

Volume

1



GUIDE

Nurturing Early Learners
A Curriculum for Kindergartens in Singapore

EDUCATORS' GUIDE: OVERVIEW

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Republic of Singapore

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Kindergartens

Ar-Raudhah Mosque Kindergarten
Bethesda (Katong) Kindergarten
Jurong Calvary Kindergarten
PCF Bishan East (Block 144)
PCF Cheng San-Seletar (Block 435)
PCF Hong Kah North (Block 315-319)
PCF Kaki Bukit (Block 519-545)
PCF Pasir Ris West (Block 517-511)
PCF Taman Jurong (Block 352-355)
PCF Tampines West (Block 140-938)
St James' Church Kindergarten (Harding)
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Child Care Centres

Agape Little Uni
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Ichiban (Yunnan) Childcare Centre
Modern Montessori International Group (Sengkang)
MY World @ Child Care
NTUC First Campus Co-operative Limited
Smart Kids Educare LLP
Star Learners Childcare Centre
Sunflower Child Care Group

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PCF Pioneer (Block 654B)
PCF Tampines East (Block 261)
PCF Tampines West (Block 887)
Seventh-day Adventist Kindergarten

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Introduction

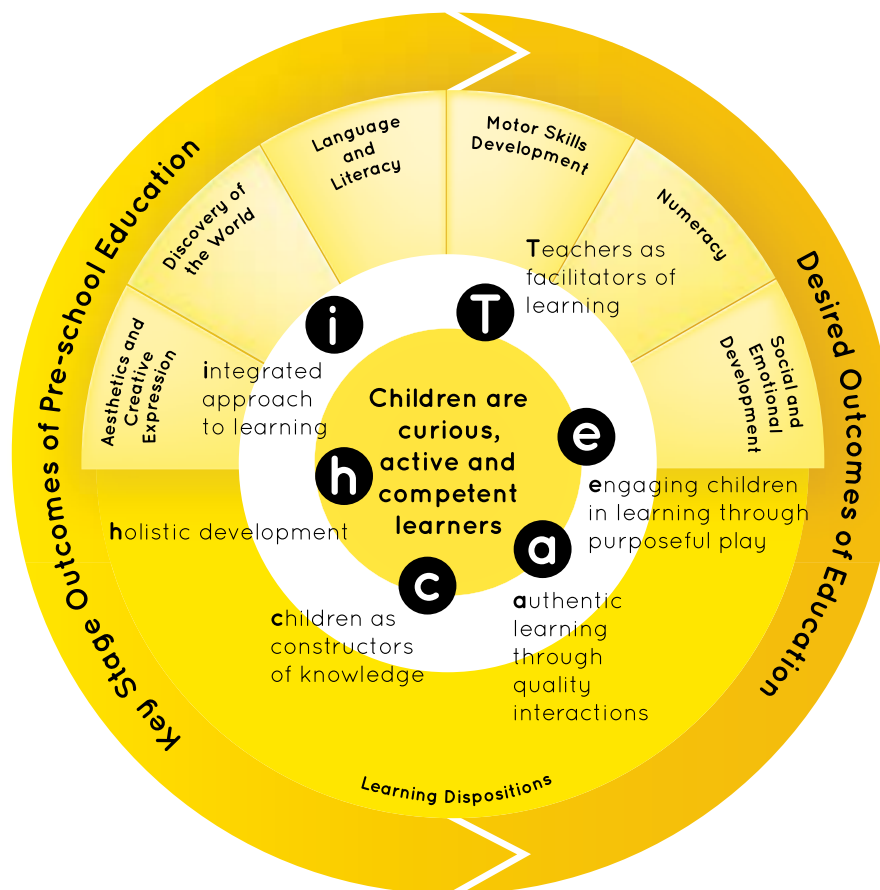
“This refreshed kindergarten curriculum framework highlights teaching and learning principles that are relevant for developing competencies of young children for the 21st century. ... We want to equip our children with strong foundations for lifelong learning. Our goal is clear – to help our children build a good, age-appropriate foundation, stimulate their curiosity and develop their sense of confidence.”

Message by Mr Heng Swee Keat, Minister for Education
(Nurturing Early Learners: A Curriculum Framework for Kindergartens in Singapore, 2012, p.4)

Background to the Educators' Guide

Nurturing Early Learners: A Curriculum Framework for Kindergartens in Singapore (NEL Framework) was published by the Ministry of Education (MOE) in 2012 to guide pre-school teachers in designing and implementing a quality kindergarten curriculum for children aged four to six. The NEL Framework spelt out six principles, encapsulated in the acronym "iTeach", as the basis for best practices in the Singapore context.

