create patterns (e.g., ABABAB, ABCABCABC)</b></p> |
| <p><b>2.2 Put things in an order according to attributes (i.e., size, length, height, child-determined attributes and sequence of events)</b></p>         | <p><b>2.4 Describe relationships and patterns recognised and created</b></p>      |

Knowing relationships through matching, sorting, comparing, ordering and patterning are foundational to support children's understanding of numbers and the number system. For example, the skill of ordering helps children understand the need to recite numbers in sequence and how they can put sets of objects in order of quantity. Children's understanding of patterns and their awareness of a variety of patterns may be promoted by getting them to identify patterns in their immediate surroundings and create patterns. These are the early steps towards supporting children's understanding of number patterns and relationships in primary school.

## Learning Goal 3

### Develop counting skills and number sense

Provide opportunities for children to:

- |  |   |
|--|---|
| <p><b>3.1 Rote count to at least 20</b></p> <p><b>3.2 Count reliably to at least 10 things</b></p> <p><b>3.3 Recognise that the quantity of a set of up to 10 things stays the same regardless of the arrangement (conservation of quantity)</b></p> <p><b>3.4 Recognise numbers in numerals and in words</b></p> <p><b>3.5 Match number name, numeral and/or number word to the quantity of a set of things</b></p> | <p><b>3.6 Write numbers in numerals</b></p> <p><b>3.7 Compare the quantities of two sets of up to 10 things each and use “same as”, “more than”, “fewer than” and “less than” appropriately</b></p> <p><b>3.8 Name the parts that form the whole in a quantity of up to 10 (e.g., 5 is made up of 2 and 3, and 1 and 4)</b></p> |
|--|---|

Early experience with numbers is fundamental for acquiring more complex numeracy concepts and skills. Developing counting skills (both rote and rational counting) and number sense help children understand the concept of numbers and their relationships. Number sense includes the ability to understand the concept of quantities such as “more” and “less”, conservation of quantity and part-whole relationships. It is important for children to have a strong number sense by developing their fluency and accuracy in counting the first few numbers (e.g., 1 to 10). This is crucial because having a full understanding of smaller numbers will help children understand larger numbers later.

## Learning Goal 4

### Understand basic shapes and spatial concepts

Provide opportunities for children to:

- 4.1 Recognise the four basic shapes (i.e., circle, square, rectangle and triangle)
- 4.2 Develop an awareness of the attributes of the four basic shapes
- 4.3 Use the basic shapes to form other shapes or figures
- 4.4 Develop an awareness of spatial concepts, such as position (i.e., top and bottom, in front of and behind), direction (i.e., up and down, left and right) and distance (i.e., far and near)

Knowledge of basic shapes helps children to differentiate and describe things in the environment. Understanding simple spatial concepts helps children to talk about where things are located, developing their awareness of and ability to represent the relationships between objects and places around them. The understanding of basic shapes and spatial concepts lays the foundation for geometry in children's future learning.

# Chapter 5

*iTeach* PRINCIPLES

## CHAPTER 5:

### *iTeach* PRINCIPLES

The six *iTeach* principles guide teachers in planning, designing and facilitating appropriate and meaningful learning experiences for children. These principles for quality teaching and learning are identified based on findings from local and international research on good and effective practices to promote and support children's learning and development. The *iTeach* principles are:

- integrated approach to teaching and learning
- Teachers as facilitators of learning
- engaging children in learning through purposeful play
- authentic learning through quality interactions
- children as constructors of knowledge
- holistic development

### Integrated Approach to Teaching and Learning



Children learn from experiences they encounter and do not compartmentalise what they learn. Learning experiences should therefore be planned in an integrated approach, and not by distinct and isolated subjects. An integrated approach to teaching and learning connects activities and concepts to one another and to the real world. It enables children to draw meaningful connections in their learning and understand how concepts and skills are linked and can be applied in different situations and contexts.

As children make connections between what they have previously experienced or already know and newly gained information, their brain creates patterns that help them understand the world around them as a whole. An integrated approach to teaching and learning can be implemented by creating learning experiences that help children to make meaningful connections in the following ways:

- Across different learning areas
- Between children's previous and new experiences
- Between children's interests and/or daily experiences and new learning experiences
- Between different learning contexts (e.g., indoors and outdoors, home and preschool, activities conducted in EL and MTL)
- Between learning experiences of children from different groups (e.g., different classes, different levels)





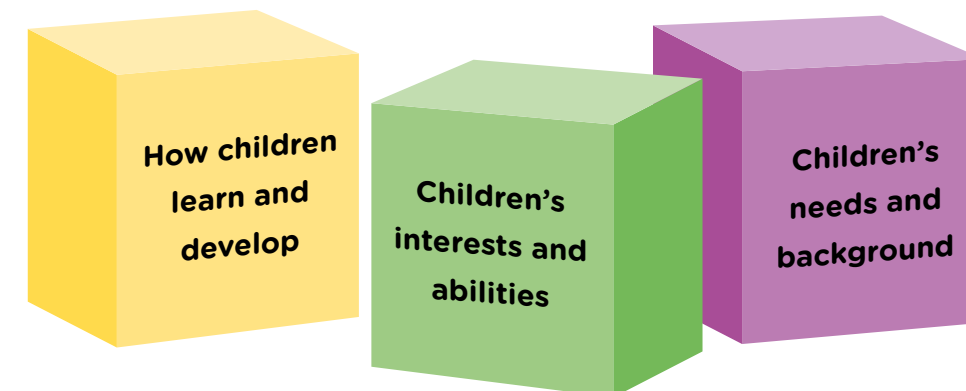
## Teachers as Facilitators of Learning



As facilitators of learning, teachers use their knowledge, skills and resources, as well as work closely with families to extend and enrich children's learning. Family members, with intimate knowledge of their children, are able to offer insightful information to the teachers to promote and support children's learning and development. Teachers can leverage this knowledge about the children's interests, abilities, daily experiences and progress to help children make connections between what goes on in school and at home.

Teachers need to provide experiences based on children's Zone of Proximal Development (ZPD) (Vygotsky, 1978), which is just beyond what children already know and can do on their own but within what they can do with the necessary assistance. By observing children, monitoring what and how they are learning and by asking questions, teachers will be able to recognise the children's ZPD. They can then scaffold and extend children's learning by helping them draw meaningful links across ideas, concepts and skills, as well as between their prior knowledge and what they are currently learning.

Teachers create a safe, conducive and stimulating learning environment for children to learn. They cater for learning in a variety of contexts and plan learning experiences for children based on their knowledge and understanding of:



To facilitate learning, teachers may use a wide range of teaching strategies to actively engage children. They may also use a variety of teaching and learning resources, including Information and Communication Technology (ICT) tools to cater to children's diverse learning needs and interests.

Teachers may refer to the *Teaching and Learning Guidelines on the Use of Information and Communication Technology in Preschool Centres* (2017) for the appropriate and meaningful use of ICT. The three guiding principles state that the use of ICT in preschool centres should:



Download the  
[ICT Guidelines \(2017\)](#)



These guiding principles are based on the understanding that children learn best when they interact with concrete materials, participate in play and hands-on activities, and have quality interactions with friends, teachers and parents.



## Facilitating Children's Learning when Face-to-Face Learning is Disrupted

Disruptions to children's face-to-face learning experiences may happen in times of national crisis or emergencies (e.g., COVID-19 pandemic, dangerous haze conditions). In such situations, teachers and children may not be physically present at the preschool centre as the centres may need to temporarily cease operations or reduce the number of children and staff present. Hence, centres and teachers may rely upon remote learning where guidance is given to children and parents at home to engage in home-based activities.

As much as possible, preschool centres and teachers can continue to facilitate children's learning and development with appropriate modifications to their teaching approach and strategies. During such disruptions, teachers can consider the following to adapt and modify learning activities and the way they facilitate children's learning and development:

### Expectations of Remote Learning

- Remote learning or home-based activities given by teachers are not meant to replicate the full centre's curriculum or learning experience.
- The same teaching and learning pace at the preschool centre is not expected for remote learning.
- Remote learning must be manageable for children, parents, teachers and centres. There should be a mixture of activities that children can do on their own and with supervision or support from an adult.
- The duration of remote learning should not exceed 2 hours a day and the time spent on screen devices for remote learning should not exceed 1 hour a day and there should be eye-breaks every 10 minutes.



KK Women and Children's Hospital (KKH) recommends that children aged 3 to 6 should have no more than 1 hour of recreational screen time a day (KKH, 2022).



Download the  
[KKH Guidelines](#)

### Considerations for Planning and Implementing Remote Learning

- Continue to promote learning through play and quality interactions as much as possible.
- Provide opportunities for learning and development of values, social and emotional competencies, learning dispositions, life skills, and motor skills besides the learning areas of Language and Literacy and Numeracy.
- Encourage parents to set clear routines for children and tap ordinary moments at home to promote and support children's learning and development (e.g., engage in conversations during mealtimes to invite children to share their thoughts, ideas and feelings, ask children to identify and use numbers in everyday activities such as recognising their block or house number, counting the number of pegs used to hang up the clothes, and involve children to help out with household activities such as folding laundry).
- When using technology to implement remote learning, preschool centres can consider the following:
  - Find out the types of technology available and how they are used in children's homes.
  - Any use of technology needs to be actively facilitated by teachers and also be supervised and/or mediated by adults at home to ensure children's safety and well-being.
  - Provide support to teachers in both the technical and pedagogical aspects for remote learning to take place effectively.
  - Provide feedback to parents on their children's participation in the remote learning activities through a short phone or video call.



Play is a way for children to manage their emotions; Engaging in play helps children to be resilient in the face of adversity.



Quality interactions among children and teachers build positive relationships that will help them to have a smooth transition from remote learning to face-to-face learning at the centre.

As children and teachers return to face-to-face learning at the preschool centre, have teachers observe and share their observations with each other of children’s physical and social and emotional health and learning and development in other areas. This helps teachers in their planning of learning experiences and environment to address possible gaps in children’s learning and development.

Engaging Children in Learning through Purposeful Play

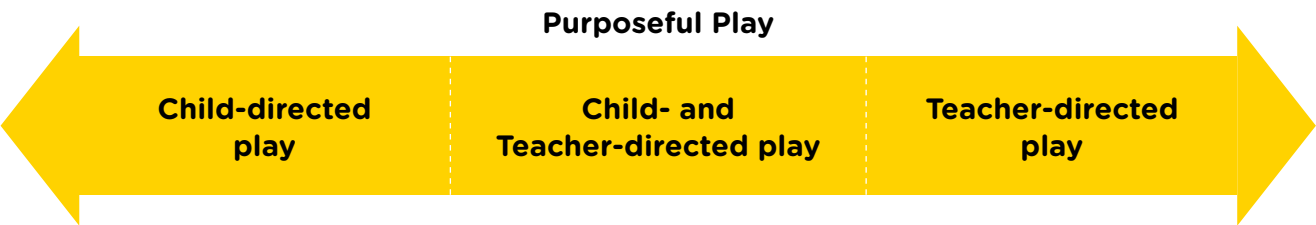


Play is the primary mechanism through which children explore their immediate environment. As such, play becomes a natural way to motivate children to learn about themselves and the world around them. It is one of the most important ways through which children gain essential knowledge and skills. As children initiate and participate in different forms of play (e.g., imaginary play, solitary play, cooperative play, physical play), concepts and skills across all developmental domains are developed, including social, emotional, cognitive and motor competencies. Play provides opportunities for children to take risks, make mistakes, explore new ideas and experience joy. Learning through play also allows children to learn the skills and dispositions of collaboration as they work with others and listen to their ideas or perspectives. Most importantly, play makes learning enjoyable and develops children’s imagination and creativity.

When teachers take on a critical and intentional role in promoting and guiding children’s play experiences, they engage children in purposeful play that is enjoyable and meaningful to children. As teachers facilitate purposeful play, they also promote children’s sense of wonder and agency (i.e., taking initiative and making choices in play), and extend children’s learning and development towards meeting desired learning goals.

Purposeful play can range from being more spontaneous and child-directed, to being more guided and teacher-directed. Depending on the learning intent or context, there is a place for all the different types of play experiences that lie on the continuum of purposeful play as shown in Figure 4. Teachers play a critical role in deciding how the play experiences they provide can move along the continuum, in support of promoting child agency. For example, teachers can start by initiating, guiding and facilitating play at the more teacher-directed end of the continuum and move towards the child-directed end by giving children the autonomy to modify or extend their play experience over time.

Figure 4: Continuum of Purposeful Play



- Children initiate and direct their own play.
- Teacher provides time, space and resources, and observes as children play.
- Both teacher and children co-direct the play experience with teacher’s guidance and facilitation (e.g., play might be initiated by the children, but the teacher can extend the play through questions, prompts and playing along with them).
- Teacher plans and facilitates enjoyable activities and games that allow children to develop and reinforce knowledge, skills and dispositions.
- Children participate in and enjoy activities and games planned for them.

**Child-directed play:** Teachers provide time, space and resources to give children freedom and choice to explore the materials and to initiate play. This allows children to retain their role as independent learners with the teachers supporting their learning while respecting their autonomy in pursuing their interests. As children play, teachers take on the role of the observer to document what they say and do and find out what they are interested in. This can inform planning of subsequent activities or provision of opportunities to build on or extend children’s learning and development.

**Child- and teacher-directed play:** Both teacher and children co-direct the play experience with teacher’s facilitation. Children initiate play and teachers provide guidance to extend and enrich their play by asking questions, providing prompts or adding appropriate resources as they participate in the play with the children. Alternatively, teachers might initiate play and have children incorporate their ideas in the play experiences.



**Teacher-directed play:** Teachers intentionally plan for and carry out activities/games which children participate in and enjoy, to support and reinforce the learning of specific knowledge, skills and dispositions. As children participate in these activities/games, teachers look out for opportunities to invite and incorporate their ideas into the play.

### Authentic Learning through Quality Interactions



Children construct knowledge through interactions with people, objects, and the physical environment in contexts that are real, relevant and meaningful to them. Their understanding is enhanced when they are given opportunities to communicate their thoughts and ideas with others, both verbally and through their actions and body language. Vygotsky (1978) believed that social interactions and the ZPD are key to cognitive development. In addition, it is through social interactions that children practise and hone their social skills such as forming and maintaining friendships, cooperating and negotiating with friends, being sensitive to the feelings of others and exercising self-regulation.

Research shows that it is the quantity and quality of daily interactions which involve back and forth exchanges that are responsible for the learning and development of children (Hamre et al., 2012; Mercer, 2008). Hence, it is important for teachers to create meaningful opportunities for quality interactions on a daily basis for both instructional and social purposes.



Promoting quality interactions involves teachers playing an intentional role in the following:

- **Create a positive and supportive environment** so that children feel comfortable about working and playing together, talking about their experiences, asking questions, and expressing their thoughts and feelings.
- **Set clear classroom routines and expectations** to manage and maximise learning time, as well as using a variety of strategies and materials to actively engage children in learning.
- **Foster cognitive development by using questions, prompts and feedback** to encourage children to explain and extend their thinking, as well as language modelling to support children's language development as they build on ideas and concepts together.



## Children as Constructors of Knowledge

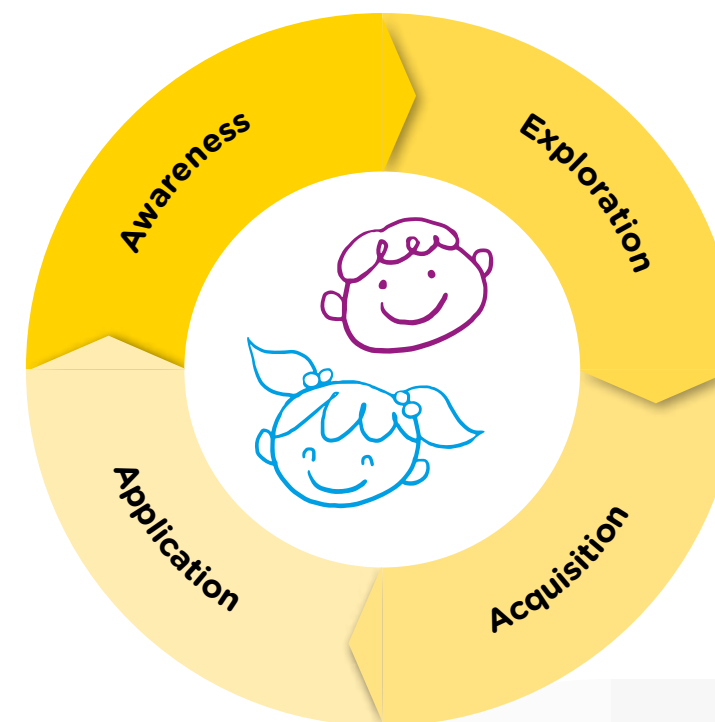


Children have a natural curiosity to learn and they are active and competent learners. They act on their innate desire to explore by asking and searching for answers to the questions they have. They want to understand about people, objects, events and ideas that arouse their curiosity. When faced with obstacles, they are capable of generating new strategies to overcome them, and in the process develop perseverance in the face of challenges.

As constructors of knowledge, children build on their prior experiences to gain new understanding of themselves and the world. They construct knowledge through their daily experiences, observing, exploring, reflecting, making decisions and communicating with friends and teachers about what they are experiencing. They find out about things on their own and give meaning to the people, places and objects around them. Through thinking, asking questions and reasoning, they make connections in learning and acquire a new level of understanding. Appropriate guidance from adults and a stimulating learning environment are important in helping children learn and construct new knowledge.

The **Learning Cycle** shown in Figure 5 illustrates the four-stage process children go through in acquiring concepts and skills to construct knowledge.

**Figure 5: Learning Cycle**



*Adapted from Kostelnik, M. J., Soderman, A.K., Whiren, A. P., & Rupiper, M. L. (2019). Developmentally appropriate curriculum: Best practices in early childhood education (7th ed.). Boston, Massachusetts: Pearson Education.*

### Awareness

Children encounter a new experience or come across a new idea from someone and develop an interest to find out more about it. Teachers mediate children's awareness and stimulate their interest through the environment and experiences they create for the children.

### Exploration

Children begin to ask questions, investigate the new idea or experience with their senses and make new discoveries. Being naturally curious, they manipulate objects and interact with the environment and people around them to find out why things happen and how things work. Knowledge is constructed as children mentally organise and re-organise the information they learn from their exploration and discovery.



## Acquisition

Children make connections between new information gained and existing knowledge to develop new understanding of the concepts and skills learnt from their exploration.

## Application

Children apply their knowledge and skills acquired in new or real-life situations. In doing so, they revisit concepts and practise skills, and revise and refine their understanding to make new connections in their learning. They also become aware of new observations that prompt them to re-enter the learning cycle to make new discoveries and construct new knowledge.

Based on the learning cycle, children progress from having an initial awareness to gaining new knowledge and skills that they can apply in different situations. Children can also be at different stages of the learning cycle, depending on their past experiences and learning opportunities. For example, a child could be at the awareness stage of developing an interest in caterpillars while another child could be at the acquisition stage, ready to construct knowledge about what caterpillars eat and how they move. Hence, teachers should plan learning opportunities that can cater to the different learning needs that children have.



## Holistic Development



Holistic development is key to teaching and learning in the early years. It takes into account the whole child, emphasising the importance of the social, emotional, cognitive, physical, moral, creative and aesthetic abilities of each child. Every aspect of a child's development should be recognised and valued in order to maximise the potential of the child.

All the developmental areas are inter-related, develop simultaneously and cannot be separated from one another in reality. Development in one area influences and is influenced by the development in other areas. To facilitate the holistic development of children, teachers need to provide opportunities for them to develop the core values, social and emotional competencies, learning dispositions, as well as the knowledge, skills and dispositions across the five learning areas.

The preschool years are also a window of opportunity for developing other important skills such as **executive functioning skills** which develop rapidly from ages 3 to 6. These are a set of essential skills that enable children to participate in daily activities, such as the ability to focus their attention, remember and follow instructions, take turns, manage their emotions and behaviours, and plan, organise and complete tasks. These abilities and skills help children to navigate the classroom and school environment for learning.



Besides helping to develop children’s readiness to learn, executive functioning skills also enable children to learn positive behaviours and attitudes, e.g., being motivated, exhibiting perseverance, having the ability to manage frustration and follow rules. These are important in helping children to manage their emotions and make responsible choices for themselves and others.



The three domains of executive function are:

**Working memory**

This enables children to keep information in mind and retrieve it for use when needed.

**Inhibitory control**

This enables children to deliberately suppress impulsive actions, ignore distractions and temptations, and to pause and think before acting.

**Cognitive flexibility**

This enables children to think about something in multiple ways and take on different perspectives and approach an activity or solve a problem in more than one way.

Children are not born with executive functioning skills. They also enter preschool with different levels of executive function and are also likely to develop the skills at a different pace from their peers. Preschool centres can intentionally provide opportunities for children to develop executive functioning skills in their daily activities, routines and transitions through activities and games such as singing action songs and playing movement and memory games. In general, teachers can help children to build, practise and enhance executive functioning skills by establishing routines, modelling social behaviour and creating social situations that require children to make choices and direct their own activities with decreasing adult supervision over time.

Neuro-cognitive science research is beginning to inform us that the different areas of children’s development are inter-connected and the processing of different senses like sight, hearing, smell, taste, sense of balance and movement is multi-directional. While many areas of children’s development are well-known to preschool educators who are familiar with children’s five basic senses, nurturing children’s sensory and motor development is often not given sufficient attention.

**Sensory and motor development** includes aspects such as children’s sense of balance (i.e., vestibular function) and body position and movement in space (i.e., proprioceptive function). For example, the vestibular sense allows children to maintain balance so as to move confidently and stay upright when sitting and standing. The proprioceptive sense enables children to walk or kick without looking at their feet. Children who have attained well-developed sensory and motor development demonstrate the following abilities and attributes:

- Self-help skills including dressing and feeding
- Pencil grip for drawing and handwriting
- Ability to copy shapes and materials from the board
- Manipulation of materials and equipment
- Gross motor skills, including enjoyment in participating in physical activities
- Ability to stay focused and pay attention
- Positive self-concept and confidence
- Ability to make friends and sustain friendships

Aspects of children’s sensory and motor development could be strengthened, given the urban environment children live in. More opportunities could be provided for them to move freely and explore and control body movements. To nurture children’s sensory and motor development, teachers need to plan activities which help develop children’s sense of balance, body position and movement, e.g., activities in which children can scale appropriate heights in a playground structure, explore the outdoors, and engage in sand and water play.

In summary, quality preschool education will need to provide a variety of opportunities that give emphasis to all areas of children’s development.

# Chapter 6

## ROLE OF TEACHERS IN NURTURING EARLY LEARNERS

### CHAPTER 6: ROLE OF TEACHERS IN NURTURING EARLY LEARNERS

Teachers play a critical role in stimulating and deepening children's learning based on their understanding of how children develop and learn. Good teaching practices are based on sound principles. How teachers put the *iTeach* principles into practice influences children's learning and development. Teachers need to play the following roles:

- Thoughtful planners
- Responsive facilitators
- Reflective practitioners
- Collaborative partners

#### Teachers as Thoughtful Planners



As thoughtful planners, teachers are guided by their belief about who children are, what they are capable of and how they learn as these would shape their decisions and actions in the classroom. They plan and provide opportunities for children to acquire the necessary knowledge, skills and dispositions using an integrated approach to

support the holistic development of children. These opportunities are provided through learning activities and experiences created for children within and beyond the classroom, as well as the daily transitions and routines which impact the children's social, emotional, moral, physical, cognitive and aesthetic development.

## Understanding the Way Children Learn and Develop

Teachers' beliefs about children shape the types of learning experiences created and the resources selected and provided for the children. Understanding how children learn and develop will help teachers plan and facilitate more meaningful learning experiences for the children. The NEL Framework recognises the following characteristics of preschool children:

### Children have varied growth trajectories and learn in different ways and at different rates.

Every child is a unique individual with different strengths and needs and learns in different ways and at a different pace. Teachers must therefore observe children and be flexible in customising the curriculum and learning activities they plan to cater to their needs.

### Children learn and develop holistically.

All the domains of development and learning are important and children's gains in the different domains are closely inter-connected and mutually reinforcing. Children learn from their experiences and view what they learn as a meaningful whole rather than in discrete parts.

### Children develop and learn best when they feel safe and valued.

Children feel safe and valued when they receive attention and affirmation. This support enables them to act spontaneously and confidently. Thus, it is important to organise a safe learning environment with a positive climate where children:

- are supported and appreciated throughout the learning experience;
- experience success and feel motivated during the learning process; and
- experience secure and consistent relationships with responsive teachers.

### Children learn best when they are actively involved in the construction of knowledge.

Children are always curious and seek to make sense of the world around them. They learn by personally experiencing and doing things for themselves. They learn best when they have opportunities to:

- experience and be aware of an event, a situation or a problem;
- engage in carrying out tasks that are interesting and meaningful to them;
- explore and discover answers for themselves; and
- apply concepts and practise skills that they have learnt and acquired.

### Children develop knowledge, skills and dispositions by building on those already acquired.

Children's thinking and reasoning change over time as they build new knowledge upon their existing knowledge and prior experiences and make meaningful connections in their learning. To foster optimal learning, teachers need to provide learning experiences at children's ZPD.

### Children's development is influenced by the different social and cultural context they live in.

Children have diverse social and cultural experiences as a result of the different families, cultures and communities that they grow up in. Some families/cultures may focus on the importance of developing a strong sense of independence while others may stress the needs of the community and focus on how their children can contribute to the family, the community and society. Such cultural differences can lead to variations in children's habits, their interactions with others and the way they respond to stimuli in their environment. These everyday experiences affect and shape their learning and development.

Based on the [learning cycle](#) described in Chapter 5, teachers design appropriate and meaningful learning experiences to provide opportunities for children to:

- Be aware of their immediate environment and develop an interest to find out more;
- Express their curiosity and use their senses to explore and discover the world around them;
- Make new connections between concepts and skills acquired to develop and deepen understanding; and
- Transfer and apply learning in different situations.

Teachers' beliefs and understanding of how children learn and develop will influence the following:

- The preschool centre's philosophy, mission, vision, and values
- The preschool centre's curriculum, programme and daily schedule
- The way teachers plan, facilitate, observe and assess children for learning
- The way teachers view themselves as professionals

### Planning to Nurture Holistic Development

#### Designing appropriate and meaningful learning experiences through an integrated approach to teaching and learning

Teachers need to plan and create engaging experiences for children to achieve the intended learning objectives and goals through daily learning activities and routines. In planning and designing these activities and experiences, teachers need to think about the desired learning objectives and goals to be achieved, how to go about achieving them and how they would know if learning has taken place. Appropriate learning experiences can be planned to nurture children's holistic development by using an integrated approach to teaching which makes learning relevant and meaningful to the children.

##### Some questions that teachers could consider are:

- ☐ What are the curriculum and learning goals/objectives set for the children?
- ☐ How are the children going to achieve these learning goals/objectives?
- ☐ What environments and strategies will support the achievement of these learning goals/objectives?
- ☐ What resources will be needed to facilitate the children's learning process?
- ☐ How do I know if learning has taken place?

#### Teachers can do the following to support children in making meaningful connections in their learning:

- Use themes, topics, stories or projects which interest children to create meaningful and authentic learning experiences.
- Make children's learning visible by employing appropriate tools to document and display children's learning/thoughts/ideas. Where relevant, teachers could refer to such documentation and encourage children to revisit what they have learnt, discovered, thought or wondered about to help them make connections between their previous and new learning.
- Create learning spaces to facilitate meaningful connections between children's learning experiences across different learning areas, contexts and groups of children.
- Collaborate with different stakeholders (e.g., teachers, families, the community) to help children make meaningful connections across their learning experiences in different contexts (e.g., between home and school, between EL and MTL classes, between the classroom and real life setting).

The following steps illustrate a possible process for planning appropriate and meaningful learning experiences for the children:

1. Set learning goals for the curriculum and programme.
2. Determine the context for learning based on themes, stories or topics that children are interested in to motivate and engage them in their learning.
3. Brainstorm with the children and/or other teachers to generate ideas that are related to the context (i.e., theme, story or topic) and which are relevant and meaningful to the children.
4. Identify the knowledge, skills and dispositions that will help children meet the learning goals based on the ideas generated for the theme/story/topic.
5. Develop engaging and enjoyable learning activities around the key ideas with clear learning objectives.
6. Sequence the learning activities to ensure there is progression from simple to complex concept and skill development.
7. Plan activities to help children revisit, reinforce and extend their learning of concepts and skills.
8. Observe and document children's learning to monitor and evaluate how children are progressing in achieving the intended learning objectives and goals.

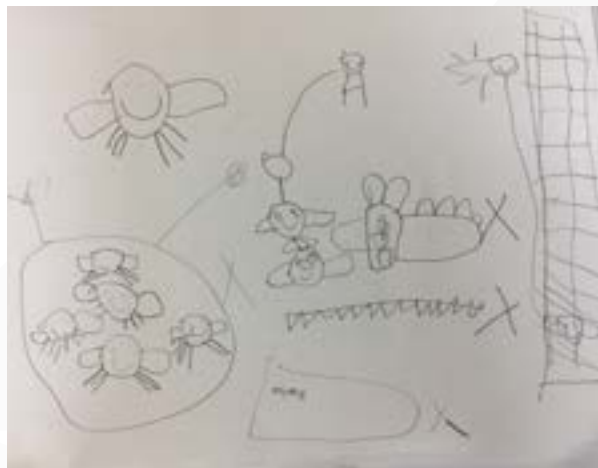


An example is provided below on how a teacher at EtonHouse Preschool Pte Ltd (Vanda) helped children make meaningful connections in their learning as they explored the topic about insects.



The K1 children started out exploring ideas related to insects and contributed ideas and questions based on their prior experiences. The teacher helped to organise the ideas in a mind map to help the children see the connections between their different ideas. This simple mind mapping activity also helped the teacher understand what children already knew about insects and what they were interested to find out so that she could help the children to make connections between their prior knowledge and their new learning experiences.

***"The caterpillar becomes a butterfly. She flies in the sky. When she goes back home, she turns into a caterpillar again."***



Based on children's drawings, the teacher observed that children were particularly interested in butterflies. Thus, she modified her initial plans of focusing on insects to tap children's interest in butterflies. This allowed for meaningful connections to be made between children's interests and new learning and helped to keep the children excited about their investigation.

Throughout the investigation of butterflies, the children observed caterpillars found in their garden and recorded their observations of the growth of the caterpillars in a daily journal. They used drawings and invented spelling to record and document their observations, as well as a calendar to predict the number of days it took for a caterpillar to turn into a chrysalis and then into a butterfly. They were also given opportunities to communicate their findings with their friends and parents in class and at home.



Through this process of observation and documentation, the children not only learnt about the life cycle of a butterfly but also had opportunities to develop skills in other learning areas such as Language and Literacy and Numeracy. In the course of their investigation, the children also experienced an unexpected loss of three caterpillars. The teacher made use of this experience to help them understand death, grief and sadness by inviting them to share their feelings about the loss of the caterpillars and learn how to manage the sadness they experienced. Through the experience, children had the opportunity to develop their social and emotional competencies, as well as think of ways to show care and respect for small creatures.

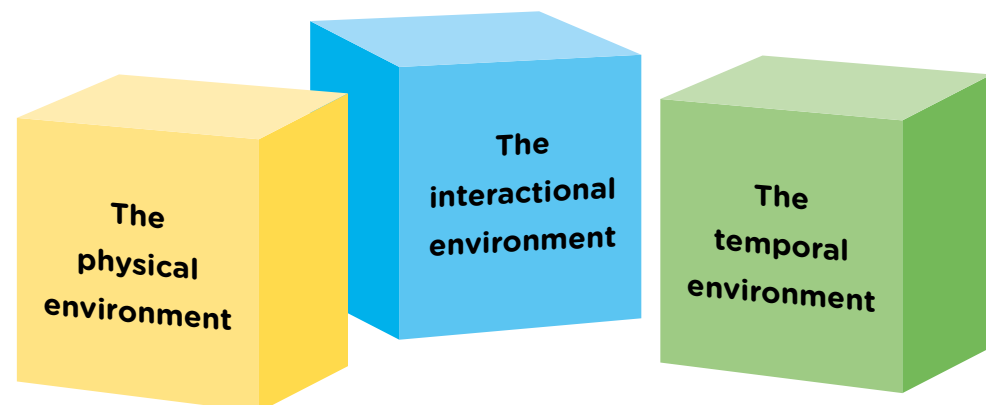


The children consolidated their investigation of butterflies by producing a movie. For several weeks, they generated ideas for the story, characters, scenes and script for the movie, and worked together to design posters, make plans for the seating arrangement, ushering and selling of popcorn for the movie screening. The learning process provided a meaningful context for the children to draw connections across different learning areas such as Aesthetics and Creative Expression, Discovery of the World, Language and Literacy and Numeracy. In addition, the children learnt to appreciate each other's ideas, how to work cooperatively with others, solve problems/conflicts which they faced as they worked together for the movie production and the actual screening.



## Organising the Learning Environment

A conducive and effective learning environment is purposefully constructed to provide engaging, stimulating and challenging experiences to promote children's holistic development. There are three key aspects to consider when organising the learning environment:



### The physical environment

The physical environment includes both the indoor and outdoor spaces. Organising and setting up the physical spaces can influence the emotional climate of the classroom and preschool centre, as well as children's learning and their social and emotional well-being. The physical environment should be set up to encourage purposeful play, quality interactions, exploration and experimentation, creativity and imagination.

The physical environment includes learning centres set up in the preschool centre. These are learning spaces purposefully planned and designed to promote child-initiated play and self-directed learning. As children play at the learning centres, they develop social and emotional skills as they play and work cooperatively with others and explore playing different roles, as well as problem solving skills by trying different ways of doing things. They also expand their knowledge and skills, and deepen their understanding as they revisit, revise and reinforce concepts and skills taught by their teachers.

#### When setting up learning centres,

- Create clearly defined areas that can accommodate small groups of children;
- Provide a variety of materials and resources that cater to different interests and abilities of the children;
- Change and add new materials and resources regularly to invite interest and build on children's curiosity; and
- Provide opportunities for children to choose where, what and who to play with.

The outdoors is an integral part of children's everyday life. It offers rich sensorial experiences that promote children's holistic development, health and well-being, environmental awareness and connectedness to their immediate environment. Teachers can provide a wide variety of outdoor learning activities that allow children to experience:

### Learning in the outdoors...

where children carry out the activities in the outdoors

### Learning about the outdoors...

where children explore and find out more about the outdoor or natural environment

### Learning through the outdoors...

where teachers take advantage of the unique characteristics of the outdoors to support children's holistic development

#### When planning for outdoor learning,

- Create opportunities for purposeful play;
- Promote children's autonomy and choice;
- Develop children's knowledge and skills;
- Maximise the learning potential of outdoor spaces; and
- Take safety precautions in the outdoors.

Refer to the *Outdoor Learning: A National Guide for Early Childhood Educators* (2019) for more details on the guiding principles, practical considerations and examples of outdoor learning.



Download the  
[Outdoor Learning  
Guidelines](#)

**In organising the physical environment, have I considered the following?**

- ☐ Arrange the resources and present materials and activities in ways that encourage exploration and experimentation.
- ☐ Use spaces, furniture and resources flexibly and creatively to support a range of different learning activities to engage children in active learning.
- ☐ Select and provide a variety of materials that are:
  - Able to sustain children's interest;
  - Non-restrictive and allow children to be creative and imaginative
  - Easily accessible and allows choice.
- ☐ Make children's thinking and learning visible by displaying children's work at their eye level as an affirmation of their efforts and to encourage them to revisit and reflect on their learning experience.
- ☐ Use technology to support and enhance teaching and learning in a developmentally appropriate manner. The use of ICT tools and resources should complement rather than replace learning activities and outdoor play, and allow for quality interactions and learning through concrete, sensory and hands-on experiences.
- ☐ Provide a space to store incomplete projects for children to return to another day, in order to give them a sense of continuity and ownership of their learning.
- ☐ Make use of available outdoor spaces in planning and implementing regular, frequent and meaningful outdoor learning experiences to support children's holistic development.

**The interactional environment**

The interactional environment offers opportunities for interactions to take place between the children and their teachers and peers. A positive interactional environment enables children to be engaged intellectually and socially, enjoy and build warm and supportive relationships with others, develop friendships and regulate their emotions and behaviours. Such an environment promotes autonomy in children, and encourages children to take risks, explore confidently and make decisions.

**In organising the interactional environment, have I considered the following?**

- ☐ Organise children in different group settings to promote social and instructional interactions.
- ☐ Create and maintain a caring and respectful environment that encourages children to participate and express their thoughts and ideas spontaneously.
- ☐ Model and encourage appropriate behaviour and use of respectful language when interacting with children and other teachers and adults.
- ☐ Acknowledge children's emotions and provide appropriate comfort and support to them, when necessary.
- ☐ Support children in managing conflicts by developing their self-regulation and social and emotional competencies.

## The temporal environment

Children need sufficient time for play, seat work, individual and group work. The temporal environment refers to how teachers manage and optimise time for learning. This involves planning and providing a daily schedule of activities that allows adequate time for children to engage in active learning indoors and outdoors. It is also important to establish clear expectations for daily routines and efficient transition between activities, as well as using routines and transitions as learning opportunities (e.g., initiating social conversations during arrival, dismissal and snack time to increase language input and children's verbal expression). Ensuring a smooth flow of movement during transitions can also help to reduce challenging behaviours of the children. Teachers also need to be fully prepared and ready with activities in order to minimise loss of instructional time.

### In organising the temporal environment, have I considered the following?

- ☐ Provide clear instructions to facilitate the smooth flow of movement during transition between activities.
- ☐ Structure a predictable and logical sequence of events and activities in the daily schedule.
- ☐ Maximise learning time by capitalising on the learning opportunities offered by daily classroom routines and transitions.
- ☐ Capitalise on unplanned learning opportunities that arise.

## Planning for Routines and Transitions

Routines are activities that are repeated day after day and enable children to anticipate what happens next. This predictability gives children a sense of control over what they can or cannot do during each part of the day. Routines help children to feel secure and comfortable within the preschool centre. In the classroom, routines are developed into a daily schedule. Transitions happen in between the scheduled routines of the day. They indicate a change, either of activities, location or teachers, which should be seamless.

Routines and transitions provide children with a context for learning and teachers with good opportunities to observe and enhance children's learning in an authentic way. They can be used to support children's agency and autonomy. Proper planning of routines and transitions by setting clear and consistent classroom rules encourages development of social and emotional competencies, self-regulation and executive functioning skills in children. Many teachable moments may also arise during routines and transitions which provide opportunities for teachers to promote and support children's learning and development.

### Examples of learning opportunities during routines and transitions:

- Arrival and dismissal routines offer opportunities for children to show care and concern for others by exchanging greetings with friends and adults.
- Cleaning up after an activity allows children to learn to take responsibility and ownership for their learning environment.
- Putting on their own shoes before outdoor activities provides opportunities for children to practise fine motor skills, develops self-help skills, independence and positive feelings about their abilities.
- Snack time is a good opportunity to instill healthy eating habits and foster children's social, language and numeracy skills as they interact with their friends and compare who has more biscuits for sharing.
- Toileting routines such as flushing after use and hand-washing provide opportunities to instill good personal hygiene habits and teach children the importance of saving water.

## Planning for Field Trips

Field trips provide authentic learning experiences that increase children's understanding of the world around them. Unlike an excursion which is usually planned as a recreational activity to a place of interest at the end of a school term, a field trip is planned with teaching and learning objectives in mind and involves children's active involvement and participation before, during and after the trip. When carefully planned, field trips can provide valuable learning opportunities to inculcate values and nurture learning dispositions. Field trips also inspire activities in art, music and movement, storytelling, role-play and show-and-tell.

When planning a field trip, teachers need to consider these three levels of activities:

### Pre-Field Trip Activities

- Children should be made aware of the purpose of the field trip.
- A class discussion can be conducted based on the theme or topic related to the field trip to excite the children and establish their prior knowledge.
- Children can talk about what they want to find out from the trip and think of questions to ask the people working at the places that they are visiting, if applicable.

### On-Site Activities

- There should be hands-on activities that allow children to interact with the materials, environment and people at the places they visit and to make observations of the exhibits and displays, where appropriate, during the field trip. This will make their learning more concrete and meaningful.
- Teachers are strongly encouraged to take photographs for post-field trip activities.

### Post-Field Trip Activities

- It is important to plan follow-up activities to encourage the children to reflect on what they have observed and done during the field trip and to consolidate what they have learnt.
- Examples of post-field trip activities include:
  - Ask the children to take turns to describe something they had seen, heard or collected from the outing
  - Help the children to create a class display board, poster or scrapbook to document the things observed during the outing.
  - Ask the children to make and send a "Thank you" card to the host or guide of the place visited.

Preschool centres must also ensure that all the necessary preparations for field trips, including safety precautions, are made to ensure that children have a safe and positive learning experience. These preparations include getting parents' consent, conducting a recce of the place before the field trip and completing a risk-benefit assessment of the place and activities.



## LET'S REFLECT!

As a thoughtful planner, have I ...

Planned the curriculum based on my beliefs about children and the way they learn and develop?

Designed appropriate and meaningful learning experiences to nurture children's holistic development using an integrated approach to teaching and learning?

Taken into consideration the physical, interactional and temporal environments in organising the learning environment to support children's learning and their social and emotional well-being?

Tapped authentic learning experiences such as routines, transitions and field trips to enhance children's learning and development?



## Teachers as Responsive Facilitators

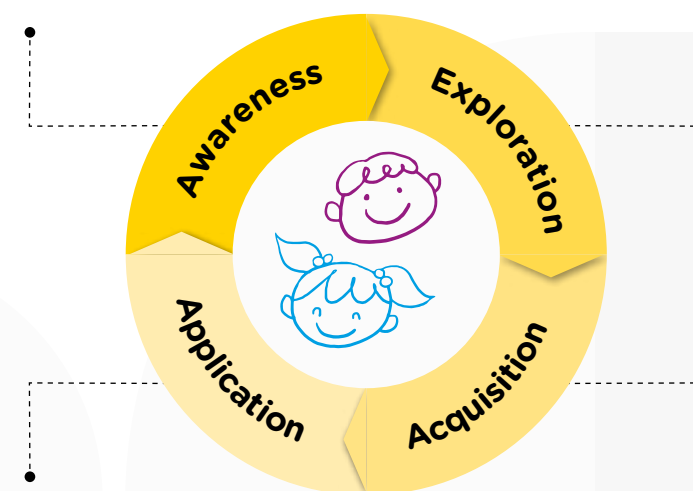


In Vygotsky's view, the children learn from and with teachers and more capable peers who provide assistance or scaffolding within the children's ZPD. As facilitators, teachers play a vital role in stimulating children's thinking and extending their learning. They design the environment purposefully by tapping children's playfulness, sense of wonder and curiosity, as well as eagerness to learn. They use a wide range of teaching strategies and resources to engage children actively as constructors of knowledge and scaffold their learning through purposeful play and quality interactions. Teachers also observe and monitor what and how children are learning and use the information to help children make connections between concepts, ideas and experiences, and create new understanding as they integrate new and old information.

In using the learning cycle to facilitate children's learning, have I considered the following?

- Invite children's interest in something new by providing a stimulus, modelling or demonstration.
- Provide opportunities for children to observe and explore their environment and have direct contact with a variety of real objects, people, places and events.
- Present information and materials in a variety of ways to gain children's interest and participation.
- Model a sense of wonder and curiosity by modelling "I wonder..." statements or using questions to encourage children to wonder and verbalise their thinking.

- Provide varied materials and experiences and organise learning spaces to encourage children's exploration, investigation and discovery using their five senses.
- Provide opportunities for children to gather information from a variety of sources and record observations in different ways.
- Encourage children to make comparisons, test predictions, problem solve, reason and draw conclusions.



- Provide opportunities for children to apply and practise what they have learnt in new and different situations, as well as in their everyday activities.
- Encourage and guide children in reflecting on their learning.
- Create new awareness and encourage children to generate new ideas and explore new situations to extend thinking and learning.

- Make links between children's learning experiences, activities and concepts to help them make connections between new and previous learning.
- Ask questions and provide feedback, prompts and additional information to encourage children to explain and expand their thinking.
- Provide time, space and materials for children to revisit concepts and practise skills to gain mastery of knowledge and skills.