Figure 1: Overview of the NEL Framework



The NEL Framework aims to build the foundation for children to achieve the Desired Outcomes of Education and Key Stage Outcomes by helping them acquire knowledge, skills and dispositions through six learning areas (*Aesthetics and Creative Expression, Discovery of the World, Language and Literacy, Motor Skills Development, Numeracy and Social and Emotional Development*) as well as six learning dispositions (*Perseverance, Reflectiveness, Appreciation, Inventiveness, Sense of wonder and curiosity and Engagement*).

The core of the NEL Framework focuses on the child and highlights the belief that children are curious, active and competent learners. The iTeach principles revolve around and support this belief. They are also fundamental in guiding teachers to plan meaningful and appropriate learning experiences for children. The iTeach principles begin with an integrated approach to learning which is facilitated by the teacher using purposeful play and quality interactions to enable children to construct knowledge and move towards holistic development. The principles seek to encourage greater participation of children in the process of constructing knowledge and acquiring skills in the six learning areas.

Purpose of the Educators' Guide

Teachers play a key role in implementing a quality curriculum for children. They play a critical role in stimulating and deepening children's learning based on their understanding of how children develop and learn.

The NEL Educators' Guide seeks to help teachers translate the NEL Framework into quality learning experiences for children. It consists of seven volumes. The first volume serves as an overview which explains how the iTeach principles can be enacted by teachers to do the following:

- Plan to nurture children's holistic development using an integrated approach
- Facilitate the learning process to extend children's thinking and learning
- Observe and assess children's learning and development
- Reflect on and enhance professional practice
- Collaborate with families and the community to enhance children's learning

(Refer to Annex A for a summary of the principles in action.)

At the end of each chapter, teachers are encouraged to reflect on the ideas and principles introduced to gain a better understanding on how they can apply them to enhance their teaching practices.



The teacher stimulates children's learning of knowledge, skills and dispositions by providing opportunities for active involvement, first-hand experiences and meaningful interactions.

The other six volumes in the NEL Educators' Guide provide ideas for teachers to translate the NEL Framework into quality learning experiences with a specific focus on each learning area. Each volume is organised into the following segments:

- Development of children in the early years
- Learning goals and examples of learning activities
- Strategies for teachers to consider when planning learning experiences for children
- Organisation of the learning environment to nurture children's development
- Observation and assessment of children's learning and development

The NEL Educators' Guide seeks to provide examples and suggestions. Teachers may adapt and modify these examples and suggestions to meet the interests, needs and abilities of their children.



Through a game of "Scissors, Paper, Stone", children learn to take turns and play cooperatively in a group.



Reflecting on My Practice



What?

- | | | |
|--|--|---|
| <p>1. Integrated approach to learning</p> <p><i>Children can make meaningful connections in their learning through an integrated approach.</i></p> | <p>3. engaging children in learning through purposeful play</p> <p><i>Children learn when they are engaged in play that is enjoyable and thoughtfully planned.</i></p> | <p>5. children as constructors of knowledge</p> <p><i>Children as constructors of knowledge build on their prior experiences and gain new understanding of themselves and the world.</i></p> |
| <p>2. Teachers as facilitators of learning</p> <p><i>Teachers play an integral role as facilitators to extend children's thinking and learning.</i></p> | <p>4. authentic learning through quality interactions</p> <p><i>Children construct knowledge that is relevant to the real world through quality interactions and apply it to their daily lives.</i></p> | <p>6. holistic development</p> <p><i>Holistic development of children recognises that the areas of development and learning are inter-connected.</i></p> |

So What?

- | | | |
|--|--|--|
| <p>1. <i>How do the iTeach principles influence my belief about children?</i></p> <ul style="list-style-type: none">• Image of children
• How children learn
 | <p>2. <i>How do the iTeach principles influence my role as a teacher in the following areas?</i></p> <ul style="list-style-type: none">• Planning of learning experiences for children
• Using classroom management strategies
• Developing professionally
 | <p>3. <i>How do the iTeach principles influence my view of the role of parents/families?</i></p> <ul style="list-style-type: none">• Information parents/families can provide
• Partnerships with parents/families to promote children's learning?
 |
|--|--|--|

What Now?

- | | |
|--|---|
| <p>1. <i>How can I improve my teaching practice?</i></p>  | <p>2. <i>How can I collaborate with parents/families to improve practice?</i></p>  |
|--|---|





Chapter

2

Understanding Children

“The understanding of who children are, what they are capable of and how they learn shapes the classroom practices of teachers.”