### Engaging Children in Learning through Purposeful Play

When teachers plan for the provision of purposeful play, they seek to provide children with enjoyable play experiences that are meaningful to children. These play experiences can be planned to intentionally support children’s interests and ideas, thereby nurturing their dispositions towards learning, self-regulation, autonomy and other areas of learning and development. Depending on the learning context and objective, teachers can create different types of purposeful play experiences that lie on a continuum ranging from being more child-directed to teacher-directed play (refer to Figure 4 in Chapter 5).

From the child’s perspective, purposeful play:

needs to be fun and enjoyable

supports curiosity

encourages choice, decision-making and risk-taking

offers active hands-on and minds-on opportunities for exploration, experimentation, creation and discovery

In facilitating children’s play across the purposeful play continuum, the teacher takes on different roles:

A planner

- Thinks through learning intent and decides on the type of purposeful play experience that would be most suited to achieve the learning intent/objective/goal.
- Selects resources and organises environment, bearing in mind children’s interests and autonomy.

A co-player

- Enriches children’s experiences by prompting, asking questions or providing feedback to maximise children’s participation, extend their learning and help them make meaningful connections between their experiences /interests and new information gained from their play experience.
- Encourages children’s choice and autonomy by giving them flexibility to choose what, how and who they would like to play with
- Intervenes sensitively only when necessary

A reviewer

- Observes children at play to find out their needs and interests
- Reviews how future play experiences may be planned, shaped or extended to scaffold or enhance children’s learning

An advocate

- Values purposeful play by giving children time and space to play.
- Gives children opportunities to explore new ideas through and for play.
- Proactively engages stakeholders to raise their awareness on the importance of children’s play and share good practices of engaging children in learning through purposeful play.



An example is provided below on how a range of purposeful play experiences is offered to children at MOE Kindergarten @ Punggol View. The K1 children were learning about circles in class. To reinforce and extend their exploration on “circles”, the teacher brought the children outdoors to explore forming circles with foam noodles.



**Teacher-directed play:** During the outdoor learning experience, the teacher gave specific instructions for the children to form circles using the foam noodles. As the children played with the foam noodles, she observed that some children were pretending that the circles they created were everyday objects such as a steering wheel.



**Child- and Teacher-directed play:** Inspired by what she observed, the teacher extended children’s play by asking, “What can you do with the circles you have made?” This invited children’s ideas to be incorporated into the play experience and they enjoyed coming up with many different creations.



*One group of children decided to re-enact the story of “The Ugly Duckling” which was read to them prior to this outdoor learning activity. The children decided that the circle they made could be the pond and they would be the ducklings in the pond. The teacher joined in their play experience and suggested that she would be the ugly duckling. The play experience allowed the children to make connections with what they have earlier learnt.*

The teacher and children co-directed the play experience. The teacher facilitated and enhanced children’s play experiences by observing them and providing verbal prompts and asking questions when needed to enrich or extend children’s play experiences.



*Another group of children suggested that they could play ring toss with the circles they created. The teacher provided them with a few cones and facilitated the placement of the cones by asking, “Where do you want to place the cones?”, “Is this too far for you to toss your ‘ring’?”*



**Child-directed play:** Observing that the children enjoyed themselves very much in pretending that the circles were various objects, the teacher decided to give the children the freedom and autonomy to explore creating other things (beyond just circles) with the foam noodles. These were some of the children’s creations:



*A pair of children created a house and a “super” vacuum to suck up all the leaves outside the house.*



*Another pair of children created a helicopter.*



*A group of children created a car racing track using cones for cars to stop and pump petrol.*

In engaging children in learning through purposeful play, have I considered the following?

To what extent was the learning experience...	To what extent were children able to...	To what extent did I...
Active (not just “hands-on” but “minds-on”)	<ul style="list-style-type: none"><li>• stay focused and engaged in the learning process through questioning and reflection compared to passive learning where children listen and memorise information?</li></ul>	<ul style="list-style-type: none"><li>• ask open-ended questions such as “why” and “how” questions often?</li><li>• give children opportunities to explore new ideas and problem solve?</li></ul>
Engaging	<ul style="list-style-type: none"><li>• filter out distractions and focus their attention on the task at hand?</li></ul>	<ul style="list-style-type: none"><li>• design learning experiences and environment with a “just enough” mentality (i.e., do not over plan) to prevent distractions and help keep children on task?</li></ul>
Meaningful	<ul style="list-style-type: none"><li>• make meaningful connections between their own experiences and/or interests and new information which makes their learning richer and more relevant to their own lives?</li></ul>	<ul style="list-style-type: none"><li>• help children make meaningful connections in their learning by making links between different learning activities and relating concepts learnt to their daily life experiences?</li></ul>
Socially interactive	<ul style="list-style-type: none"><li>• interact and collaborate with their friends, teachers, and others in their environment?</li></ul>	<ul style="list-style-type: none"><li>• provide opportunities for children to work in different group sizes and with different friends?</li></ul>
Iterative	<ul style="list-style-type: none"><li>• generate, test, and revise hypotheses and theories about how things work while exploring and interacting with their environment?</li></ul>	<ul style="list-style-type: none"><li>• allow children to explore, take risks and make mistakes?</li><li>• ask “Why do you think this happens?”, “How do you know?”, “What other ways can you do/use this differently?”</li></ul>
Joyful	<ul style="list-style-type: none"><li>• show enjoyment and positive emotions while engaging in the activity?</li></ul>	<ul style="list-style-type: none"><li>• invite and incorporate children’s interests and ideas into learning activities and experiences?</li><li>• allow choice and children to pursue their interests for richer and deeper learning?</li></ul>

Adapted from Hirsh-Pasek, K. & Hadani, H. (2020). A new path to education reform: Playful learning promotes 21st century skills in schools and beyond. The Brookings Institution.

Facilitating Authentic Learning through Quality Interactions

Children learn best when they are given ample opportunities to interact with people, objects, and their surroundings in contexts that are real, relevant and meaningful to them. Quality interactions involve teachers and children engaging in shared and sustained interactions as they investigate a topic, solve a problem, or read a story together. Teachers need to be skilful in asking questions and using prompts to engage in conversations and discussions with the children. They can also provide opportunities to extend this to children engaging in quality interactions with their friends.

Creating a positive and supportive environment

To promote quality interactions, it is important to provide a supportive environment for children to enjoy and build positive social and emotional connections with their teachers and friends. Children participate actively in a responsive learning environment in which teachers carefully observe children and listen respectfully to what they have to say, respond appropriately to their emotional, developmental and learning needs, and cater to their interests and motivations.

To provide a positive and supportive environment for children to feel safe and comfortable to contribute ideas, teachers can...

- Tap children’s interest and provide them with autonomy and choice.
- Listen and provide sufficient wait time for children to think and respond.
- Value children’s opinions and perspectives.
- Use daily routines to provide rich opportunities for conversations.
- Design spaces and activities that offer opportunities for children to talk with one another about their ideas.
- Model how children can express feelings, talk about what they are thinking about and to show appreciation and respect for each other’s ideas and/or views.



An example is provided below on how a teacher at Star Learners @ Choa Chu Kang Sports Centre provided a positive and supportive environment to encourage children's participation.

In this activity, a class of K1 children was given the opportunity to develop their understanding of patterns and strengthen their fine motor skills as they manipulated small objects to design simple patterns on their Peranakan slippers.



The teacher was seated on the floor with the children in a circle so that she could maintain eye contact with all the children and they too would be able to establish eye contact with each other. The children also had a good view of the book as they listened to the story and engaged in a discussion after the book reading.

The teacher provided a variety of materials for the children to create their patterns, honouring their choices and giving them autonomy to design their Peranakan slippers. This created an environment which allowed the children to feel confident and empowered to express and contribute their thoughts and ideas.



The teacher promoted and supported a positive and respectful environment where the children showed and talked about the patterns they had created on their Peranakan slippers with their friends. This allowed them to learn to value and appreciate each other's opinions and creations (e.g., finding out why their friends chose to use a particular colour or pattern, sharing what they liked about their friends' designs).

## Organising the classroom and using a variety of strategies and materials

It is important for teachers to set clear classroom expectations and routines to maximise time for their quality interactions with the children.

### To ensure proper classroom organisation and management, teachers need to:

- be fully prepared for all the planned learning activities; and
- provide clear behavioural expectations for children to actively participate and engage in large group discussions (e.g., children know that they have to take turns to talk, listen to and respect their friends' ideas).

They can also use a variety of strategies, materials and modalities to engage children so that they are more interested to contribute ideas during activity or play time. For example, to promote children's engagement and participation, teachers can be flexible in organising class groupings that allow children to play and learn in both smaller groups, as well as in a large group setting.

Cooperative learning strategies can also be used to increase children's active participation and positive interaction in small group activities. In cooperative learning, small groups of children learn together to maximise their own and each other's learning, which in turn helps to build an active and interactive learning community in the classroom. Children in a cooperative learning classroom are often engaged in productive conversations and interactions. Each group member is responsible not only for learning what is being taught but also for helping their teammates learn. In the process, children develop social skills such as working with friends, listening to others and taking turns, as well as a positive attitude towards learning as they learn to appreciate and value everyone's ideas and contributions.

### To use a variety of strategies and materials to actively engage children, teachers can...

- Use different modes to present information (e.g., hands-on demonstrations, videos, stories, posters, graphic organisers dramatisation).
- Use a variety of resources (open-ended materials and natural materials) that allow for individual and shared play.
- Use hands-on and authentic experiences and contexts (e.g., field trips, outdoor experiences).
- Involve families and community partners.

An example is provided below on how teachers at PCF Sparkletots Preschool @ Braddell Heights Blk 417 tapped the K1 children's interest in birds and in particular, the cassowary, with its unique body colours. The teachers used a variety of strategies, materials and modalities to engage the children and provided them with different opportunities to find out more about the cassowary.



The teachers carefully selected and provided books, photographs and videos for the children to learn about the cassowary. The variety of resources used invited the children's interest and active participation as information was presented in different ways. This encouraged the children to engage in conversations with one another, build on each other's ideas, ask questions and suggest ways to find out more about the cassowary.



To provide the children with an authentic learning experience, the teachers partnered with Wildlife Reserves Singapore to organise a workshop for the children to interact with a bird expert to find out more about the cassowary, as well as to have a personal encounter with a cassowary. These hands-on and authentic experiences allowed the children to better relate to their learning experiences and engage in further exploration and discovery of the cassowary.



After learning about the cassowary from the various sources, the children worked in groups to create 3D artworks using recycled materials contributed by parents and the community to represent their thoughts and ideas about the cassowary.



The teachers organised different platforms, such as a 'Show-and-Tell' and an exhibition for the children to communicate their findings and share their class story with different audiences. These various platforms provided ample opportunities for the children to engage in quality interactions with their peers and others.



The children recorded what they had learnt about the cassowary through drawings and writing. They also presented their discoveries about the cassowary, such as how it moves through music and movement activities and games. This motivated the children and encouraged their further interest and participation in learning more about the cassowary.



The children also created a class story to consolidate what they had learnt about the cassowary.



Fostering Cognitive Development

Teachers could foster cognitive development through effective questioning, prompting and language modelling. Questions could be used to tap children’s interest, encourage their participation and promote active learning and language development. Besides questions, prompts may also help extend children’s thinking and understanding. Language modelling also provides children with the words needed to express their thoughts and ideas during conversations.

Effective questioning can increase the back-and-forth dialogues teachers have with children. Questions can be intentionally formulated and asked to arouse and sustain children’s interest. These questions motivate them to think and develop inquiring attitudes by challenging them to analyse, evaluate, reason and create. Teachers seek to prompt and understand children’s thinking and learning process by encouraging them to put into words their thoughts about what they have seen, heard, experienced, and learnt. However, teachers need to give children time to think about the questions posed to them in order to articulate their responses.



*What is stopping the ball from rolling down the water tunnel?*

*What if we change some of the pipes used for the water tunnel?*

Good questions have focus and clarity to scaffold, reinforce, and extend children’s learning. When asking questions, it is important to use a calm and encouraging tone and give children enough wait time. Table 1 below shows examples of types of questions that teachers can ask to promote inquiry and cognitive development.

Table 1: Examples of Questions to Promote Inquiry and Cognitive Development

Purpose	Examples of Questions/Prompts
Invite interest and curiosity	<ul style="list-style-type: none"><li>• I wonder why...</li><li>• What if....?</li><li>• Why do you think this happens?</li><li>• How do you think this happens?</li></ul>
Make meaningful connections in learning	<ul style="list-style-type: none"><li>• What do you remember about the last time...?</li><li>• How is this experience the same/different from....?</li><li>• Why is your current experience the same/different from the past?</li><li>• How can you apply this in your everyday life?</li></ul>
Extend thinking	<ul style="list-style-type: none"><li>• What would you do if...?</li><li>• How can we do/use this differently? Why?</li><li>• What is another way to...?</li><li>• What do you think would happen if...?</li><li>• Why do you think this would happen?</li><li>• What do you think will happen next?</li></ul>
Reflect on learning	<ul style="list-style-type: none"><li>• What do you like about...?</li><li>• How did you feel about...?</li><li>• What made you think of...?</li><li>• How did you decide to...?</li><li>• How did you know about...?</li></ul>

Engaging in sustained and shared conversations with children has been highlighted to be an important feature of effective early childhood programmes (Siraj-Blatchford et al., 2002). The term “sustained shared thinking” is used to describe the type of teacher-child interactions that best support and extend children’s thinking and learning. It is defined as “An episode in which two or more individuals work together in an intellectual way to solve a problem, clarify a concept, evaluate activities, or extend a narrative, etc. Both parties must contribute to the thinking and it must develop and extend understanding.” (Siraj-Blatchford et al., 2002, pg. 8). It is important to make time to engage children in sustained and shared conversations or back-and-forth exchanges by asking questions and providing prompts and feedback to promote learning, thinking and reflection.

Teachers can promote sustained and shared conversations by using strategies that include the following:

Tuning In

listening carefully to what is being said, observing body language and what the children are doing

Showing Interest

giving your whole attention to the child/children, maintaining eye contact, affirming verbally and through body language, such as smiling and nodding

Affirming and Expanding on Children’s Responses

recognising and encouraging children’s efforts and prompting them to explain and extend thinking

Table 2: Suggestions for Expanding Children’s Responses to Promote Learning, Thinking and Reflection

Ways to expand children’s responses	Examples of what teachers can say/ask
Clarifying ideas	• “Do you think that this stone will sink if I put it in the water? Why do you think so?”
Encouraging further thinking	• “You have really thought hard about how to change the actions for the song. How else will you move to the song?”

Ways to expand children’s responses	Examples of what teachers can say/ask
Inviting children to elaborate	<ul style="list-style-type: none"><li>• “I really want to know more about this. Can you tell me more about it?”</li><li>• “What else do you know about...?”</li></ul>
Modelling thinking and language	<ul style="list-style-type: none"><li>• “I am going to give each one of you 10 multi-link cubes so that you have enough cubes to build a tall tower.”</li><li>• “You are pretending to be a doctor. You are attending to a patient by listening to his heartbeat using the stethoscope and taking his temperature with the thermometer.”</li></ul>
Offering an alternative viewpoint	<ul style="list-style-type: none"><li>• “Maybe Goldilocks wasn’t being naughty when she ate the porridge. What do you think?”</li><li>• “Maybe Diana wanted you to read with her when she chose the same book as you. What do you think?”</li></ul>
Offering your own experience	<ul style="list-style-type: none"><li>• “Luckily, you were wearing your raincoat when it rained so heavily just now. Look at me. I am soaking wet because I forgot to bring an umbrella today.”</li><li>• “I like to read when I have some free time at home. What do you like to do at home when you are free?”</li></ul>
Re-capping and rephrasing	<ul style="list-style-type: none"><li>• “Are you thinking that...?”</li><li>• “This was what happened the last time when we...”</li><li>• “What else do you remember about it?”</li></ul>
Reminding	<ul style="list-style-type: none"><li>• “Don’t forget that you said this stone will sink if I put it in the water.” “What do you see happening now?”</li><li>• “Remember we said we should take less sugar as it’s healthier? How many spoons of sugar should you put in your drink?”</li></ul>
Speculating	<ul style="list-style-type: none"><li>• “Do you think the three bears would have liked Goldilocks to come to live with them as their friend?”</li><li>• “Do you think the very hungry caterpillar will eat the food that had given him a bad stomach ache again?”</li></ul>
Suggesting	<ul style="list-style-type: none"><li>• “You may want to try doing it in a different way. Why don’t you try to mix the two colours together?”</li><li>• “Why don’t you try doing it differently by putting the bigger block at the bottom?”</li></ul>

Adapted from Professor Iram-Siraj-Blatchford’s presentation on “Quality Interactions in the Early Years” at the TACTYC Annual Conference, “Birth to Eight Matters! Seeking Seamlessness – Continuity? Integration? Creativity?” on 5 November 2005, Cardiff.



### To foster cognitive development, teachers can...

- Follow children's lead and build on what they wonder about and want to investigate.
- Model language to supply the words children need to convey their thoughts and ideas.
- Ask questions purposefully and expand on what children say to stimulate their thinking.
- Use open-ended questions to support children's thinking and reasoning.
- Tap children's prior experiences to extend learning.
- Use graphic organisers to organise children's thoughts and ideas and make their learning visible.

Watch a video to see how a teacher at MOE Kindergarten @ Punggol View facilitated sustained back-and-forth exchanges to promote quality interactions with a class of K2 children during and after an outdoor learning activity.



Scan the QR code to watch the [video on quality interactions](#)

### In facilitating authentic learning through quality interactions, have I considered the following?

- ☐ How emotionally supportive am I towards the children?
- ☐ How do I organise the children and classroom activities to focus children's attention and maximise learning time?
- ☐ What can I do to foster cognitive development and stimulate language development through sustained and shared conversations with the children?

### Catering to Diverse Learners

At the heart of any preschool curriculum is the child. Children bring with them their diverse backgrounds, experiences, interests and needs that contribute to their unique personalities. They have varied growth trajectories and readiness for learning as they develop at their own pace and learn in their own way.

Teachers should be aware and accept that children are different and embrace the diversity in their classes to provide different kinds of support to cater to children's varying learning styles, strengths and needs. To help children develop a sense of belonging, all children are to be treated with respect and equally, with appropriate support provided in all aspects of the learning experiences created for them in the preschool centre. It is also important to teach children to show mutual respect for one another as they learn and live in a diverse and multi-cultural community.

### The following strategies are suggested to cater to diverse learners:

- Be flexible in adjusting the learning content and levels of difficulty, depending on children's readiness.
- Use a variety of teaching strategies, resources and modality of learning activities and organise different groupings (i.e., large group, small group and individual), and organise the learning spaces accordingly.
- Vary and set reasonable expectations of children's level of participation and performance.
- Encourage children to interact and get to know one another by playing and working with peers from different cultural and language backgrounds, interests and abilities to promote cooperative and collaborative learning, as well as nurture the values and attitudes of showing care and respect for others.
- Engage families and work closely with them to help them understand their children's needs and interests so that the families can support the continuity of children's learning at home or co-develop follow-up plans for their children.
- Tap community resources and seek professional assistance to provide children with additional developmental needs in a timely manner, when necessary.

### In catering to diverse learners, have I considered the following?

What are the backgrounds, prior experiences, interests and needs of the children in my class?

What kind of support have I provided to cater to their varying learning styles, strengths and needs?

How do I organise the children, classroom activities and learning environment to support them in their learning and development?

How can I partner the family to support the continuity of children's learning at home or co-develop follow-up plans for their children?

### Observing and Assessing Children's Learning

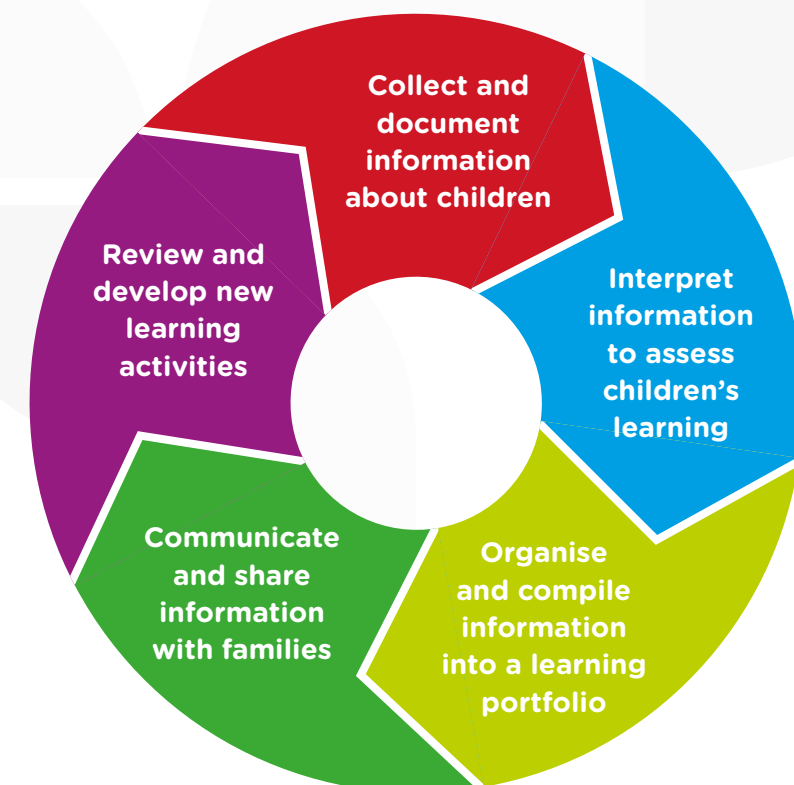


Observing and assessing children's learning is an integral part of the teaching and learning process in early childhood education. It refers to an on-going cycle that includes observing, documenting and interpreting information to find out and understand what children know and can do. This process informs curriculum planning and decisions to build on children's learning experiences and ensure that they are making progress in all areas of learning and development. Figure 6 shows the steps involved in observing and assessing children's learning and development.

### When teachers observe and assess children's learning it allows them to:

- Recognise children's prior knowledge, interests, abilities and attitudes.
- Gather information on children's learning and progress to inform curriculum planning and teaching.
- Provide feedback to children on the progress they have made over time so that they are motivated and know what is expected of them.
- Reflect on teaching strategies to effectively support and scaffold children's learning and development, including children requiring additional support.
- Evaluate the effectiveness of the learning opportunities, resources and environment provided in achieving the desired learning objectives/goals.
- Share and communicate information on children's learning and progress with families to help them understand their children's learning and development.

**Figure 6:**  
**Steps for Observing and Assessing Children's Learning and Development**



Collect and document information about children

Teachers can collect information about children’s learning and development through systematic observation and documentation.

Systematic observation involves the teachers doing the following:

Establish a daily routine for observing children and create an observation plan to focus on an individual child or a group of children each time in a variety of planned and spontaneous situations rather than planning to observe all the children at the same time.

Be objective and verify observations with various stakeholders (e.g., fellow teachers, child’s family members).

Gather sufficient information and evidence in each aspect of children’s development and progress in the learning area at different times, in different contexts and from multiple sources.

Focus on children’s developmental characteristics and keep a holistic and balanced view of children.

Look for patterns of learning and development and not isolated instances of child’s achievement or challenges to make valid inferences based on understanding of child development.

Good observation notes are accurate, objective and non-judgmental. The notes should describe what is seen and heard without making assumptions of what happened (e.g., Aishah picked up each glass bead with two fingers and placed them side by side on the mat).

Table 3 shows some suggested areas for observing children’s learning and development. Teachers need to consider the following when deciding what information to gather about children’s learning and development and the appropriate method to gather this information:

- **Purpose of intended observation** – “Why do I need the information?” “How will the information be used?” “Who do I need to share the information with?”
- **Type of information to collect** – “What kind of information/artefacts do I need to collect for the purpose?” “How is this information/artefact collected useful?”
- **Sources of information** – “What are the possible sources from which I can gather meaningful and valid information required?” “How can I better identify these sources of information?”

Table 3: Suggested Areas for Observing Children’s Learning and Development

Area for observation	Questions to bear in mind while observing children
Interests	<ul style="list-style-type: none"><li>• What are the topics/activities that engage the child?</li><li>• What does the child like to talk about or is curious to find out?</li><li>• What does the child choose when given the opportunity to make a choice?</li></ul>
Skills and abilities	<ul style="list-style-type: none"><li>• What does the child do well in?</li><li>• What does the child find challenging to do?</li><li>• What skills are the child currently working on?</li></ul>
Learning dispositions	<ul style="list-style-type: none"><li>• What does the child do when faced with a challenging task?</li><li>• How does the child express his/her feelings and thoughts about the learning experience?</li><li>• How does the child respond to ideas from peers during group work?</li><li>• How does the child approach new materials and new ways of doing things?</li><li>• What questions does the child ask about the world around him/her?</li><li>• To what extent does the child stay focused and engaged in learning?</li></ul>
Social interactions with peers and adults	<ul style="list-style-type: none"><li>• To what extent does the child interact with others?</li><li>• How comfortable is the child when interacting with other children and adults? How does the child initiate social interactions or conversations with others?</li><li>• What kinds of activities does the child like to do with others?</li><li>• How does the child handle differences with others?</li><li>• In what situation does the child seek help from teachers and/or others?</li></ul>
Use of verbal language	<ul style="list-style-type: none"><li>• With whom does the child talk to most of the time?</li><li>• When the child speaks, how much language does he/she have?</li><li>• What does the child’s use of language tell us about his/her language development (e.g., whether the child uses phrases or complete sentences, vocabulary)?</li><li>• How comfortable is the child when speaking one-on-one or in a large group?</li></ul>
Use of body language	<ul style="list-style-type: none"><li>• How does the child express his/her feelings through body language such as facial expression and body gesture?</li><li>• How often does the child use gestures to convey ideas and feelings?</li><li>• Is the child able to read others’ non-verbal expression such as body language and facial expression?</li></ul>



Teachers can consider the following approach to collect and document information on children's progress in learning and development:

### Write Anecdotal Records

- Document observations of what children say and do while they are engaged in an activity.
- Use a notebook, sticky note pads and pen or hand-held devices to jot down observations that can be added to the children's learning portfolios or progress reports for regular updates to the parents.
- Make use of the information collected to monitor and track children's progress in developing values, social and emotional competencies and learning dispositions, and acquiring key knowledge, skills and dispositions identified for the learning areas.

### Take Photographs of Children at Work

- Take photographs to document what happened in a particular learning experience/ process to show the process of children's learning in an activity.
- Write accompanying notes to the photographs to provide the learning context and objective to make children's learning and development visible.

### Collect Children's Work Samples

- Collect children's work samples that show their development of knowledge and skills, as well as those that illustrate their progress towards meeting specific learning objectives/goals.
- Provide notes on the context in which the work was done to show the value, social and emotional competency and/or learning disposition, as well as the key knowledge and/or skills that the child is demonstrating or developing.

### Gather Feedback from Children on Their Learning

- Get children to reflect on and share what they have learnt about themselves to provide teachers with another perspective on children's learning and development.
- Invite children to also share what they learnt from and of their friends.

### Seek Information from the Child's Family

- Gather Information from the child's family formally or informally throughout the year to better understand the child's interests, needs and challenges.
- Record notes of discussion during informal and formal meetings with the family to document useful information to inform curriculum planning and teaching, as well as for follow-up partnership with families to support their children's learning and development.

### Use ICT Resources

- Use ICT resources to document and communicate ongoing observations of children with parents/families to help them understand their children's learning experiences and progress. For example, use video and sound recordings to document children's interactions with their peers, social behaviours and use of language, which together with photographs and anecdotal records can be compiled into an electronic learning portfolio for sharing with the children's families and other stakeholders.

### Interpret information to assess children's learning

Teachers can use the information collected and documented for meaningful interpretation and assessment of children's progress in learning and in achieving learning goals set for them.

#### To form an objective interpretation and assessment of the children's overall progress, teachers may ask themselves the following questions:

Is there sufficient information about the child's learning and development in the various learning areas and key aspects of development?

Does the information reflect patterns of development or isolated instances of the child's achievements/challenges?

Have children's background and developmental characteristics been taken into account?

How does the child's social and cultural context influence his/her learning and development?

Is there evidence from multiple sources (i.e., the child, his/her peers, family, other professionals, child's work samples) to make a fair assessment of the child's learning and development?

What are the follow-up actions required to build on the child's learning needs?



## Organise and Compile Information into a Learning Portfolio

There are various ways of organising and compiling information collected from teachers' observation and documentation for the purpose of communicating with children's families and teachers' reflection and curriculum review.

Teachers can compile for each child a learning portfolio that consists of a purposeful collection of anecdotal records, short descriptions and photographs of the child engaged in learning activities, audio/video recordings, artefacts of the child's work, etc. These would inform teachers and parents/families of the holistic development of the child. Learning portfolios can be organised either in physical or electronic forms, depending on the resources available, the objectives, types of work samples collected, and parents' needs and preferences.

Teachers can also compile a class or level portfolio to provide an overview of the children's overall learning experiences in the preschool centre for further review and refinement of the curriculum, programme and/or learning activity plans.

## Communicate and Share Information with Families

Children benefit when teachers and families share information about their children regularly. To help families support children's learning at home, it is important for teachers to keep families updated on children's learning experiences and progress in the preschool centre regularly and in a timely manner.

### Communicating and sharing children's learning and development with families involves:

- Preparing a summary report of each child's holistic development that includes development of their social and emotional competencies, values, learning dispositions and knowledge, skills and dispositions in the respective learning areas
- Highlighting and providing supporting evidence for children's learning and significant developmental characteristics observed
- Discussing with families the goals and expectations set for the children, ways that they can support children's learning at home, and specific follow-up action plans made by the preschool centre to support or extend their children's learning
- Taking note of the areas of concerns raised by the children's families

## Review and Develop New Learning Activities

Instead of using children's learning portfolios merely to showcase and share information on children's learning and development with their families, it is vital that teachers reflect on and make meaningful use of the information collected and documented to inform their curriculum planning and teaching practices. Based on their observations and understanding of children's progress, teachers should evaluate the effectiveness of their learning activities and teaching strategies and adjust the existing curriculum plan or develop new learning activities that better support and promote children's learning and development.

Refer to the two examples of documentation of children's learning and development shown below.

### Example 1:

#### Context:

The K1 children were provided with the ingredients to make a sandwich of their choice. They were provided with white bread and wholemeal bread, slices of chicken ham, cucumber, lettuce, and tomato, as well as butter, strawberry jam and kaya. Each child was to take turns to use a pair of tongs to select their sandwich ingredients or a butter spreader to scoop their choice of bread spread.

#### Teacher's observation notes:

Adil waited for his turn to make his sandwich. When it was his turn, he took a long time to decide on the type of sandwich to make. He hesitated between making a chicken ham and strawberry jam sandwich. Eventually he decided to make a chicken ham sandwich when he saw one of his friends choosing the chicken ham. He had difficulty picking up the chicken ham and vegetable slices with the tongs and would drop some ingredients before transferring them to the bread. He finally succeeded in making his chicken ham sandwich with some help.

#### Interpretation and assessment of child's learning and development:

- Adil showed self-control as he was able to take turns in sharing materials and resources.
- He was not confident in making decisions for himself and showed a tendency to follow what his friends did.
- He needs more opportunities to develop control and coordination in fine motor tasks (e.g., manipulating simple tools with dexterity and eye-hand coordination).

#### Follow-up actions:

- Provide opportunities for Adil to practise fine motor skills during learning centre time (e.g., using simple tools to transfer objects from one container to another using spoons and/or tongs).
- Provide more opportunities that require Adil to make choices for himself (e.g., choosing materials to create an artwork, choosing what and who to play with).
- Affirm his efforts for taking turns in group activities and look out for other opportunities in which he shows self-control.

## Example 2:

### Context:

The K1 children were asked to draw a picture of their family.

### Teacher's observation notes:

Bernice drew a picture of her family and she later used a black crayon to colour over the entire drawing. When asked about her drawing, she said, "I don't like mummy and daddy. They are going to have a baby. They talk about the baby every day." When a story about how a girl is going to be a big sister was read during story time, Bernice was seen frowning and fidgeting. She also tried to distract her friends sitting beside her.

### Interpretation and assessment of child's learning and development:

- Bernice is having difficulty coping with the changes in her parents' behaviour and attitude towards her because of her mother's pregnancy.
- She expresses her feeling of insecurity on having a new member in the family through her drawing.
- She needs to learn to understand and manage her emotions and behaviour.

### Follow-up actions:

- Encourage Bernice to take on the role of a mother looking after a baby at the dramatic play learning centre.
- Get her to feel excited about the arrival of her baby brother/sister by reading a book to her about the various activities that family members enjoy doing together.
- Work with her family to help Bernice understand her role as an elder sister at home.



## LET'S REFLECT!

As a responsive facilitator, have I ...

Engaged children in learning through purposeful play that is fun and enjoyable, supports curiosity, encourages choice, decision-making and risk-taking?

Facilitated authentic learning through quality interactions by creating a positive and supportive environment, organising the classroom, using a variety of strategies and materials, as well as fostering cognitive development for the children?

Catered to the needs of diverse learners by considering their backgrounds, experiences, interests, learning styles, strengths and needs?

Observed and assessed children's learning to inform curriculum planning and teaching practices?

## Teachers as Reflective Practitioners



Children need and deserve quality early learning experiences that are meaningful and relevant to their everyday life. Teachers must engage in reflective practice and continual professional learning and development to equip them with the necessary knowledge and skills to design and create good quality learning experiences for the children.

### Engaging in Reflective Practice

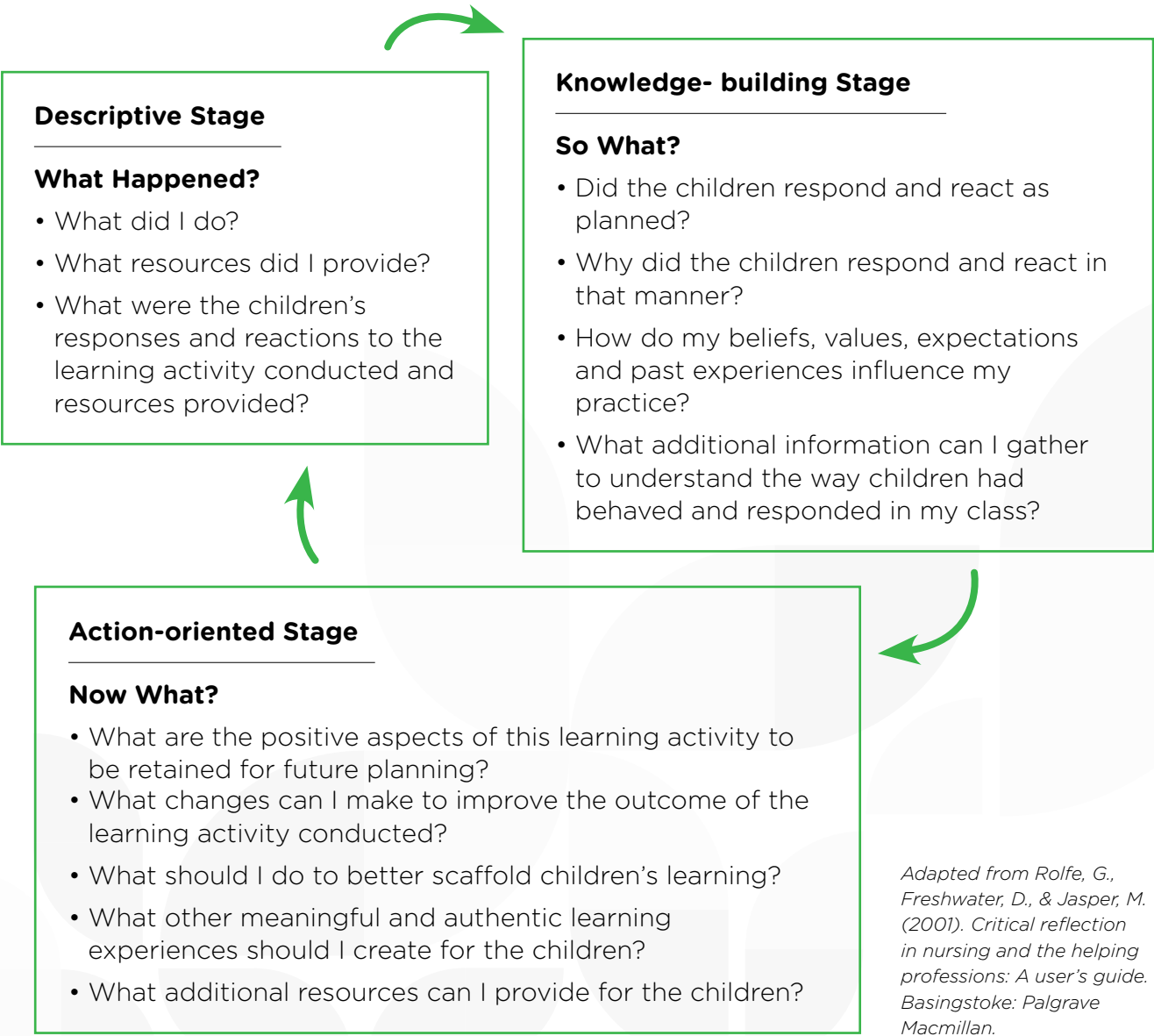
Good teachers are reflective practitioners. Reflective practice is an on-going and cyclical process of monitoring, evaluating and revising teachers' own professional practice. Teachers use the process of reflective practice to examine their beliefs, goals, and teaching practices to gain new or deeper understanding that will lead to actions to improve teaching practices and children's learning (York-Barr, Sommers, Ghere, & Montie, 2006). Reflective practice can occur before, during or after a learning activity. Teachers can also reflect on their teaching practice on their own or with their colleagues to gather, interpret and integrate others' perspectives.

Teachers who engage in reflective practice will:

- Better understand how their teaching practice impacts children’s learning
- Become more aware of their values and beliefs about who children are, how they learn, and seek to understand how these may influence their practice
- Confirm or challenge previous understanding and deepen insights to impact teaching and learning
- Develop their dispositions as professionals who engage in lifelong learning

Reflective teachers think back and make sense of what has been learnt from practice, and others’ perspectives. They look ahead and make plans for future teaching and learning opportunities by asking three main reflection questions as shown in the cycle of reflective practice in Figure 7.

Figure 7: Cycle of Reflective Practice



Teachers can use the checklist below as a guide to reflect on their daily practices to evaluate if the *iTeach* principles are being enacted. They may focus on questions which are appropriate to the learning experiences they have planned or carried out.

<i>iTeach</i> Principles	Checklist for Reflection
<b>Integrated</b> approach to teaching and learning	The learning activity: <ul style="list-style-type: none"><li><input type="checkbox"/> Is set within a meaningful and relevant context for the children.</li><li><input type="checkbox"/> Provides opportunities for children to be involved in more than one learning area.</li><li><input type="checkbox"/> Allows children to draw meaningful connections across the learning areas or experiences.</li></ul>
<b>Teachers as</b> facilitators of learning	I have considered the following in my learning activity plans: <ul style="list-style-type: none"><li><input type="checkbox"/> Take into consideration children’s prior knowledge and experiences, learning and developmental needs, and interests when determining the learning objectives.</li><li><input type="checkbox"/> Provide opportunities for children’s holistic development.</li><li><input type="checkbox"/> Use a variety of strategies and resources to invite children to explore, think and imagine.</li><li><input type="checkbox"/> Identify focus areas for observing and documenting children’s learning and development.</li><li><input type="checkbox"/> Maximise children’s learning through a variety of indoor and outdoor learning activities.</li></ul>
<b>engaging</b> children in learning through purposeful play	The learning experiences: <ul style="list-style-type: none"><li><input type="checkbox"/> Are enjoyable to the children</li><li><input type="checkbox"/> Support curiosity, encourage choice, decision-making and risk-taking</li><li><input type="checkbox"/> Provide opportunities for child-directed, child and teacher-directed and teacher-directed play depending on the learning intent or context</li><li><input type="checkbox"/> Actively involve children in exploring, experimenting, creating and discovering as they develop and apply knowledge and skills</li></ul>



<i>iTeach</i> Principles	Checklist for Reflection
<b>authentic</b> learning through quality interactions	There is provision for: <ul style="list-style-type: none"> <li><input type="checkbox"/> A nurturing, caring and supportive environment for children to enjoy and build positive relationships with others.</li> <li><input type="checkbox"/> Use of a variety of strategies, materials and modalities to engage children in meaningful interaction with the people, objects, and their surroundings in real and relevant contexts.</li> <li><input type="checkbox"/> Sustained shared conversations between children and teachers through effective questioning, prompts and feedback.</li> </ul>
<b>children as</b> constructors of knowledge	The learning activity allows children to: <ul style="list-style-type: none"> <li><input type="checkbox"/> Explore materials and discover answers for themselves.</li> <li><input type="checkbox"/> Try alternative ways of doing things and/or expressing themselves.</li> <li><input type="checkbox"/> Make connections between their prior and new learning.</li> <li><input type="checkbox"/> Extend their learning to deepen understanding.</li> </ul>
<b>holistic</b> development	The learning activities provide opportunities for children to develop the following: <ul style="list-style-type: none"> <li><input type="checkbox"/> Values, social and emotional competencies and learning dispositions</li> <li><input type="checkbox"/> Executive functioning skills</li> <li><input type="checkbox"/> Sensory and motor skills</li> <li><input type="checkbox"/> Knowledge, skills and dispositions in the learning areas:               <ul style="list-style-type: none"> <li>- Aesthetics and Creative Expression</li> <li>- Discovery of the World</li> <li>- Language and Literacy</li> <li>- Health, Safety and Motor Skills Development</li> <li>- Numeracy</li> </ul> </li> </ul>

Teachers may also refer to the characteristics of preschool children presented in the section on “[Understanding the Way Children Learn and Develop](#)” to reflect on their daily practices to evaluate if their understanding about how children learn and develop is being applied in the learning experiences created for children.

How children learn and develop	Have I...
Children have varied growth trajectories and learn at different rates.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Gathered enough information to know the developmental and learning needs and interests of each child?</li> <li><input type="checkbox"/> Set realistic expectations for each child?</li> <li><input type="checkbox"/> Planned and carried out activities/projects/curriculum that cater to children with different developmental and learning needs?</li> </ul>
Children learn and develop holistically.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Planned learning experiences that value and recognise all the domains of development and learning to support the holistic development of children?</li> <li><input type="checkbox"/> Designed learning experiences within a meaningful/authentic context to promote the holistic development of children?</li> <li><input type="checkbox"/> Included all aspects of children’s development in my observations and assessment?</li> </ul>
Children develop and learn best when they feel safe and valued.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Created a safe environment with a positive climate for children to learn in?</li> <li><input type="checkbox"/> Ensured that children are supported and appreciated throughout the learning experience?</li> <li><input type="checkbox"/> Provided learning experiences that allowed children to experience success and feel motivated during the learning process?</li> <li><input type="checkbox"/> Formed positive relationships with individual children?</li> <li><input type="checkbox"/> Built trusting relationships with children and their families?</li> </ul>
Children learn best when they are actively involved in the construction of knowledge.	<ul style="list-style-type: none"> <li><input type="checkbox"/> Planned activities and provided materials that allow children to               <ul style="list-style-type: none"> <li>- Experience and be aware of an event, a situation or a problem?</li> <li>- Explore and discover answers for themselves?</li> <li>- Engage in carrying out tasks that are interesting and meaningful to them?</li> <li>- Apply knowledge and skills that they have acquired in new and different situations?</li> </ul> </li> <li><input type="checkbox"/> Created learning environments and experiences that engaged children in exploration and experimentation?</li> <li><input type="checkbox"/> Actively engaged children to stimulate their thinking and extend their learning?</li> </ul>



How children learn and develop	Have I...
Children develop knowledge, skills and dispositions by building on those already acquired.	<div> <input type="checkbox"/> Provided opportunities for children to progress from simple to complex concepts and from concrete to abstract understanding?                 </div> <div> <input type="checkbox"/> Made links between individual children’s prior knowledge, skills, dispositions and experiences with their current classroom learning experiences to help them make meaningful connections in learning?                 </div> <div> <input type="checkbox"/> Provided opportunities to foster optimal learning for children with the necessary assistance from either the teachers or more capable peers?                 </div> <div> <input type="checkbox"/> Provided materials and resources with varying levels of difficulty?                 </div>
Children’s development is influenced by the different social and cultural context they live in.	<div> <input type="checkbox"/> Gathered information about individual children from a variety of sources (e.g., families, care providers, other teachers)?                 </div> <div> <input type="checkbox"/> Provided ample opportunities for children to interact with their peers, teachers, families and the community?                 </div> <div> <input type="checkbox"/> Provided opportunities for children to interact with peers from different cultural and language backgrounds, interests, strengths and needs?                 </div>

### Engaging in Professional Learning

Professional learning involves teachers working together and sharing ideas to improve the teaching and learning of children. It is an ongoing process of professional development that goes beyond just attending courses and workshops. Effective professional learning should be based on teachers’ training needs. It should be meaningful, engaging and relevant to the teachers’ roles and responsibilities, and it should challenge them to explore different and new ways to enact the curriculum.