Nurturing Early Learners: A Curriculum Framework for Kindergartens in Singapore, 2012, p.26

Theoretical Underpinnings

The theoretical underpinnings of the NEL Framework and NEL Educators' Guide are drawn mainly from the works of Jean Piaget (1896-1980), Lev Vygotsky (1896-1934) and John Dewey (1859-1952).

Piaget's cognitive development theory viewed children as active, self-motivated and able to learn. Vygotsky, in turn, built on this notion and highlighted that social interaction plays a fundamental role in children's learning and development. He advocated the view of a social child who is intelligent, strong, active and competent. He proposed that learning and development take place when children interact with their peers, teachers and other adults. In this process, teachers play a key role in shaping these social interactions to extend learning. Based on observations and understanding of what children know and can do, teachers create learning environments where there are ample opportunities for discussion, sustained conversations and collaboration. Dewey emphasised the need for active learning through authentic experiences. He believed that learning occurs when children are involved in first-hand experiences and active participation in the process of inquiry.

In view of these theoretical underpinnings, the NEL Framework and NEL Educators' Guide reiterate the importance of the holistic development of children and support the belief that children are curious, active and competent learners.



Children's learning can be enhanced through first-hand experiences and active participation and when they are challenged to observe and ask questions.

Our Belief about Children

When designing learning experiences to facilitate and scaffold the holistic development of children, our primary concern is what goes on in the minds and hearts of children – how they develop, how they learn, what their interests are, how they relate to their family, friends and school, how they cope in the process of learning and what challenges they encounter along the way.

The curriculum planning process begins with the belief that children are curious, active and competent learners. This belief underscores the types of learning experiences we design and the resources we select for the children.

The understanding of who children are and what they are capable of will influence the following:

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

How Children Develop and Learn

Understanding how children develop and learn will help teachers plan and facilitate more meaningful learning experiences for children. The NEL Framework recognises that:

- Children develop holistically and learn as a whole.
- Children learn best when they are actively involved in the construction of knowledge.
- Every child can learn and each child learns differently.
- Children develop knowledge, skills and dispositions by building on those already acquired.
- Children's development is influenced by the different social and cultural contexts they live in.
- Children develop and learn best when they feel safe and valued.

Children develop holistically and learn as a whole

Children learn across different learning areas which are connected and inter-related. Children view whatever they learn as a meaningful whole rather than separated into subjects or parts.

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

Children learn by personally experiencing and doing things for themselves. Research shows that children remember things better when they are actively involved in learning experiences that appeal to their five senses.

Every child can learn and each child learns differently

Every child is a unique individual with different strengths and weaknesses. Each child learns in different ways and at different pace. Therefore, it is important for teachers to bear in mind that children develop at varying rates and some develop more rapidly in one area than in another. Teachers can provide opportunities for children to learn by using a variety of strategies and contexts.

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. To foster optimal learning, teachers need to provide learning experiences at children's zone of proximal development which is just beyond what they can do on their own but within what they can do with the necessary assistance from either teachers or more capable peers.

Children's development is influenced by the different social and cultural contexts 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, community and society. Such cultural differences can lead to variations in children's habits, interactions with others and the way they respond to stimuli in their environment. These learning experiences affect and shape their development.

Children develop and learn best when they feel safe and valued

Children feel secure and valued when they receive attention and affirmation. This support will enable them to act spontaneously and confidently. Thus, it is important to organise a safe environment where children:

- Are supported and appreciated throughout the learning experience
- Experience success and feel motivated during the learning process



Children draw on their personal experiences and talk about why wheels of vehicles are circular in shape.

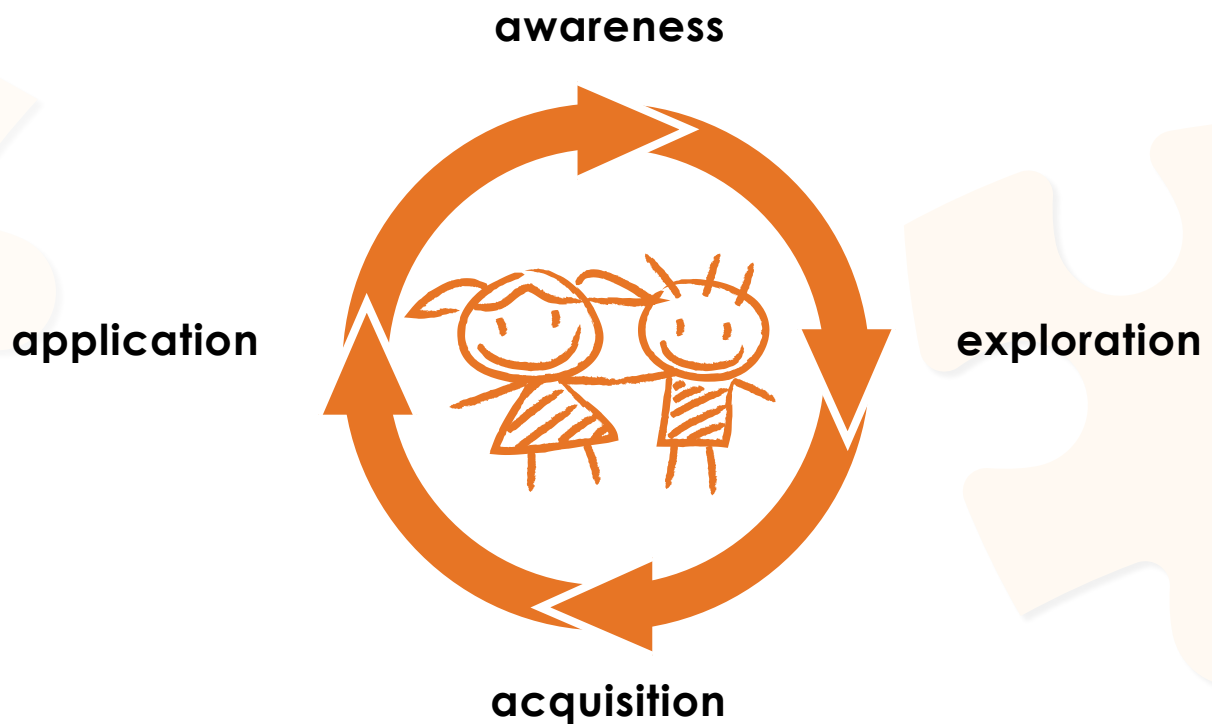
The Learning Cycle

Learning is a complex process that results from the interaction of children's thinking and experiences. Children learn best when they have opportunities to:

- Experience and be aware of an event, a situation or a problem
- Explore and discover answers for themselves
- Engage in carrying out tasks that are interesting and meaningful to them
- Apply new skills that they have acquired and new concepts that they have learnt

The learning cycle reflects the processes which children go through in constructing knowledge and acquiring concepts and skills. It guides teachers in curriculum planning and reminds them to provide opportunities for active learning when children encounter new situations or new concepts that may be too abstract for them.

Figure 2: The learning cycle



(Adapted from: Kostelnik, Soderman & Whiren, 2007)

The learning cycle involves children moving from initial awareness to gaining new knowledge and skills that they can apply in different situations on their own. Based on this learning cycle, teachers design quality learning experiences to provide children with opportunities to:





- Explore concepts and skills
- Acquire a deeper understanding of the concepts/skills
- Apply these concepts and skills in authentic contexts
- Reflect on their learning



Children examine snails and observe their physical features, their movements and the patterns on their shells. As they make drawings of them, they talk about the different characteristics of snails.

Reflecting on My Practice

How can teachers facilitate learning in each phase of the learning cycle?

Learning Phase	What children do	What teachers do
Awareness	<ul style="list-style-type: none"> • Observe and encounter a variety of objects, people, places and events • Recall and talk about experiences • Show interest to want to know or find out more 	<ul style="list-style-type: none"> • Create interest and generate curiosity • Show interest in finding out more about something • Provide opportunities for children to have direct contact with real objects, people, places and events 
Exploration	<ul style="list-style-type: none"> • Ask questions • Touch, smell, hear and taste • Observe in greater detail • Form hypothesis • Test predictions • Collect more data • Record information • Make comparisons • Make new discoveries 	<ul style="list-style-type: none"> • Provide resources and organise learning spaces to encourage exploration and investigation • Ask open-ended questions 
Acquisition	<ul style="list-style-type: none"> • Construct personal meaning • Make links and connections between new and prior learning • Begin to gain mastery • Propose explanations • Develop new understandings 	<ul style="list-style-type: none"> • Use different teaching strategies to help children refine their skills and understanding of concepts • Ask questions to help children make new connections • Provide time, space and materials for children to revise concepts and try out skills to gain mastery 
Application	<ul style="list-style-type: none"> • Apply/adapt new concepts and skills in new and real-life situations • Propose alternatives • Explore new situations • Extend understanding • Gain new awareness • Generate possibilities 	<ul style="list-style-type: none"> • Provide opportunities for children to transfer their learning to a different context • Encourage and guide children in self-reflection and self-assessment 



Chapter 3



Teachers Plan to Nurture Holistic Development

“Teachers need to plan and provide opportunities for children to acquire the necessary knowledge, skills and dispositions using an integrated approach to facilitate holistic development.”