#### It is important for teachers to seek continual professional learning as this will:

- Enhance their personal growth and professional practice;
- Raise their level of expertise; and
- Contribute to the realisation of the curriculum and learning goals set by the preschool centre to achieve the Key Stage Outcomes of Preschool Education.

#### Teachers can engage in professional learning by:

- Setting achievable and measurable goals for learning;
- Identifying learning needs in the areas of professional knowledge, professional practice and personal effectiveness;
- Tapping the various modes of learning (e.g., mentoring, coaching, participating in Professional Learning Communities, school visits, learning journeys, reading, peer sharing, attending courses, workshops, conferences, work attachment); and
- Reflecting and applying learning to daily classroom practice.

To build professionalism, preschool teachers should continually strive to grow professionally and commit to lifelong learning. Through engaging in reflective practice and professional learning, teachers will better understand how their practice impacts children’s learning and adapt their practice to better promote children’s learning and development by catering to their diverse needs and interests.



### LET’S REFLECT!

As a reflective practitioner, have I ...

- Engaged in reflective practice to examine my beliefs, goals and teaching practices to inform curriculum planning and teaching practice to enhance children’s learning?
- Engaged in continual professional learning to improve the teaching and learning of children?

## Teachers as Collaborative Partners



While preschool centres work diligently to provide all children with a quality curriculum in a nurturing environment, they cannot do it alone. One of the key components for quality early childhood education is the strong partnerships that preschool centres build with families, primary schools and the community. When all partners appreciate their role in the learning and development of children, a caring community is formed to ensure children get off to a good start in life.

### Partnering Families to Support Children's Learning and Development

Research studies have shown that the home environment plays an important role in supporting children's learning and development. Parent-teacher communication can influence the child's learning (Mendez, 2010). To help families support children's learning at home, it is important for teachers to keep families updated on the learning that takes place in the preschool centre. Similarly, families can keep teachers informed about what the children are interested in or experiencing at home.

When families are involved in what their children are learning in the preschool centre, they are more aware of their children's experiences beyond the home setting and can use the information to more effectively support their children's learning and development. By working closely together, teachers and families build trust and improve communication that help children to develop greater confidence in moving from home to preschool and to experience continuity in learning between preschool and home.

#### Close partnership between families and the preschool centre can be fostered in the following ways:

- Communicating and sharing information
- Connecting children's learning between preschool centre and home
- Contributing to the preschool centre through parental involvement

#### Communicating and sharing information with families

Good communication between families and teachers is key to promoting children's learning and development. Teachers need to be mindful of the children's home situation and their needs, as well as provide regular updates to parents on the preschool centre's curriculum, programme, events and staff movements.

#### When communicating with families, teachers should remember to:

- Focus on what is best for the child;
- Listen actively to families' feedback;
- Acknowledge and adopt an open view of families' feelings and feedback;
- Ask questions to obtain a better understanding of any issues relating to the child and his/her learning and development; and
- Put across views calmly and provide explanations that are based on a professional assessment of the child.

### Connecting children’s learning between preschool centre and home

Learning is made more meaningful for children when teachers find out from families their children’s interests, abilities, habits and dispositions. This serves as the basis for teachers to plan learning experiences that are interesting and relevant for the children to help them make meaningful connections between their home and preschool experiences.

### Contributing to the preschool centre through parental involvement

Teachers should create an atmosphere in the preschool centre that welcomes parental involvement and families’ active participation in their children’s learning journey.

Some ways in which families can contribute to their children’s preschool centre are:

- Share knowledge and expertise (e.g., demonstrate a craft, tell stories, help with sports, drama, musical activities)
- Participate in the preschool centre’s events (e.g., accompany children on a field trip, assist in fund raising projects and year-end celebrations)
- Contribute resources to support the setting up of learning centres (e.g., provide plants and gardening tools for a garden patch, props for dramatic and outdoor play, recycled materials for construction activities)
- Share information about their family culture and traditions
- Form a Parent or Family-Support Group

### Engaging the Community to Enhance Children’s Learning Experiences

The partnership between home and preschool centres can be further enriched by linkages to the community. The community in which children live has an impact on how they construct knowledge and understand the world around them. Partnerships between preschool centres and the community can also enrich and enhance children’s learning experiences.

Community-based programmes often provide opportunities for children to construct new knowledge, acquire new skills and apply them in meaningful and authentic contexts. Collaboration with the community can also foster more efficient use of resources and sharing of professional and good practices that support children’s learning and development.

Examples of ways that preschool centres can collaborate with community partners include:

- Using educational resources developed by community partners to plan or supplement learning experiences in the classroom
- Bringing children to relevant agencies and/or organisations to help them gain a better understanding of the services rendered and how they contribute to the community and their daily lives
- Having children participate in the educational programmes organised by community partners to tap their expertise and help children make connections between what they learn in the classroom and how the information and/or skill is applied in real life situations
- Inviting resource persons from the agencies and/or organisations to the classroom to share their knowledge and expertise

### Working with Families and Primary Schools to Support Children’s Transition from Preschool to Primary School

Preschool education lays the foundation for lifelong learning and prepares children to be ready for the changes that will take place when they start formal schooling. The transition from preschool to primary school is a pivotal moment in a child’s schooling experience. Research has shown that a successful transition has a long-lasting positive impact on children’s social and emotional development and is critical in helping them develop positive dispositions towards learning. It is also well established in literature that children’s transition from preschool to primary school is influenced not only by the child’s readiness but also readiness of the primary schools and families. Hence, it is important for preschool educators, primary school educators and families to work together to ensure every child has a smooth transition from preschool to primary school.

Preschool educators can build up children’s confidence and social skills and prepare them for lifelong learning by:

- Emphasising the holistic development of children and developmentally appropriate practices;
- Cultivating positive learning dispositions in children; and
- Laying the foundation for children’s learning in primary school but not over-preparing them.



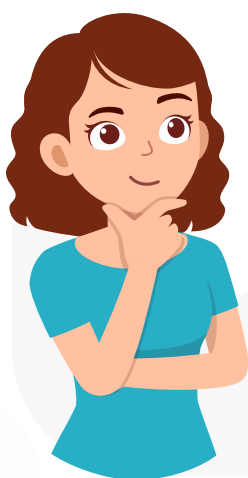
**Primary school educators can maximise the learning of children regardless of their starting points by:**

- Adopting developmentally appropriate practices for teaching and learning;
- Building on the positive attitudes and dispositions for learning that preschool children bring with them as they enter Primary One; and
- Deepening children's basic skills and concepts learnt in the preschool years by creating meaningful learning experiences that promote continuity of learning.

**Parents play an important role in helping children transit well into primary school by:**

- Paying equal attention to their children's cognitive and non-cognitive development;
- Collaborating with their children's preschool and primary school teachers to develop in their children a positive attitude towards learning;
- Encouraging their children to explore and ask questions to enrich their learning experiences beyond school.

At the preschool centres, teachers can help children look forward to attending primary school by highlighting the enjoyable and positive aspects of learning in a new environment such as making new friends and learning new things. Nurturing the children holistically and strengthening the development of their executive functioning skills, social and emotional competencies and learning dispositions help to build children's confidence to participate in everyday school activities and to navigate the primary school environment for learning.



## LET'S REFLECT!

As a collaborative partner, have I...

- partnered families to support children's learning at home so as to ensure continuity in learning between preschool and home?
- Engaged and partnered the community to enhance children's learning in meaningful and authentic contexts?
- Worked with families and primary schools to support children's transition from preschool to primary school?

# Conclusion

## CONCLUSION



The preschool years are key to providing a good start in our children's journey of lifelong learning. By understanding the nature of our children as learners and nurturing them, we work towards helping them develop an intrinsic motivation towards learning.

The NEL Framework establishes outcomes that aim to provide a good start for young learners through the integration of values,

social and emotional competencies and learning dispositions across all learning areas. This helps them to develop confidence and positive behaviours and attitudes towards learning and living harmoniously with others. With globalisation, shifting demographics and technological advancement driving changes around us, the greater emphasis on the nurturing of values, social and emotional competencies and learning dispositions in children would stand them in good stead to seize opportunities and be resilient in the face of challenges as they live, play and learn in a multi-cultural society and globalised world.

The NEL Framework recognises the importance of the continuity and progression in children's learning and coherent use of pedagogical practices from preschool to formal schooling. When children experience a successful transition to primary school, they will continue to have positive dispositions towards learning. Hence, it is important for preschool educators to be at the forefront to mould these young learners through active partnerships with parents, caregivers and the community.

Rather than being prescriptive about what must be taught, the NEL Framework serves to guide preschool centres in the planning and implementation of a quality curriculum that best meets the interests and needs of the children. With caring and nurturing preschool teachers focusing on the holistic development of children, children will grow into joyful, healthy and confident individuals. Through inculcating values, developing their social and emotional competencies and fostering learning dispositions, teachers lay a strong foundation for children to be lifelong learners who will actively contribute to their society.

## Annexes And Bibliography

# ANNEX A

## Knowledge, Skills and Dispositions of Social and Emotional Competencies

As social and emotional competencies are important in the development of children, it is important to know how children are developing in the knowledge, skills and dispositions of these competencies. Annex A provides details of the knowledge, skills and dispositions for each social and emotional competency to guide teachers in planning and creating appropriate and meaningful learning opportunities for children, as well as some examples of what teachers could look out for to observe and evaluate children’s learning and development in the five social and emotional competencies. The examples are not age-specific or exhaustive. Teachers may provide other appropriate learning experiences/activities based on children’s developmental needs and interests to monitor their progress.

### Competency 1: Develop self-awareness

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
1.1 Identify and talk about aspects of personal identity (e.g., name, age, gender, abilities, likes and dislikes)	<ul style="list-style-type: none"><li>• Introduce themselves by name, gender and age</li><li>• Talk with friends and teachers about personal interests, favourite food, books and toys, things they like or dislike</li><li>• Identify and talk about their strengths (e.g., kind, curious, brave, creative, honest)</li><li>• Suggest games and activities that they are good at or prefer (e.g., singing, drawing, running)</li><li>• Recognise what they are able to do and their own uniqueness (e.g., how they are the same as and/or different from their peers)</li></ul>

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
1.2 Develop a positive self-concept (i.e., feel good about their own competence and characteristics) 1.2.1 Develop confidence in carrying out simple tasks 1.2.2 Show a positive view of themselves 1.2.3 Develop resilience and a positive attitude 1.2.4 Develop a sense of autonomy and choice	<ul style="list-style-type: none"><li>• Describe themselves positively (e.g., kind, responsible, helpful)</li><li>• Offer to help out with tasks in class and/or preschool (e.g., keeping or putting away the toys after playing, wiping tables after snack time, watering the plants)</li><li>• Ask for help to complete a task if needed</li><li>• Show satisfaction or seek acknowledgement when they have completed a task or solved a problem</li><li>• Talk about their own work and consider how to improve in the future</li><li>• Learn from their mistakes and persevere to complete a task</li><li>• Be willing to explore different ways of solving a problem even when they are unsure</li><li>• Choose their own materials to complete an artwork</li><li>• Initiate activities with their friends and carry out self-formulated plans</li></ul>
1.3 Recognise that they are part of a socio-cultural group (e.g., their family, preschool centre, community, ethnic group, country) as they develop a sense of self-identity	<ul style="list-style-type: none"><li>• Identify themselves as part of a socio-cultural group (e.g., family, community, culture, preschool centre, country)</li><li>• Talk to others about their family and the community (e.g., their neighbours, family activities, events, festivals celebrated, customs and traditions)</li><li>• Participate in and talk about their experiences and celebrations as a group (e.g., field trips, ethnic festivals, National Day, food, costumes)</li><li>• Express confidently what they like about Singapore</li></ul>



Competency 2: Develop self-management and regulation

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
2.1 Identify emotions in themselves and others	<ul style="list-style-type: none"><li>• Name emotions (e.g., happiness, sadness, anger, fear) in themselves and others based on facial expressions, speech, their own thoughts and/or the situation</li><li>• Share and talk about their feelings (e.g., happy, sad, angry, scared) with trusted adults</li><li>• Talk about their emotions and explain why they feel that way</li><li>• Recognise when their friends are feeling happy, sad or angry and suggest reasons why</li></ul>
2.2 Express and respond to own feelings and emotions appropriately	<ul style="list-style-type: none"><li>• Express their feelings and emotions in appropriate ways (e.g., sharing their joy with others, not hitting others when angry)</li></ul>
2.2.1 Develop an awareness that their emotions and behaviours can have both positive and negative effects on themselves and others	<ul style="list-style-type: none"><li>• Recognise the positive or negative effects of their words and/or actions on themselves and others</li><li>• Restrain their impulses and behaviour according to the situation (e.g., not laughing when they see someone fall, not pushing their friend aside in order to move forward)</li><li>• Manage anger and frustration by practising self-calming techniques independently (e.g., take a deep breath and count to three, stop and think or walk away before reacting to the situation), or with the help of a trusted adult</li></ul>
2.2.2 Recognise the need to control impulsive behaviours and words	<ul style="list-style-type: none"><li>• Talk to and reason with friends instead of hitting and/or shouting when in a disagreement</li></ul>
2.2.3 Use basic strategies to manage emotions and behaviours	<ul style="list-style-type: none"><li>• Remain composed and not act out in frustration even when wishes are not met (e.g., when they are not selected to answer a question to which they know the answer, when they are not given priority to play a favourite game)</li><li>• Wait patiently for their turn to play a game</li><li>• Stay focused and pay attention in class</li></ul>

Competency 3: Develop social awareness and show respect for diversity

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
3.1 Develop an awareness that everyone is unique in terms of their backgrounds, abilities, needs and/or opinions	<ul style="list-style-type: none"><li>• Recognise and talk about how they are the same or different from their friends (e.g., languages they speak at home, countries they come from, things they can do)</li><li>• Recognise that others may have different preferences or suggestions to solve a problem given the same situation</li><li>• Recognise that others may have different experiences in terms of their feelings or thinking given the same situation</li></ul>
3.2 Develop an awareness of the importance of showing respect towards people they interact with and who are from diverse backgrounds and with different abilities, needs and/or opinions	<ul style="list-style-type: none"><li>• Speak in respectful ways (e.g., saying “please” and “thank you”) with people they interact with (e.g., neighbours, community helpers, parents of their friends)</li><li>• Respect others’ thoughts, feelings, rights and belongings by<ul style="list-style-type: none"><li>- Behaving appropriately and responsibly in public places, school and at home</li><li>- Asking questions politely to find out more about others’ backgrounds and cultures</li><li>- Asking for permission before using or taking things belonging to others</li><li>- Showing openness towards trying unfamiliar activities and different types of food</li><li>- Listening when others are talking</li><li>- Accepting differences in views/ideas</li></ul></li></ul>

Knowledge, Skills and Dispositions (KSD): <i>Provide opportunities for children to...</i>	<i>Children’s learning and development could be observed, for example, when they...</i>
3.3 Respond to what others are going through and how they are feeling through appropriate actions and/or words	<ul style="list-style-type: none"><li>• Demonstrate appropriate behaviours according to their friends’ feelings and emotions (e.g., joining in their friends’ birthday celebrations, comforting a crying friend)</li><li>• Encourage or cheer their friends on when playing games or completing a task</li><li>• Offer help to their friends and people in need</li><li>• Recognise the need to respond appropriately to the people around them who may have different needs (e.g., giving way to people with special needs and the elderly, holding the door or lift for someone in need)</li><li>• Take on and role play different roles and/or characters during pretend play</li><li>• Talk about an event or incident from others’ perspectives</li><li>• Show care and concern to a friend who is crying or needs help</li><li>• Show empathy to people with different needs (e.g., walking slowly next to a friend or someone with difficulty walking)</li></ul>
3.4 Recognise the need for rules and routines for people to live, play and work together harmoniously	<ul style="list-style-type: none"><li>• Discuss and suggest actions for class and/or school rules</li><li>• Accept and follow established rules and routines in school, public places and at home (e.g., help to pack up after play, put their personal belongings at designated areas, wait in line to enter a room or building)</li><li>• Follow rules when playing a game</li><li>• Demonstrate socially acceptable behaviours in school and public places (e.g., take care of school and public property, keep quiet in the library, do not litter)</li></ul>

Competency 4: Build relationships with family, friends and significant adults

Knowledge, Skills and Dispositions (KSD): <i>Provide opportunities for children to...</i>	<i>Children’s learning and development could be observed, for example, when they...</i>
4.1 Develop an awareness of the need to show appreciation and care for others	<ul style="list-style-type: none"><li>• Show appreciation for the positive things that others say to them or do for them (e.g., thank others for their help)</li><li>• Demonstrate care and concern for others (e.g., notice when others are feeling sad or unwell and offer encouragement, offer to help their friends in need)</li></ul>
4.2 Develop an awareness of and use appropriate strategies to establish and maintain friendships and positive relationships with others	<ul style="list-style-type: none"><li>• Look at teachers and/or friends when speaking with them</li><li>• Share personal information such as experiences and feelings with teachers and/or friends</li><li>• Speak and act politely with peers and adults using words like “please” and “thank you”</li><li>• Work and play cooperatively with others</li><li>• Demonstrate the following in a group setting:<ul style="list-style-type: none"><li>- Pay attention to what others say, think and feel</li><li>- Be friendly and helpful</li><li>- Wait for their turn to speak, play and indicate their intention to do so</li><li>- Share toys, tools and resources</li><li>- Plan games with other children</li><li>- Work with other children to complete a group task with or without guidance</li></ul></li><li>• Use different ways to establish and maintain friendships (e.g., by sharing food or a toy with a friend, initiating a conversation, joining in play, inviting friends to play, smiling, helping others)</li><li>• Play with different friends throughout the week</li><li>• Develop friendships with one or two other preferred children (e.g., able to say who are their friends, able to share their friends’ qualities and interests)</li></ul>
4.3 Develop an awareness of and use appropriate strategies to manage disagreement	<ul style="list-style-type: none"><li>• Recognise appropriate ways to handle disagreement</li><li>• Use friendly ways to manage any disagreement or unhappiness (e.g., sharing, taking turns, negotiating)</li><li>• Consider and suggest ideas and/or actions to resolve differences during play and group activities</li></ul>

Competency 5: Take responsibility for their actions

Knowledge, Skills and Dispositions (KSD): <i>Provide opportunities for children to...</i>	<i>Children’s learning and development could be observed, for example, when they...</i>
5.1 Learn to make choices on their own or with support	<ul style="list-style-type: none"><li>• Make decisions on everyday situations (e.g., choosing which book to read, choosing what to play indoors and/or outdoors, choosing where to go for field trips, choosing what materials to use for their artwork, choosing what to buy at Dramatic Play Centre when given a limited amount of money)</li></ul>
5.2 Learn to take ownership and be responsible for their actions	<ul style="list-style-type: none"><li>• Discuss and decide on classroom rules and routines that will make the classroom environment conducive for everyone</li><li>• Recognise own mistakes and are willing to apologise when necessary</li><li>• Know what is right and wrong about their actions and why</li><li>• Think back on their actions and show awareness of how they can make better decisions in the future</li></ul>

# ANNEX B

## Learning Goals, Knowledge, Skills and Dispositions of Learning Areas

Children’s holistic development is supported by helping children to learn and develop the knowledge, skills and dispositions articulated for the five learning areas. Annex B provides details of the knowledge, skills and dispositions for each learning goal to guide teachers in planning and creating appropriate and meaningful learning opportunities for children and some examples to support teachers in observing, monitoring and assessing children’s learning and development. The examples are not age-specific or exhaustive. Teachers may provide other appropriate learning experiences/activities based on children’s developmental needs and interests to monitor their progress.

### Aesthetics and Creative Expression

Learning Goal 1: Enjoy participating in art and music and movement activities

Knowledge, Skills and Dispositions (KSD): <i>Provide opportunities for children to...</i>	<i>Children’s learning and development could be observed, for example, when they...</i>
1.1 Develop an interest in art and music and movement activities	<ul style="list-style-type: none"><li>• Participate actively in a range of art and music and movement activities</li><li>• Respond spontaneously to various art and music and movement stimuli</li><li>• Choose to engage in art and music and movement activities at the learning centres</li><li>• Exercise creativity and imagination in art and music and movement activities</li><li>• Enjoy singing and dancing</li></ul>



Learning Goal 2: Express ideas and feelings through art and music and movement

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
<b>Art</b> 2.1 Develop an awareness of the following elements of art: 2.1.1 lines (e.g., straight, wavy, zigzag, dotted, spiral, thick, thin) 2.1.2 colours (e.g., primary and secondary colours) 2.1.3 shapes (e.g., regular and irregular shapes) 2.1.4 textures (e.g., smooth, rough, hard, soft, hairy, prickly) 2.2 Explore and use elements of art to represent ideas and feelings in creating their artworks 2.3 Explore creating two- and three-dimensional art using a variety of: 2.3.1 media (e.g., crayon, paint, play dough) 2.3.2 tools (e.g., roller, sponge, paint brush) 2.3.3 techniques (e.g., crayon etching, cotton-bud painting, splatter painting, collage, finger printing) 2.3.4 processes (e.g., observation, inspiration, imagination, experimentation, collaboration)	<ul style="list-style-type: none"><li>• Talk about changes in colour as they mix paint</li><li>• Notice and discuss lines in artwork, nature and the environment (e.g., leaves, tree trunks, roads, flats, roofs, bridges)</li><li>• Use different shapes to create patterns</li><li>• Use materials of different textures to create a collage</li><li>• Explore and use unconventional tools in art-making (e.g., cutlery, leaves, found objects, wires)</li><li>• Construct three-dimensional structures using a variety of objects (e.g., bottle caps, paper, cardboard, boxes, bottles)</li><li>• Experiment with malleable materials, such as dough, starch, clay and wet sand to create artworks</li><li>• Create artworks in response to a stimulus (e.g., paint a picture to reflect the mood of a piece of music, imagine and draw a new scene and/or character after listening to a story, sketch a favourite item)</li><li>• Work together with their friends to create a collaborative artwork (e.g., mural, class sculpture)</li></ul>

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
<b>Music and Movement</b> 2.4 Develop an awareness of the following elements of music: 2.4.1 Dynamics (i.e., loud and soft) 2.4.2 Tempo (i.e., fast and slow) 2.4.3 Pitch (i.e., high and low) 2.4.4 Rhythm (i.e., long and short sounds) 2.5 Explore and use environmental sounds, vocal sounds, body percussion and/or simple percussion instruments to demonstrate awareness of the elements of music 2.6 Keep a steady beat using body movements (e.g., clapping, tapping, marching) when listening or moving to music 2.7 Create music or sound effects using vocal sounds, body percussion and/or percussion instruments in response to a stimulus (e.g., music, song, story, rhyme, sounds in the environment) 2.8 Explore and use different body movements to express ideas and feelings in response to a stimulus (e.g., music, song, story, rhyme) 2.9 Sing a variety of songs with or without accompanying actions, body percussion, or percussion instruments 2.10 Perform a simple movement or dance routine	<ul style="list-style-type: none"><li>• Listen to songs and recognise elements of music</li><li>• Explore the elements of music through singing individually or in a group, playing percussion instruments (e.g., castanets, triangle, chime bars) and body movements</li><li>• Echo rhythm patterns using body percussion (e.g., clapping, tapping) or instruments</li><li>• Experiment with using the voice, objects (e.g., tear paper, tap the side of a tin can), different parts of the body (e.g., clap, smack the lips) and percussion instruments to create sounds</li><li>• Explore different ways of moving (e.g., straight and zigzag pathways, forward, backward and sideways movements, heavy and light footsteps, move alone, with a partner and in a group)</li><li>• Keep to the beat using body movements (e.g., march, clap, tap to a beat)</li><li>• Move in various ways to express ideas and/or feelings (e.g., falling leaf, robot, active and happy kitten)</li><li>• Use their voice, body movements or percussion instruments to accompany songs, rhymes and stories</li><li>• Create actions to familiar nursery rhymes and songs</li><li>• Explore moving (e.g., walking, running, galloping) in response to a song or piece of music</li><li>• Sing a variety of rhymes and songs alone and with others</li><li>• Move intentionally in response to music</li><li>• Create dance steps in response to music in a small group as a class</li></ul>

Learning Goal 3: Appreciate art and music and movement

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
<b>Art</b> 3.1 Observe and develop an awareness of the aesthetics in the immediate environment and experiences 3.2 Develop an awareness of different artworks and art forms (e.g., paintings, sculptures, architecture, photographs) from local and global cultures 3.3 Share ideas and feelings about their own artwork and those of their peers and others	<ul style="list-style-type: none"><li>• Talk about colours, lines, shapes and textures they encounter in their everyday lives (e.g., murals, posters, building designs, nature)</li><li>• Show curiosity and ask questions when immersed in an aesthetically rich environment (e.g., museum, gallery) or when observing artful objects</li><li>• Compare different artworks (e.g., two paintings on Singapore, different sculptures from the same artist)</li><li>• Ask questions and show an interest in artworks created by artists from Singapore and other parts of the world</li><li>• Talk about their own artwork and those of their peers (e.g., what the artwork is about, what they think the lines, shapes and colours represent)</li></ul>
<b>Music and Movement</b> 3.4 Develop an awareness of sounds in the immediate environment and from a variety of sources 3.5 Develop an awareness of different types of music and dance performances (e.g., bhangra, Chinese opera, dikir barat, joget, lion dance, modern dance) from local and global cultures	<ul style="list-style-type: none"><li>• Listen to and talk about sounds in the environment (e.g., whistling wind, chirping birds, siren of an ambulance)</li><li>• Recognise music and dances from Singapore’s diverse cultural heritage</li><li>• Listen to a variety of music (e.g., nursery rhymes, children’s songs, community songs, short excerpts of music from famous works and/or composers) and talk about these</li><li>• Talk about the body movements of the music or dance performers and share what they imagine when they see the body movements</li><li>• Share what they like and dislike about a music or dance performance</li></ul>

Discovery of the World

Learning Goal 1: Show curiosity and an interest in the world they live in

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
1.1 Develop an awareness of their immediate environment (e.g., people, animals, plants, places, events)	<ul style="list-style-type: none"><li>• Spontaneously talk about their observations and/or thoughts when they notice something interesting (e.g., a caterpillar crawling on a leaf, posters in the lift)</li><li>• Are eager to observe, explore and investigate the environment or things they are interested in (e.g., wanting to find out more about the Malay wedding they observed at the void deck)</li><li>• Show interest and curiosity to explore and/or use a range of materials (e.g., view finders, map of Singapore, world map) provided in the classroom</li></ul>
1.2 Ask questions about their immediate environment, why things happen and how things work	<ul style="list-style-type: none"><li>• Ask questions about their observations of people (e.g., Why is the person wearing a mask?), events (e.g., Why do we always see fireworks on National Day?) and inventions and technology (e.g., Who invented the television? How did people in the past pass on messages to one another?)</li><li>• Ask questions about why things happen (e.g., Why is there a rainbow in the sky after the rain? Why does ice cream melt?) and how things work (e.g., How does the MRT work? How does a light bulb work? How do toy cars move? How did the letters get from the sender to our letterbox?)</li></ul>

Learning Goal 2: Use essential process skills to make sense of the world around them

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
2.1 Develop skills to gather information about the world around them	
2.1.1 Observe and investigate their immediate environment using their senses, child-friendly equipment and technology	<ul style="list-style-type: none"><li>• Use their five senses, simple tools and/or technology (e.g., magnifying glass, gardening tools, camera) to explore the world they live in (e.g., observe how different people in the neighbourhood greet each other, touch and feel the texture of different types of rocks and leaves, smell flowers, herbs and/or spices, listen to the sounds animals make, taste food from different ethnic groups)</li></ul>
2.1.2 Identify key features, characteristics and properties of living and non-living things, places and events in their immediate environment	<ul style="list-style-type: none"><li>• Use mark-making, drawings, words, photographs, videos and/or audio recordings to record and share their observations and findings</li><li>• Carry out short investigations (e.g., experiments to find out what floats, what sinks, talk to grandparents to find out more about Singapore in the past)</li></ul>
2.1.3 Record observations and information gathered in different ways	<ul style="list-style-type: none"><li>• Ask classroom visitors or other experts questions to find out more about occupations (e.g., dentist, fireman, scientist, engineer) or specific areas of interest (e.g., photography, cultural dance, gardening, taking care of pets)</li></ul>
2.1.4 Use information from a variety of sources to find out why things happen and how things work	<ul style="list-style-type: none"><li>• Seek information from books, magazines, multimedia sources, pictures, photographs, maps, artefacts to learn more about different countries, history, technology, people, plants, animals, events, etc.</li><li>• Go on field trips to find out more about the neighbourhood and/or different places of interest</li></ul>
2.2 Develop skills to organise information gathered	
2.2.1 Compare things to recognise similarities and differences between them	<ul style="list-style-type: none"><li>• Compare and recognise similarities and differences in things, people, places (e.g., compare modes of public transport in the past and present, compare bottles made of different materials)</li></ul>
2.2.2 Classify things according to their characteristics	<ul style="list-style-type: none"><li>• Classify things, people and places according to their characteristics (e.g., sort leaves according to colour, shape and/or size, sort places in the neighbourhood according to the type of services they provide)</li></ul>

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
2.3 Develop skills to interpret information gathered	
2.3.1 Recognise patterns of change in people, objects and the environment	<ul style="list-style-type: none"><li>• Recognise patterns and changes like day and night, growth and life cycles, past and present events</li></ul>
2.3.2 Make inferences on the observations of people, objects and the environment with reasoning	<ul style="list-style-type: none"><li>• Sequence events, routines and changes</li><li>• Make inferences about their observations based on information presented or gathered and prior knowledge and/or experiences (e.g., infer that plants need water to survive and grow after observing that plants die when not given water for a few days, infer that someone is sad after observing their facial expression)</li></ul>
2.3.3 Make predictions of what will happen with reasoning	<ul style="list-style-type: none"><li>• Guess or make predictions of outcomes based on prior knowledge and/or experiences (e.g., making informed guesses on which objects will sink or float, which objects will move faster or slower)</li></ul>
2.3.4 Draw conclusions from information gathered	<ul style="list-style-type: none"><li>• Draw conclusions from information gathered to answer the questions they have</li></ul>
2.4 Develop skills to communicate information gathered	
2.4.1 Represent observation and information gathered in different ways	<ul style="list-style-type: none"><li>• Represent new information gathered through different means, such as drawing, artwork, 3D models, words, photographs, etc.</li></ul>
2.4.2 Describe and share findings with others	<ul style="list-style-type: none"><li>• Communicate what they have found to others (e.g. classmates, parents) through platforms (e.g., show and tell, performances)</li></ul>



Learning Goal 3: Develop a sense of responsibility, care and respect for the world around them

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
3.1 Develop an awareness of the importance of showing care and respect for people from different backgrounds, cultures and settings	<ul style="list-style-type: none"><li>• Recognise and appreciate similarities and differences between themselves and others (e.g., find out more about and participate in the celebration of festivals and activities across different age, cultural and ethnic groups)</li></ul>
3.2 Develop an awareness of the need to show responsibility, care and respect for plants, animals and things in the environment	<ul style="list-style-type: none"><li>• Recognise issues of concern related to the local and international community and possible implications on themselves and the world around them (e.g., discuss newspaper articles on local and/or world matters, such as flash floods across Singapore after a heavy rain, dengue cases in Singapore, bushfire in Australia, Covid-19 pandemic)</li></ul>
3.3 Develop an awareness of how human behaviours and their actions might affect their immediate environment and the world they live in	<ul style="list-style-type: none"><li>• Recognise how they could have a positive impact on others and the world they live in (e.g., participate in mini-enterprise projects like the sale of hand-made greetings cards to raise funds for the needy/disadvantaged, visit old folks’ home, participate in donation drives and beach clean-up activities)</li><li>• Show responsibility in taking care of the plants, animals and things in the preschool centre on a consistent basis</li><li>• Control impulses like making fun of someone different from themselves, plucking flowers, feeding animals in the pond or feeding the birds in the neighbourhood</li></ul>
3.4 Show responsibility, care and respect for living and non-living things	<ul style="list-style-type: none"><li>• Recognise the importance of saving water, electricity and paper, recycling, and practise these good habits consistently</li><li>• Encourage others to have the correct behaviours by doing the right things themselves (e.g., turning off taps after washing their hands, not littering, returning trays after eating in a food court, covering nose and mouth when sneezing or coughing) and by sharing with others the impact of positive or negative behaviours (e.g., the negative effects of food wastage, ocean pollution, climate change) on their immediate surroundings and the world around them</li></ul>

Health, Safety and Motor Skills Development

Learning Goal 1: Develop healthy habits and safety awareness at home, in school and at public places

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
1.1 Develop an awareness of the importance of keeping themselves healthy, clean and safe	<ul style="list-style-type: none"><li>• Talk about why they need to have a balanced diet, sufficient rest, sleep and exercise to be healthy</li></ul>
1.2 Develop an awareness of their role and responsibility in keeping the environment clean and safe	<ul style="list-style-type: none"><li>• Show awareness of making healthy food choices</li><li>• Understand the need to do warming up and cooling down exercises before and after a workout</li><li>• Practise basic personal hygiene (e.g., wash hands before and after eating, wash hands after using the toilet, cover nose and mouth when coughing or sneezing)</li></ul>
1.3 Demonstrate appropriate behaviours that promote individual and group safety	<ul style="list-style-type: none"><li>• Wash hands using proper handwashing technique</li><li>• Wipe down the table before and after snack time</li><li>• Throw litter into the dustbin</li><li>• Move around a defined space (e.g., a room) without bumping into the furniture and their friends</li><li>• Recognise safe (good) and unsafe (bad) touch</li><li>• Talk about their feelings and seek help from trusted adults when they feel hurt or unsafe</li><li>• Talk about and recognise ways to be safe when at home, in school and at public places (e.g., when boarding the bus, crossing the road, playing at the playground)</li><li>• Apply safety practices to keep themselves and others safe while playing indoors and outdoors, and inside and outside of preschool centre</li><li>• Follow safety rules and/or instructions during field trips</li></ul>

Learning Goal 2: Enjoy participating in a variety of physical activities

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
2.1 Develop an interest in doing a variety of indoor and outdoor physical activities	<ul style="list-style-type: none"><li>• Show interest and participate actively in a variety of indoor and outdoor physical games and activities</li><li>• Express great joy when playing indoor and outdoor physical games</li></ul>

Learning Goal 3: Demonstrate control, coordination and balance in gross motor activities

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
3.1 Develop body awareness (i.e., what the body does)	<ul style="list-style-type: none"><li>• Walk up and down stairs without support, using alternate feet</li></ul>
3.1.1 Demonstrate a range of locomotor skills (e.g., crawling, walking, running, jumping, hopping, sliding, galloping, skipping, leaping)	<ul style="list-style-type: none"><li>• Jump forward and land on both feet</li><li>• Hop forward</li><li>• Leap forward on one foot and land on both feet</li></ul>
3.1.2 Demonstrate a range of non-locomotor skills (e.g., balancing, curling, bending, twisting, stretching, turning, rising, sinking)	<ul style="list-style-type: none"><li>• Skip or gallop in a general space (e.g., half of a basketball court)</li><li>• Balance on one foot</li></ul>
3.1.3 Demonstrate a range of manipulative skills (e.g., tossing, catching, underarm throwing, overhead throwing, bouncing, kicking)	<ul style="list-style-type: none"><li>• Throw and catch an object with both hands</li><li>• Kick or roll a ball with aim and control</li><li>• Bounce and catch a ball with both hands</li></ul>
	<p>Note: To develop children's awareness of what their body can do (i.e., locomotor, non-locomotor or manipulative skills), every learning experience should incorporate at least one of the three movement concepts (i.e., space, effort or relationship awareness).</p>

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
3.2 Develop space awareness (i.e., where the body moves)	<ul style="list-style-type: none"><li>• Maintain balance while walking along a balance beam without support</li></ul>
3.2.1 Move within personal space (i.e., space within one’s reach in a stationary position) and general space (i.e., space for everyone) with appropriate control, coordination and balance	<ul style="list-style-type: none"><li>• Throw a ball at different levels (e.g., below the knee [low], at waist level [medium], above the head [high])</li><li>• Change directions (e.g., forward, backward) while running</li></ul>
3.2.2 Move in different directions (e.g., forward, backward, left, right, clockwise, anti-clockwise, up, down) with appropriate control, coordination and balance	<ul style="list-style-type: none"><li>• Jump from a low platform and land on both feet</li><li>• Jump over an obstacle and land on both feet</li></ul>
3.2.3 Move on different pathways (e.g., straight, curved, zigzag) with appropriate control, coordination and balance	<ul style="list-style-type: none"><li>• Maintain balance while walking along a line (e.g., straight, curved, zigzag)</li></ul>
3.2.4 Move on different levels in relation to the ground (e.g., low, medium, high) with appropriate control, coordination and balance	<p>Note: To develop children’s understanding of space awareness, every learning experience can focus on one of the movement skills (i.e., locomotor, non-locomotor or manipulative skills).</p>

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
3.3 Develop effort awareness (i.e., how the body moves) 3.3.1 Move safely using different strengths or force (e.g., strong, light, firm, relaxed) 3.3.2 Move safely using different speed or time (e.g., fast, slow, sudden, sustained)	<ul style="list-style-type: none"><li>• Move around a space using heavy and strong steps like an elephant</li><li>• Skip using light and relaxed steps</li><li>• Change speed (e.g., from slow to fast) while walking and/or running</li><li>• Move to a song and then “freeze” in different positions when the music stops and continue moving when music starts again</li></ul> <p>Note: To develop children’s effort awareness, every learning experience can focus on one of the movement skills (i.e., locomotor, non-locomotor or manipulative skills).</p>
3.4 Develop relationship awareness (i.e., with whom the body moves) 3.4.1 Move safely along with people (e.g., together, alongside, behind, in front of, in pairs, in groups) 3.4.2 Move safely in relation to objects/equipment (e.g., above, below, over, under, through, on, behind, in front of)	<ul style="list-style-type: none"><li>• Walk or run alongside with a friend</li><li>• Follow a friend and crawl through a tunnel one after another</li><li>• Throw and catch a balloon with a group of friends</li><li>• Hop in and out of a hula hoop</li><li>• Kick a ball into a target (e.g., space between two cones)</li><li>• Climb onto a platform in the playground</li></ul> <p>Note: To develop children’s relationship awareness, every learning experience can focus on one of the movement skills (i.e., locomotor, non-locomotor or manipulative skills).</p>

Learning Goal 4: Demonstrate control and coordination in fine motor activities

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
4.1 Manipulate tools and objects with dexterity 4.2 Develop eye-hand coordination in performing fine motor tasks 4.3 Develop appropriate pencil grip	<ul style="list-style-type: none"><li>• Tear paper into smaller pieces</li><li>• Manipulate play dough by squeezing, rolling and kneading it into different shapes</li><li>• Fold paper or cloth from point to point</li><li>• Use glue to paste items (e.g., coloured paper, beads, ice-cream sticks) together or on paper</li><li>• Hold paper with one hand and cut using a scissors with the other hand</li><li>• Use scissors to cut shapes with straight and curved lines</li><li>• Stack up blocks to build structures</li><li>• Fasten and unfasten things with buttons, zips, hook and loop fasteners or hooks</li><li>• Put on their socks and shoes</li><li>• Tie strings or shoelaces</li><li>• Thread large and small beads</li><li>• Scoop with a spoon</li><li>• Pour water into a cup or a container</li><li>• Use a pair of tongs or tweezers to pick up small items</li><li>• Hold a pencil or any other drawing/writing tool using a tripod grasp</li></ul>



Language and Literacy (English Language)

Learning Goal 1: Listen for enjoyment and information

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
1.1 Develop an interest in listening to stories, songs and rhymes	<ul style="list-style-type: none"><li>Request for a story, rhyme or poem to be read</li><li>Listen attentively when spoken to or when a story, rhyme or poem is being read by making eye contact and facing the speaker</li><li>Respond with appropriate gestures (e.g., nod, shake their head) and facial expressions (e.g., smile, laugh, frown) in response to everyday conversations and stories, rhymes or poems that are read to them</li><li>Respond appropriately to questions (e.g., questions beginning with “who”, “what”, “where”) about their everyday activities using appropriate gestures (e.g., raising hands, pointing, nodding, shaking their head)</li></ul>
1.2 Understand and follow verbal instructions involving at least two steps	
1.3 Understand everyday conversations	

Learning Goal 2: Speak with confidence to convey meaning and to communicate with others

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
2.1 Develop conversational skills by: 2.1.1 Starting a conversation 2.1.2 Taking turns to listen and speak 2.1.3 Asking questions and responding appropriately	<ul style="list-style-type: none"><li>Convey messages to their teachers, friends and family</li><li>Tell their friends about events they have experienced</li><li>Talk about the drawings and artworks they have created</li><li>Enjoy having conversations with friends during activity, routine and/or transition time</li><li>Speak not too loudly with friends; and vary volume and tone when dramatising stories</li></ul>
2.2 Express personal needs and wants, thoughts and ideas with appropriate phrases and sentences	
2.3 Ask and respond appropriately to questions (e.g., “who”, “what”, “where”, “when”, “why”, “how”) during large and small group discussions and activities	
2.4 Speak using an appropriate volume and tone during conversations with friends and in class discussions	
2.5 Speak with appropriate non-verbal gestures (e.g., occasionally making eye contact, nodding their head)	

Learning Goal 3: Read with enjoyment and understanding

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children's learning and development could be observed, for example, when they...
3.1 Develop an interest in reading books and other printed materials (e.g., signs, labels, posters, brochures, recipes, other printed materials)	<ul style="list-style-type: none"><li>• Pick out reading materials to read during their free time</li><li>• Share what they like about a book with their friends</li></ul>
3.2 Develop book and print awareness	<ul style="list-style-type: none"><li>• Recognise that a word is made up of letters</li><li>• Point to the first word on a page of a picture book to indicate where the teacher should start reading</li><li>• Point to words as teacher reads a storybook or other reading materials</li><li>• Point to the title, author and illustrator on the cover of a picture book</li></ul>
3.2.1 Show awareness of the correct way to handle a book (e.g., hold a book upright, turn pages in the right direction, read a book from front to back)	
3.2.2 Know that print is read from left to right and top to bottom	
3.2.3 Show awareness of the title, author and/or illustrator of a picture book	
3.3 Develop alphabetic knowledge	<ul style="list-style-type: none"><li>• Recognise the letters in their name and words</li><li>• Name and match upper and lower case letters</li><li>• Produce some of the 44 sounds of the letters and match the sounds to the letters (e.g., consonant sounds, short vowel sounds, long vowel sounds, common digraphs like “ch” and “sh”)</li></ul>
3.3.1 Know upper and lower case letters of the alphabet	
3.3.2 Know that sounds are associated with the letters of the alphabet and produce some of the sounds	
3.4 Develop phonological awareness	<ul style="list-style-type: none"><li>• Clap to the syllables of words in songs and books</li><li>• Pick out words that they hear which have the same or different beginning sound</li><li>• Pick out words that they hear which have the same or different ending sound</li><li>• Pick out rhyming words from a story, song or rhyme that they hear</li><li>• Attempt to blend individual sounds to say a word without using print</li><li>• Attempt to segment a word that they hear into individual sounds</li></ul>
3.4.1 Identify syllables in words that they hear	
3.4.2 Recognise beginning and ending sounds in words that they hear	
3.4.3 Recognise rhyming words	

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children's learning and development could be observed, for example, when they...
3.5 Develop word recognition and emergent reading skills	<ul style="list-style-type: none"><li>• Call out familiar signs and logos in the environment (e.g., “Stop” sign)</li><li>• Identify and call out the name that they are called by in print when seen in their environment</li><li>• Read aloud familiar words in the classroom (e.g., words in labels, on word walls)</li><li>• Point out and read words of high interest to children that they find in books and other reading materials (e.g., toys, sun, pizza, cake)</li><li>• Attempt to decode words that they may be unfamiliar with (e.g., smart, grab) by identifying the letter sounds and blending them</li><li>• Read repetitive phrases or sentences in stories</li></ul>
3.5.1 Recognise their name	
3.5.2 Recognise high frequency and/or sight words (e.g., “a”, “the”, “to”) or familiar words (i.e., words that are frequently seen by the child in his/her surroundings such as “stop”, “pull” and “push”)	
3.5.3 Read words by blending letter sounds	
3.5.4 Read words from word families (e.g., words with the rime of “at”, “en”, “it”, “og” and “ug”)	
3.5.5 Read some of the short sentences from familiar and appropriate reading materials (e.g., books, labels, signs that children have been read to or have read several times)	
3.6 Develop comprehension skills	<ul style="list-style-type: none"><li>• Talk and ask questions about the illustrations in a book to help them make sense of the story</li><li>• Talk about their favourite character in a story (e.g., why they like the character) or favourite part of the story</li><li>• Respond appropriately to literal and inferential questions about a story, rhyme or poem</li><li>• Retell events in a story by dramatising or drawing</li><li>• Sequence events in a story (e.g., by drawing, ordering pictures of the events in the correct sequence)</li><li>• Predict the story based on the book cover</li><li>• Predict what will happen next based on picture cues from a story and/or prior knowledge</li><li>• Suggest a different ending to a story</li></ul>
3.6.1 Talk about characters and events of stories that they have been read to	
3.6.2 Respond to questions about stories that they have been read to	
3.6.3 Retell and sequence events in a story	
3.6.4 Construct meaning from texts in familiar books using picture cues, prior knowledge and words they can recognise	

**Learning Goal 4: Use symbols, letter-like shapes, letters and words with invented and conventional spelling to communicate ideas and information**

Knowledge, Skills and Dispositions (KSD): <i>Provide opportunities for children to...</i>	<i>Children’s learning and development could be observed, for example, when they...</i>
4.1 Write upper and lower case letters of the alphabet 4.2 Write their own name 4.3 Copy words, phrases or short sentences with basic writing conventions 4.4 Write phrases or short sentences to communicate thoughts and ideas using basic writing conventions and invented or conventional spelling	<ul style="list-style-type: none"><li>• Show proper posture and hold a pencil and/or marker with recommended pencil grip</li><li>• Write upper and lower case letters clearly on a single line (with the exception of more challenging letters like “g”, “y”, “j”, “p” and “q” where the tail of the letter may not always be below the line)</li><li>• Write the name that they are called by using upper and lower case letters</li><li>• Copy words, phrases or short sentences from a book or sheet of paper in front of them and from the whiteboard or screen when ready</li><li>• Show knowledge of basic writing conventions through:<ul style="list-style-type: none"><li>- Leaving spaces between words</li><li>- Appropriate use of capitalisation (e.g., use upper case letters only for proper nouns and at the beginning of sentences)</li><li>- Appropriate use of punctuation (e.g., use of full-stop at the end of a sentence)</li></ul></li><li>• Write phrases or short sentences to communicate their thoughts and ideas in authentic tasks (e.g., writing a menu for pretend play, labelling their items and drawings, creating a greeting card with the sentence “I love you” or “Thank You”)</li></ul>

**Language and Literacy (Mother Tongue Language)**

**Learning Goal 1: Enjoy and show an interest in learning Mother Tongue Language**

Knowledge, Skills and Dispositions (KSD): <i>Provide opportunities for children to...</i>	<i>Children’s learning and development could be observed, for example, when they...</i>
1.1 Develop an interest in participating in MTL activities (e.g., listening to stories, singing, dramatising)	<ul style="list-style-type: none"><li>• Follow the actions in a song, play games and/or respond to stories read to them (e.g., talk about, draw, act out the story) in MTL</li><li>• Request for help in learning during MTL activities</li><li>• Ask questions during MTL activities</li><li>• Attempt to start or join a conversation using MTL</li><li>• Request for MTL stories and songs and/or rhymes to be read or sung</li><li>• Pay attention and make eye contact while listening to stories and songs or having a conversation with others in MTL</li><li>• Recite catchy phrases of a song or rhyme in MTL, or perform the actions of a song on their own</li><li>• Make up words, phrases or sentences verbally in MTL</li><li>• Talk about learning experiences that were conducted in MTL</li></ul>
1.2 Develop an interest in looking at books and other printed materials in MTL	<ul style="list-style-type: none"><li>• Pick out reading materials in MTL to browse or read during their free time</li><li>• Show interest in books (e.g., point and look at pictures in the book closely, comment or ask questions about the story)</li><li>• Share with their friends what they like about an MTL book</li><li>• Draw friends’ or adults’ attention to print, songs and/or games in MTL that they are aware of, or can be found in their immediate environment</li></ul>

Learning Goal 2: Develop foundational language and literacy skills in Mother Tongue Language

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
2.1 Listen with understanding 2.1.1 Understand simple messages and instructions 2.1.2 Understand the main idea in a conversation	<ul style="list-style-type: none"><li>• Respond through appropriate body language when called by their name (e.g., eye contact, nodding, hand gestures)</li><li>• Follow one- to two- step verbal instructions</li><li>• Perform appropriate actions when singing songs or reciting rhymes</li><li>• Respond to a simple message or main idea of a conversation through appropriate body language (e.g., eye contact, gestures, facial expressions) and/or simple words or phrases</li></ul>
2.2 Speak to convey meaning 2.2.1 Express personal needs and wants 2.2.2 Ask and respond to simple questions 2.2.3 Share personal experiences with others	<ul style="list-style-type: none"><li>• Use familiar greeting phrases (e.g., “Good morning”, “Goodbye”)</li><li>• Use one- or two-word utterances with gestures to express needs and wants</li><li>• Make a simple introduction by giving their name and age</li><li>• Name familiar objects around them (e.g., things found at home, in the preschool centre, in the neighbourhood)</li><li>• Ask questions to learn more about familiar people around them (e.g., family members, friends, neighbours)</li><li>• Share experiences (e.g., a family outing, a class field trip, a favourite book and/or television programme) with others using simple phrases with guidance or on their own</li><li>• Convey simple messages to their family, teachers and friends</li><li>• Participate in simple short conversations</li><li>• Use appropriate tone and volume when speaking (e.g., speaking in a polite manner)</li></ul>

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
2.3 Recognise words and read with assistance 2.3.1 Recognise familiar words 2.3.2 Have print and book awareness 2.3.3 Show understanding of stories, rhymes and poems	<ul style="list-style-type: none"><li>• Recognise familiar MTL characters, letters and/or words in the classroom, preschool centre (e.g., words on labels, word walls, books) and in the neighbourhood (e.g., shop signboards, posters)</li><li>• Recognise their own name</li><li>• Handle a book in the correct way</li><li>• Point to the first word on a page of a storybook to indicate where the teacher should start reading</li><li>• Point to characters, letters and/or words as the teacher reads the storybook</li><li>• Have an awareness of some features of the MTL print such as:<ul style="list-style-type: none"><li>- the sound of each of the 12 vowels and 18 consonants in the Tamil Language</li><li>- the letter sounds in the Malay Language alphabet</li><li>- parts of a Chinese character that give clues about the meaning of the character</li></ul></li><li>• Respond with appropriate gestures (e.g., nod, shake their head, shrug) and facial expressions (e.g., smile, laugh, frown) in response to stories, rhymes or poems that are read to them in MTL</li><li>• Talk about their favourite character in the story (e.g., why they like the character) or favourite part of the story</li><li>• Retell key events in a story</li><li>• Sequence some events in the story (e.g., by drawing, putting pictures in the correct sequence)</li><li>• Use pictures (e.g., book illustrations, simple picture cards, photographs) as clues to talk about the meaning of simple words or phrases</li></ul>



Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children's learning and development could be observed, for example, when they...
2.4 Make marks, draw symbols and write letters, characters and/or words to represent ideas	<ul style="list-style-type: none"><li>• Show proper posture and hold a pencil and/or marker with recommended pencil grip</li><li>• Attempt to sequence the strokes in a letter and/or character according to what they have observed</li></ul>
2.4.1 Copy letters, characters, and/or words with understanding of basic writing conventions	<ul style="list-style-type: none"><li>• Create letter, character and/or word-like forms by tracing the forms in sand and through finger painting, etc.</li></ul>
2.4.2 Show understanding that drawing and writing symbols on a page is a way to explain information about a topic	<ul style="list-style-type: none"><li>• Use a pencil and/or marker to make scribbles and letter, character, and/or word-like forms</li><li>• Use symbols to represent ideas (e.g., draw circle for moon, triangle/rectangle for sandwich)</li><li>• Verbally explain in words or phrases the ideas or information represented by different forms of writing when asked by friends or the teacher</li></ul>

Learning Goal 3: Develop an awareness of their local ethnic culture

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children's learning and development could be observed, for example, when they...
3.1 Be aware of local customs and traditions of their culture	<ul style="list-style-type: none"><li>• Ask questions related to cultural celebrations and festivals (e.g., how traditional meals and/or desserts are prepared)</li><li>• Retell, draw or role-play traditional stories and characters</li><li>• Express their thoughts and/or ideas on the customs and traditions, and moral values that the story, rhyme and/or proverb portrays</li><li>• Share some details of how customs relevant to Singapore's context are carried out (e.g., local customs and practices related to ethnic celebrations)</li><li>• Participate in culturally-related activities and learning journeys, and explore artefacts to find out about their local ethnic culture</li></ul>

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children's learning and development could be observed, for example, when they...
3.2 Interact with family, friends and the community	<ul style="list-style-type: none"><li>• Exhibit culturally-appropriate behaviours in and out of the classroom (e.g., use appropriate language to address and greet people and show respect to the elderly)</li><li>• Ask questions to know more about their family members' background and interests</li><li>• Share personal experiences (e.g., their favourite song and/or food, family gatherings during celebrations) with others in simple phrases</li><li>• Participate in activities (e.g., ethnic celebrations, culture performances) organised by the community (e.g., community centres, clubs, National Library Board, National Heritage Board) that promote the local ethnic culture</li></ul>

Numeracy

Learning Goal 1: Enjoy learning and using numeracy concepts and skills in daily experiences

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children's learning and development could be observed, for example, when they...
1.1 Develop an awareness of how and why numeracy ideas and processes are useful in in their daily life	<ul style="list-style-type: none"><li>• Enjoy playing numeracy games and reading stories with numeracy-focused themes</li><li>• Show interest and participate actively in numeracy activities at the learning centres</li></ul>
1.2 Use mathematical language (e.g., "bigger than", "smaller than", "more than", "fewer than" or "less than", shape names) in their daily life	<ul style="list-style-type: none"><li>• Recognise relationships, patterns, numbers and shapes in the environment and during their daily routines and talk about these with adults and peers</li><li>• Use mathematical language to describe or explain their thoughts and ideas (e.g., use "more than", "fewer than" and/or "less than" when comparing two groups of objects and talk about the attributes used when sorting objects into groups)</li><li>• Respond positively and use numeracy concepts/skills to solve problems that they encounter</li></ul>

Learning Goal 2: Understand relationships and patterns

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
2.1 Match, sort and compare things by at least one attribute (i.e., colour, shape, size, length, height and/or child-determined attributes)	<ul style="list-style-type: none"><li>• Identify two objects (e.g., pattern blocks, counters, straws) that have the same colour, shape, size or length and begin to verbally explain what the objects have in common</li><li>• Verbally explain why they have paired things, such as a cup and a saucer and a fork and a spoon, or put sets of things together, such as three girls and three baskets</li><li>• Sort things in the classroom or environment into groups by one attribute (e.g., colour, shape, size) or two attributes (e.g., colour and shape, colour and size) and begin to verbally explain why the objects are put into the various groups</li></ul>
2.2 Put things in an order according to attributes (i.e., size, length, height, child-determined attributes and sequence of events)	<ul style="list-style-type: none"><li>• Compare two things in the environment by size or length/height and use appropriate comparative vocabulary (e.g., “smaller than”, “bigger than”, “longer than”, “shorter than”, “taller than”) to describe them</li><li>• Put things in an order, such as from smallest to biggest and from shortest to longest, and verbally explain the order</li></ul>
2.3 Recognise, extend and create patterns (e.g., ABABAB, ABCABCABC)	<ul style="list-style-type: none"><li>• Order events and activities according to times of the day (e.g., day and night, morning, afternoon and night, breakfast, lunch and dinner)</li><li>• Identify, compare and order events in their daily routine, such as breakfast (morning), lunch (noon), snack (afternoon), dinner (evening), sleep (night)</li></ul>
2.4 Describe relationships and patterns recognised and created	<ul style="list-style-type: none"><li>• Order events in sequence of steps from first to last (e.g., steps in a recipe to make muffin)</li><li>• Name and order the days of the week and months of the year</li><li>• Recognise and verbally describe repeated patterns in things they see around them, such as fabric, wrapping paper, flower petals and animals like zebras and tigers</li><li>• Reproduce a given repeated pattern using objects (e.g., pencil, eraser, pencil, eraser, pencil, eraser) or pattern blocks (e.g., square, circle, triangle, square, circle, triangle, square, circle, triangle)</li><li>• Create and verbally describe repeated patterns using objects, words, drawings, symbols or actions</li></ul>

Learning Goal 3: Develop counting skills and number sense

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
3.1 Rote count to at least 20	<ul style="list-style-type: none"><li>• Say number names in order (e.g., from 1 to 20, 20 to 1) when reciting a rhyme or playing a game</li></ul>
3.2 Count reliably to at least 10 things	<ul style="list-style-type: none"><li>• Touch and count one object at a time when saying the number name (i.e., one-to-one correspondence)</li></ul>
3.2.1 Count things in a collection one at a time (one-to-one correspondence)	<ul style="list-style-type: none"><li>• Count up and count down from a given number (e.g., when children are lining up)</li></ul>
3.2.2 Say the number names in sequential order and count up or down from a given number (stable order)	<ul style="list-style-type: none"><li>• Estimate how many objects they can see and check by counting them</li></ul>
3.2.3 Recognise that the last number counted represents the quantity of things in the set (cardinality)	<ul style="list-style-type: none"><li>• Recognise anything can be counted, including claps, beats and steps</li></ul>
3.2.4 Recognise that the quantity of a set of things is the same regardless of the starting point of counting (order irrelevance)	<ul style="list-style-type: none"><li>• Count and say the same total number of objects presented in different arrangements, such as lines, arrays, circles and random arrangements</li><li>• Represent number quantities in a variety of ways (e.g., using objects, fingers, base-10 blocks, ten frames, tally marks)</li><li>• Count and say the total number of objects in a set in response to the question “How many are there?” without re-counting</li></ul>

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
3.3 Recognise that the quantity of a set of up to 10 things stays the same regardless of the arrangement (conservation of quantity)	<ul style="list-style-type: none"><li>• Recognise and match number names, numerals and/or number words to the quantity of a group of objects</li></ul>
3.4 Recognise numbers in numerals and in words	<ul style="list-style-type: none"><li>• Write numerals in a meaningful context (e.g., recording the number of counters on a plate)</li></ul>
3.5 Match number name, numeral and/or number word to the quantity of a set of things	<ul style="list-style-type: none"><li>• Compare two groups of objects and use language, such as “more than” or “fewer than” to verbally describe that one group is more or less than the other</li></ul>
3.6 Write numbers in numerals	<ul style="list-style-type: none"><li>• Make and read from real object graph (e.g., form two rows of children and compare which row has more children)</li></ul>
3.7 Compare the quantities of two sets of up to 10 things each and use “same as”, “more than”, “fewer than” and “less than” appropriately	<ul style="list-style-type: none"><li>• Recognise that a tower of five blocks is made up two blocks and three blocks or one block and four blocks</li></ul>
3.8 Name the parts that form the whole in a quantity of up to 10 (e.g., 5 is made up of 2 and 3, and 1 and 4)	

Learning Goal 4: Understand basic shapes and spatial concepts

Knowledge, Skills and Dispositions (KSD): Provide opportunities for children to...	Children’s learning and development could be observed, for example, when they...
4.1 Recognise the four basic shapes (i.e., circle, square, rectangle and triangle)	<ul style="list-style-type: none"><li>• Recognise and name the four basic shapes in their classrooms and immediate environment</li></ul>
4.2 Develop an awareness of the attributes of the four basic shapes	<ul style="list-style-type: none"><li>• Identify and describe the shapes based on their attributes (e.g., a triangle has three sides, a square has four equal sides)</li></ul>
4.3 Use the basic shapes to form other shapes or figures	<ul style="list-style-type: none"><li>• Recognise shapes of different sizes and orientations in a picture</li></ul>
4.4 Develop an awareness of spatial concepts, such as position (i.e., top and bottom, in front of and behind), direction (i.e., up and down, left and right) and distance (i.e., far and near)	<ul style="list-style-type: none"><li>• Make figures using basic shapes (e.g., use two squares and one triangle to form a boat)</li><li>• Use words, such as “top” and “bottom” and “in front of” and “behind” to describe the position of an object</li><li>• Use words, such as “left” and “right” and “far” and “near” to describe direction and distance of objects</li><li>• Respond appropriately when asked to move to the right and/or left position</li></ul>

# ANNEX C

## Summary of Theoretical and Research Bases of the *iTeach* Principles

<i>iTeach</i> Principle	Theorists / Researchers	Key Ideas
Integrated approach to teaching and learning	Dewey, J. (1959)	Young children do not think in discrete subjects and their learning is holistic in nature. Schools should be “representative of real-life situations” in which children learn through social interactions.
	Caine, R. N., and Caine, G. (1991)	The brain is designed to recognise and create patterns. It resists what does not make sense to a child, such as isolated pieces of information which bear no relevance to the child.
	Fogarty, R. (1991) Gerhke, N. J. (1998) Hayes, D. (2010)	<p>There are different forms of integration with varying degrees of interconnectedness. This includes the broad categories of integration within single disciplines, across disciplines and within and across learners. There are different ways in which children may connect and integrate their learning. Adopting an integrated approach:</p> <ul style="list-style-type: none"><li>• involves the connecting of ideas and concepts within and across different learning domains and broader life experiences and/or children’s interests;</li><li>• supports children in the transfer of learning and skills from one situation to another; and</li><li>• makes learning more relevant and meaningful for children.</li></ul>

<i>iTeach</i> Principle	Theorists / Researchers	Key Ideas
Teachers as facilitators of learning	Vygotsky, L.S. (1962)	<ul style="list-style-type: none"><li>• Properly organised instruction will result in a child’s intellectual development and bring about an entire series of other developmental processes, which might not be possible without instruction.</li><li>• The zone of proximal development (ZPD) is the area between what children can do on their own and what they can do with the assistance of an adult or a more developmentally advanced peer.</li><li>• Teachers scaffold children’s learning by providing experiences just beyond what children are capable pf doing without support but within what they can achieve with support and guidance (i.e., scaffolding).</li></ul>
	Alfieri, L., Brooks, P. J., Aldrich, N. J., and Tenenbaum, H. R. (2011)	Two meta-analyses comprising about 160 studies showed that young children gained greater understanding from adult-facilitated play in comparison to direct instruction and free-play.
Engaging children in learning through purposeful play	Vygotsky, L.S. (1966)	Play is a leading activity that determines a child’s development and creates the ZPD.
	Fleer, M. (2011)	In “Conceptual Play”, cognition and imagination work together to support concept formation, with imagination acting as the bridge between play and learning.



<i>iTeach Principle</i>	Theorists / Researchers	Key Ideas
Engaging children in learning through purposeful play	Hassinger-Das, B., Hirsh-Pasek, K., and Golinkoff, R. M. (2017)	“Guided Play” is a joyful learning experience directed by the child. At the same time, there are opportunities for some adult scaffolding that is determined by the learning goals and child’s learning and development. Guided play supports children’s knowledge building through opportunities to receive “immediate [and] meaningful adult feedback”.
	Pyle, A. and Danniels, E. (2017)	There can be varying levels of child-adult control and/or involvement in play experiences which can be illustrated by a continuum. At one end of the continuum, children are given the freedom to engage in spontaneous play and this progresses towards more guided or structured play, with more adult control at the other end of the continuum.
	Zosh, J. M., Hopkins, E. J., Jensen, H., Liu, C., Neale, D., Hirsh-Pasek, K., Solis, S. L., & Whitebread, D. (2017)	Depending on the learning context and/or intent, each type of play experience on the continuum has its own affordances and can be intentionally designed to encourage and facilitate children’s learning, towards achieving desired learning goals.
	United Nations Children’s Fund (UNICEF) (2018)	In facilitating play experiences, teachers should play intentional roles in observing, recognising, initiating and guiding children’s play experiences while at the same time, supporting their agency.

<i>iTeach Principle</i>	Theorists / Researchers	Key Ideas
Authentic learning through quality interactions	Lev Vygotsky (1978)	<ul style="list-style-type: none"><li>• Social interaction plays a fundamental role in cognitive development.</li><li>• Children construct knowledge and make meaning as they actively participate in social and cultural experiences.</li><li>• Children gain knowledge and skills through interactions and shared experiences with adults and more skilled peers.</li></ul>
	Siraj-Blatchford, I. and Sylva, K. (2004)	Quality interactions involve “Sustained Shared Thinking”, a process in which two or more individuals work together by contributing to the thinking to help develop and extend understanding of a concept or skill.
	Center on the Developing Child, Harvard University (2007)	Serve and return interactions support healthy brain growth and architecture.
	Pianta, R. C., Hamre, B. K. and Allen, J. P. (2012)	It is the quantity and quality of daily back-and-forth exchanges that occur throughout the day for social and instructional purposes that are responsible for the learning and development of children.
	Karuppiah, N. (2021)	Children’s phonological (sound) awareness, understanding of words and reading skills were found to be better in classrooms that provided emotional support, set clear behavioural expectations, encourage active participation and listening, and where effective questions are asked.

<i>iTeach</i> Principle	Theorists / Researchers	Key Ideas
Children as constructors of knowledge	Piaget, J. (1932)	Children construct their knowledge by giving meaning to people, places and things they interact with in their world. They gain new knowledge through construction rather than instruction.
	Marjorie J. Kostelnik, Anne K. Soderman, Alice P. Whiren and Michelle L. Rupiper (2019)	Children go through a cycle of awareness, exploration, acquisition and application to construct knowledge and acquire concepts and skills.
Holistic development	Organisation for Economic Co-operation and Development (OECD, 2015)	High-quality preschool education should equip children with values, dispositions and social and emotional competencies, as well as provide a good foundation for early academic knowledge and skills to nurture children to become lifelong learners.

BIBLIOGRAPHY

Ahlskog-Björkman, E. & Björklund, C. (2016). Patterns of awareness – preschool teachers’ integration of art and mathematics. *International Journal of Education through Art*, 12(2), 167-180.

Alfieri, L., Brooks, P. J., Aldrich, N. J., & Tenenbaum, H. R. (2011). Does discovery-based instruction enhance learning? *Journal of Educational Psychology*, 103(1), 1-18.

Bailey, R., Stickle, L., Brion-Meisels, G., & Jones, S. M. (2019). Re-imagining social-emotional learning: Findings from a strategy-based approach. *Phi Delta Kappan*, 100(5), 53-58.

Bair, J. (2001). *Leaders in literacy: Multi-disciplinary literacy research for the twenty-first century*. US: College of Education, University of Maryland.

Barnes, R. (2015). *Teaching art to young children*. New York: Routledge.

Bautista, A., Habib, M., Eng, A., & Bull, R. (2019). Purposeful play during learning centre time: From curriculum to practice. *Journal of Curriculum Studies*, 51(5), 715-736.

Bautista, A., Moreno-Núñez, A., Bull, R., Amsah, F., & Koh, S. F. (2018). Arts-related pedagogies in preschool education: An Asian perspective. *Early Childhood Research Quarterly*, 45, 277-288.

Björklund, C. & Ahlskog-Björkman, E. (2017). Approaches to teaching in thematic work: early childhood teachers’ integration of mathematics and art. *International Journal of Early Years Education*, 25(2), 98-11.

Bradbury, L. U. (2014). Linking science and language arts: A review of the literature which compares integrated versus non-integrated approaches. *Journal of Science Teacher Education*, 25(4), 465-488.

Bulunuz, M. (2013). Teaching science through play in kindergarten: Does integrated play and science instruction build understanding? *European Early Childhood Education Research Journal*, 21(2), 226-249.

Brooker, L. & Woodhead, M. (Eds.). (2008). *Developing positive identities*. UK: The Open University.

Caine, R. N. & Caine, G. (1991). *Making connections: Teaching and the human brain*. Alexandria, VA: Association for Supervision and Curriculum Development.

Center on the Developing Child at Harvard University (2007). *The science of early childhood development (InBrief)*.

Center on the Developing Child, Harvard University. (2014). *Enhancing and practising executive function skills with children from infancy to adolescence*. <http://www.developingchild.harvard.edu>

Center on the Developing Child at Harvard University (2016). *From best practices to breakthrough impacts: A science-based approach to building a more promising future for young children and families*.

Chaillé, C. (2008). *Constructivism across the curriculum in the early childhood classrooms: Big ideas as inspiration*. USA: Pearson Allyn and Bacon.

Charlesworth, R. & Lind, K. K. (2015). *Math and science for young children* (8th Ed.). USA: Cengage Learning.

Choo, Y. Y., Yeleswarapu, S. P., How, C. H. & Agarwal, P. (2019). Developmental assessment: Practice tips for primary care physicians. *Singapore Medical Journal*, 60(2): 57-62.

Clark, C. and De Zoya, S. (2011). *Mapping the interrelationships of reading enjoyment, attitudes, behaviour and attainment: An exploratory investigation*. London: National Literacy Trust.

Clements, D. H., & Conference Working Group (2004). Part 1: Major themes and recommendations. In D.H. Clements, J. Sarama, & A. M. DiBiase (Eds.), *Engaging young children in Mathematics: Standards for early childhood mathematics education*, (pp.7-76). Mahwah, NJ: Lawrence Erlbaum.

Clements, D. H., Sarama, J., & Germeroth, C. (2016). Learning executive function and early mathematics: Directions of causal relations. *Early Childhood Research Quarterly*, 36, 79-90.

Collaborative for Academic, Social and Emotional Learning. (2020). *CASEL’s SEL framework: What are the core competence areas and where are they promoted?* <https://casel.org/casel-sel-framework-11-2020>

Collaborative for Academic, Social and Emotional Learning (2020). *Fundamentals of SEL: What does the research say?* <https://casel.org/fundamentals-of-sel/what-does-the-research-say>

College of Paediatrics and Child Health Singapore. (2022). *Consensus statement: Singapore integrated 24-hour activity guidelines for early childhood (<7 years)*. Singapore: College of Paediatrics and Child Health, Academy of Medicine.

Cummins, J. (1984). Wanted: A theoretical framework for relating language proficiency to academic achievement among bilingual students. In C. Rivera (Ed.), *Language proficiency and academic achievement* (pp. 2-19). Clevedon: Multilingual Matters.

Dewey, J. (1959). *School and society*. Chicago: University of Chicago Press.

Duffy, B. (2006). *Supporting creativity and imagination in the early years*. England: Open University Press.

Duncan, S. P. (2010). Instilling a lifelong love of reading. *Kappa Delta Pi Record*, 46(2), 90-93.

Eglinton, K. A. (2003). *Art in the early years*. London: Routledge.

Eva, Y. H. L., & Kerry, L., (2021) Parents' views on young children's distance learning and screen time during COVID-19 class suspension in Hong Kong. *Early Education and Development*, 32(6), 863-880.

Fleer, M. (2011). 'Conceptual Play': Foregrounding imagination and cognition during concept in early years education. *Contemporary Issues in Early Childhood*, 12(3), 224-240.

Fleer, M. (2009). A cultural-historical perspective on play: Play as a leading activity across cultural communities. In I. Pramling-Samuelsson and M. Fleer (Eds.), *Play and learning in early childhood settings: International Perspectives*, (pp. 1-18). The Netherlands: Springer.

Fogarty, R. (1991). Ten ways to integrate curriculum. *Educational Leadership*, 49(2), 61-65.

Gardner, H. (2000). *The disciplined mind: Beyond facts and standardised tests, the K-12 education that every child deserves*. New York: Simon and Schuster and New York: Penguin Putnam.

Gerhke, N. J. (1998). *A look at curriculum integration from the bridge*. *Curriculum Journal*, 9(2), 247-260.

Gerde, H. K., Schachter, R. E. & Wasik, B. A. (2013). Using the scientific method to guide learning: An integrated approach to early childhood curriculum. *Early Childhood Education Journal*, 41, 315-323.

Guo, H., Ma, J., Chua, T. B. K., Tay, L. Y., Chia, M. Y. H., & Kim, H. (2022). Associations between Parents' Digital Media Habits, Engagement, Awareness, and Movement Guidelines among Preschool-Age Children: *International Ipschooler Surveillance Study*. *International Journal of Environmental Research and Public Health*. 19, 10484. <https://doi.org/10.3390/ijerph191710484>

Hailey, D., Miller, A., & Yenawine, P. (2015). Understanding visual literacy: The visual thinking strategies approach. In Baylen, D.M., and D'Alba, A., (Eds.). *Essentials of teaching and integrating visual and media literacy* (pp. 49-73). London: Springer.

Hamre, B. K., Pianta, R. C., Burchinal, M., Field, S., Crouch, J. L., Downer, J. T., Howes, C., La Paro, K., Scott-Little, C. (2012). A course on effective teacher-child interactions: Effects on teacher beliefs, knowledge, and observed practice. *American Educational Research Journal*, 49(1), 88-123.

Harris, J., Golinkoff, R. M., & Hirsh-Pasek, K. (2010). Lessons from the crib for the classroom: How children really learn vocabulary. In S.B. Neuman & D.K. Dickson, (Eds.). *Handbook of early literacy research* (pp. 49-65.) New York: The Guilford Press.

Hassinger-Das, B., Hirsh-Pasek, K. & Golinkoff R. M. (2017). The case of brain science and guided play: A developing story. *Young Children*, 72(2).

Hayes, D. (2010). The seductive charms of a cross-curricular approach. *Education*, 38(4), 381-387.

Heckman, J. J. (2008). School, skills and synapses. *Economic Inquiry*, 46(3), 289-324.

Hetland, L., Winner, E., Veenema, S., & Sheridan, K. M. (2015). *Studio thinking 2: The real benefits of visual arts education*. New York: Teachers College Press.

Hirsh-Pasek, K. & Hadani, H. (2020). A new path to education reform: Playful learning promotes 21st century skills in schools and beyond. The Brookings Institution. <https://learningportal.iiep.unesco.org/en/library/a-new-path-to-education-reform-playful-learning-promotes-21st-century-skills-in-schools-and>

Hume, L. E., Allan, D. M., & Lonigan, C. J. (2016). Links between preschoolers' literacy interest, inattention, and emergent literacy skills. *Learning and Individual Differences*, 47, 88-95.

Hyland, F. (2004). Learning autonomously: Contextualising out-of-class English language learning. *Language Awareness*, 13(3), 180-202.

Hyson, M. (2004). *The emotional development of young children: Building an emotion-centered curriculum*. Teachers College Press.

Jones, S., Brush, K., Bailey, R., Brion-Meisels, G., McIntyre, J., Kahn, J. & Stickle, L. (2017). Navigating SEL from the inside out. *Looking inside and across*, 25, 1-349.

Karuppiah, N. (2021). Enhancing the quality of teacher-child interactions in Singapore preschool classrooms. *Journal of Childhood, Education & Society*, 2(1), 58-68.

Katz, L. G. (1993). *Disposition: Definitions and implications for early childhood practices*. Urbana IL.: ERIC Clearinghouse on Elementary and Early Childhood Education.

Klenowski, V. (2002). *Developing portfolios for learning and assessment process and principles*. London: Routledge Falmer.

Kostelnik, M. J., Soderman, A. K., Whiren, A. P., & Rupiper, M. L. (2019). *Developmentally appropriate curriculum: Best practices in early childhood education (7th ed.)*. Boston, Massachusetts: Pearson Education.

Krashen, S. D., & Terrell, T. D. (1983). *The natural approach: Language acquisition in the classroom*. New York: Pergamon Press.

Krogh, S. L. & Morehouse, P. (2014). *The early childhood curriculum, inquiry learning through integration*. United States of America: Routledge.

Latham, G. (2018). The art of the early childhood researcher: Rediscovering music and movement in language. *Journal of Early Childhood Research*, 17 (1), 44-53.

Lim, S. M., & Chen, C. (2010). *It's not just me: Enhancing the development of social-emotional learning in children*. Singapore: KK Women's and Children's Hospital.

Lin, J., Magiati, I., Chiong, S. H. R, Singhal, S., Riard, N., Ng, I. H., Muller-Riemenschneider, F. & Wong, C.M. (2019). The relationship among screen use, sleep, and emotional/behavioral difficulties in preschool children with neurodevelopmental disorders. *Journal of Developmental & Behavioral Pediatrics*, 40(7), 519-529.

Malaguzzi, L. (1994). Your image of the child: Where teaching begins. *Child Care Information Exchange*, 3, 52-61.

Mardell, B. (2019). Playful learning in early childhood classrooms: It's complicated. *Play Exchange*, 53-56.

Mardell, B., Wilson, D., Ryan, J., Ertel, K., Krechevsky, M., Baker, M. (2016). *Towards a Pedagogy of Play*. A Project Zero Working Paper.

McClelland, M. M., Tominey, S. L., Schmitt, S. A., & Duncan, R. (2017). SEL interventions in early childhood. *The Future of Children*, 33-47.

Mendez, J. L. (2010). How can parents get involved in preschool? Barriers and engagement in education by ethnic minority parents of children attending Head Start. *Cultural Diversity and Ethnic Minority Psychology*, 16(1), 26-36.

Mercer, N. (2008). Talk and the development of reasoning and understanding. *Human Development*. 51(1), 90-100.

National Association for the Education of Young Children (2022). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8 (4th Ed.)*. Washington, DC: National Association for the Education of Young Children (NAEYC).

Neuman, S. B. (1999). Books made a difference: A study of access to literacy. *Reading Research Quarterly*, 34(3), 286-311.

O'Brien, B. A., Mohamed, H. M., Yussof, N. T., & Ng, S. C. (2019). The phonological awareness relation to early reading in English for three groups of simultaneous bilingual children. *Reading and Writing: An Interdisciplinary Journal*, 32(4), 909-937.

OECD. (2002). *Reading for change performance and engagement across countries – Results from PISA 2000*. <https://www.oecd.org/education/school/programme-for-international-student-assessment-pisa/33690904.pdf>

OECD. (2015). *Skills for social progress: The power of social and emotional skills*. Paris: OECD Publishing.

OECD. (2019). *What do we know about children and technology?* <https://www.oecd.org/education/ceri/Booklet-21st-century-children.pdf>.

OECD. (2021). *What's next? Lessons on education recovery: Findings from a survey of ministries of education amid the COVID-19 pandemic*. Paris: OECD Publishing.

O'Keeffe, C., & McNally, S. (2021) Uncharted territory: Teachers' perspectives on play in early childhood classrooms in Ireland during the pandemic. *European Early Childhood Education Research Journal*, 29(1), 79-95.

O'Connor, C., Lambe, S., Gleeson and, S. & Henry, A. (n.d.). Facilitating children's sensorimotor development in DEIS schools. [https://www.dcu.ie/sites/default/files/edc/pdf/sensorimotor\\_briefing\\_paper\\_educationaldisadvantagecentredcu2016\\_1.pdf](https://www.dcu.ie/sites/default/files/edc/pdf/sensorimotor_briefing_paper_educationaldisadvantagecentredcu2016_1.pdf)

Perfetti, C. A., Landi, N., & Oakhill, J. (2005). The acquisition of reading comprehension skills. In M. J. Snowling & C. Hulme (Eds.), *The science of reading: A handbook*, (pp. 227-247). Oxford: Blackwell.

Piaget, J. (1932). *The moral judgment of the child*. London: Kegan, Paul, Trench, Trubner & Co.

Pianta, C. R., Hamre, B. K., & Allen, J. P. (2012). Teacher-student relationships and engagement: Conceptualizing, measuring and improving capacity of classroom interactions. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement*, (pp. 365-386). New York: Springer.

Pill, S. (2015). Play with purpose: For fundamental movement skills teaching. ACHPER (SA).

Putman, R. (2017). Using research to make informed decisions about the spelling curriculum. *Texas Journal of Literacy Education*, 5(1), 24-32.

Pyle, A. & Alaca, B. (2018). Kindergarten children's perspectives on play and learning. *Early Child Development and Care*, 188(8), 1063-1075.

Pyle, A. & Danniels, E. (2017). A continuum of play-based learning: The role of the teacher in play-based pedagogy and the fear of hijacking play. *Early Education and Development*, 28(3), 274-289.

Reed, D. K. (2012). *Why teach spelling?* Portsmouth, NH: RMC Research Corporation, Center on Instruction.

Reynolds, B. & Duff, K. (2016). Families' perceptions of early childhood educators' fostering conversations and connections by sharing children's learning through pedagogical documentation. *Education*, 44(1), 93-100.

Ribner, A. D. (2020). Executive function facilitates learning from math instruction in kindergarten: Evidence from ECLS-K. *Learning and Instruction*, 65, 101-251.

Rolfe, G., Freshwater, D., & Jasper, M. (2001). *Critical reflection in nursing and the helping professions: A user's guide*. Basingstoke: Palgrave Macmillan.

Romance, N. R. & Vitale, M. R. (2012). Interdisciplinary perspectives linking science and literacy in grades K-5: Implications for policy and practice. In K. Tobin and D. Treagust (Eds.), *Second international handbook of science education* (pp. 1351-1373). Dordrecht, Netherlands: Kluwer Academic Publishers.

Schlagal, B. (2007). Best practices in spelling and handwriting. In S. Graham, C. MaArthur, & J. Fitzgerald (Eds.), *Best practices in writing instruction*. New York, NY: Guilford Press.

Shonkoff, J. P. & Philips, D. A (Eds.). (2000). *From neurons to neighbourhoods: The science of early childhood development*. Washington: National Academy Press.

Shukla, S. (2014). Construction of knowledge among young children before their entry to school. *IOSR Journal of Humanities and Social Science*, 19(5), 88-92.

Siraj-Blatchford, I. (2005). *Birth to eight matters! Seeking seamlessness - continuity? integration? creativity?* <https://docplayer.net/17564549-Quality-interactions-in-the-early-years.html>

Siraj-Blatchford, I. & Sylva, K. (2004). Researching pedagogy in English pre-schools. *British Educational Research Journal*, 30(5), 713-730.

Siraj-Blatchford, I., Sylva, K., Muttock, S., Gilden, R. & Bell, D. (2002). *Researching effective pedagogy in the early years*. Department for Education and Skills, Research Report 356. <https://dera.ioe.ac.uk/4650/>.

Sun, H., Ng, S. C. & O'Brien, B. A., & Fritzsche, T. (2020). Child, family, and preschool factors of bilingual preschoolers' ethnic vocabulary development in heritage languages. *Journal of Child Language*, 47(4), 817-843.

Sylva, K., Melhuish, E. K. Sammons, P., Siraj-Blatchford, I., & Taggart, B. (1999). *Technical paper 1 - an introduction to the EPPE project*. London: Institute of Education, University of London.

Synodi, E. (2010). Play in the kindergarten: The case of Norway, Sweden, New Zealand and Japan. *International Journal of Early Years Education*, 18(3), 185-200.

Tay L. Y., Aiyoob, T. B., Chua T. B. K., Ramachandran, K., & Chia, M. Y. H. (2021). Pre-schoolers' use of technology and digital media in Singapore: entertainment indulgence and/or learning engagement? *Educational Media International*, 1-20

Teo-Koh S.M. (2010). *Fun start, move smart: Fundamental movement skills for growing active learners*. Singapore: Singapore Sports Councils.

United Nations Children's Fund (UNICEF). (2018). *Learning through play: Strengthening learning through play in early childhood education programmes*. New York: UNICEF Education Section, Programme Division. <https://www.unicef.org/sites/default/files/2018-12/UNICEF-Lego-Foundation-Learning-through-Play.pdf>

Vandenbroeck, M. (2000). *Self-awareness, cultural identity and connectedness: Three terms to (re)define in anti-bias work*. 10th European Conference on Quality in Early Childhood Education (EECERA) Conference. London, England.

Vygotsky, L. S. (1962). *Thought and language*. Cambridge, MA: MIT Press.

Vygotsky, L. S. (1966). Play and its role in the mental development of the child. *International Research in Early Childhood Education*, 7(2), 3-25.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. (M. Cole, V. Jolm-Steiner, S. Scribner, & E. Souberman. (Eds.) Cambridge, MA: Harvard University Press.

Wall, S., Litjens, I., & Taguma, M. (2015). *Early childhood education and care pedagogy review*. England. Paris: OECD.

Whitehurst, G.J. (2016). *Hard thinking on soft skills*. <http://www.brookings.edu/research/reports/2016/03/24-hard-thinking-soft-skills-whitehurst>

Williams, M.K. (2017). John Dewey in the 21st century. *Journal of Inquiry & Action in Education*, 9(1), 91-102.

Winsler, A., Ducenne, L., & Koury, A. (2011). Singing one's way to self-regulation: The role of early music and movement curricula and private speech. *Early Education & Development*, 22(2), 274-304.

World Health Organisation (2011). Global recommendations on physical activity for health. World Health Organisation. [www.who.int/dietphysicalactivity/publications/recommendations5\\_17years/en/](http://www.who.int/dietphysicalactivity/publications/recommendations5_17years/en/)

World Health Organisation (2019). Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age. World Health Organisation. [www.apps.who.int/iris/handle/10665/311664](http://www.apps.who.int/iris/handle/10665/311664)

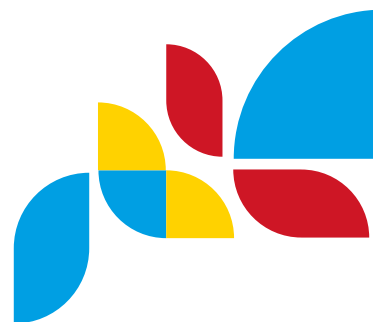
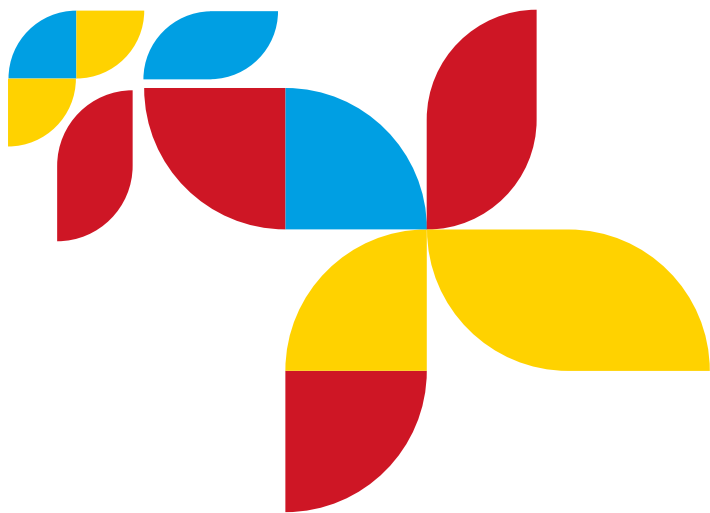
York-Barr, J., Sommers, W. A., Ghore, G. S., & Montie, J. K. (2006). *Reflective practice to improve schools: An action guide for educators (2nd Ed.)*. Thousand Oaks, CA: Corwin Press.

Zachopoulou, E., Tsapakidou, A., & Derri, V. (2004). The effects of a developmentally appropriate music and movement program on motor performance. *Early Childhood Research Quarterly*, 19(4), 631-642.

Zelazo, P. D., Blair, C. B., & Willoughby, M. T. (2016). *Executive function: Implications for education*. National Center for Education Research (NCER).

Zosh, J. M., Hopkins, E. J., Jensen, H., Liu, C., Neale, D., Hirsh-Pasek, K., Solis, S. L., & Whitebread, D. (2017). *Learning through play: A review of the evidence (whitepaper)*. The LEGO Foundation.





Ministry of Education  
SINGAPORE

Pre-school Education Branch

ISSN 978-981-18-5622-8



9 789811 856228 >