Nurturing Early Learners: A Curriculum Framework for Kindergartens in Singapore, 2012, p.44

Planning Appropriate Learning Experiences for Children

Planning appropriate learning experiences for children involves preparing a course of action to achieve specific learning goals. In planning, teachers need to think about the desired learning goals to be achieved, how to go about achieving them and how they would know if children have learnt. Some questions that teachers should consider are:

- What are children expected to learn?
- How are children going to achieve the learning goals?
- What classroom environment and strategies will support the achievement of the goals?
- What resources (e.g. people, places, audio-visual and Information and Communication Technology resources, printed materials, music, art, etc.) will be needed to facilitate the learning process?
- How do children and teachers know if they have learnt?

The NEL Framework recommends a possible planning process to aid teachers in using an integrated approach that nurtures holistic development. This section provides examples that illustrate the planning process which involves:

1. Determining learning goals

The teacher determines what the children are expected to learn for the year, term and week based on the learning goals spelt out in the NEL Framework (page 21 – 22).

2. Setting the context

The teacher sets the context for learning. The context could be a pre-determined theme or a topic based on children's prevailing interests as observed by the teacher. It could also be based on a specific story, rhyme or song.

In setting the context, the teacher considers the following:

- Learning objectives that are appropriate for the group of children
- Children's interests and abilities
- Children's prior knowledge and experience

3. Brainstorming for ideas

The teacher brainstorms with the children and/or other teachers to generate ideas that are related to the context.

4. Generating possible activities

Based on the ideas gathered, the teacher:

- Determines the knowledge, skills and dispositions that will help children meet the identified goals
- Selects a few ideas to generate possible learning activities which will engage children in active learning

5. Selecting activities

When selecting activities for implementation, the teacher needs to consider if the activities:

- Take into account children's prior knowledge, interests and abilities
- Make provision for holistic development of children
- Are varied and serve to introduce, reinforce or revisit identified knowledge, skills and dispositions
- Employ a variety of strategies that allow:
 - children to talk about their experiences, express their thoughts and opinions, and explain how they solve problems that occur during play
 - children to work in pairs/groups and interact with objects and the environment
 - children to ask questions and find out their own answers
- Provide opportunities for children to make connections with their previous learning to understand new knowledge and skills

6. Sequencing activities and developing activity plans

After selecting the activities, the teacher decides on the duration and order of activities with the following considerations:

- Complexity of the activity
- Progression for developing knowledge, skills and dispositions
- Availability of resources

The teacher then develops activity plans which include learning objectives, materials needed, activity development, extension activities and ways to gather information about children's development and learning.

7. Tracking Learning Goals

To ensure the holistic development of children, the teacher should keep a record of the knowledge, skills and dispositions that have been introduced, reinforced and revisited throughout the year. Termly records could also help monitor how children have progressed in their achievement of the learning goals.

Example: Planning a Curriculum Unit for Kindergarten 1

1. Determining Learning Goals

In this example, the teacher had decided to focus on the following learning goals in the upcoming year:

Learning Area	Learning Goals
Aesthetics and Creative Expression (A&C)	<ol style="list-style-type: none"> 1. Express ideas and feelings through art and music and movement 2. Create art and music and movement using experimentation and imagination
Discovery of the World (DOW)	<ol style="list-style-type: none"> 1. Show an interest in the world they live in 2. Find out why things happen and how things work through simple investigations
Language and Literacy (L&L)	<ol style="list-style-type: none"> 1. Listening for information and enjoyment 2. Speak to convey meaning and communicate with others 3. Use drawing, mark-making, symbols and writing with invented and conventional spelling to communicate ideas and information
Motor Skills Development (MSD)	<ol style="list-style-type: none"> 1. Demonstrate control and coordination in fine motor tasks 2. Develop healthy habits and safety awareness at home, in school and at public places
Numeracy (NUM)	<ol style="list-style-type: none"> 1. Recognise and use simple relationships and patterns 2. Recognise and use basic shapes and simple spatial concepts in daily experiences
Social and Emotional Development (SED)	<ol style="list-style-type: none"> 1. Develop awareness of personal identity 2. Manage their own emotions and behaviours 3. Show respect for diversity

2. Setting the Context

Themes identified for the year:

- Who am I?
- Who are the people and places around me?
- Who do I share the world with?
- How do things work?

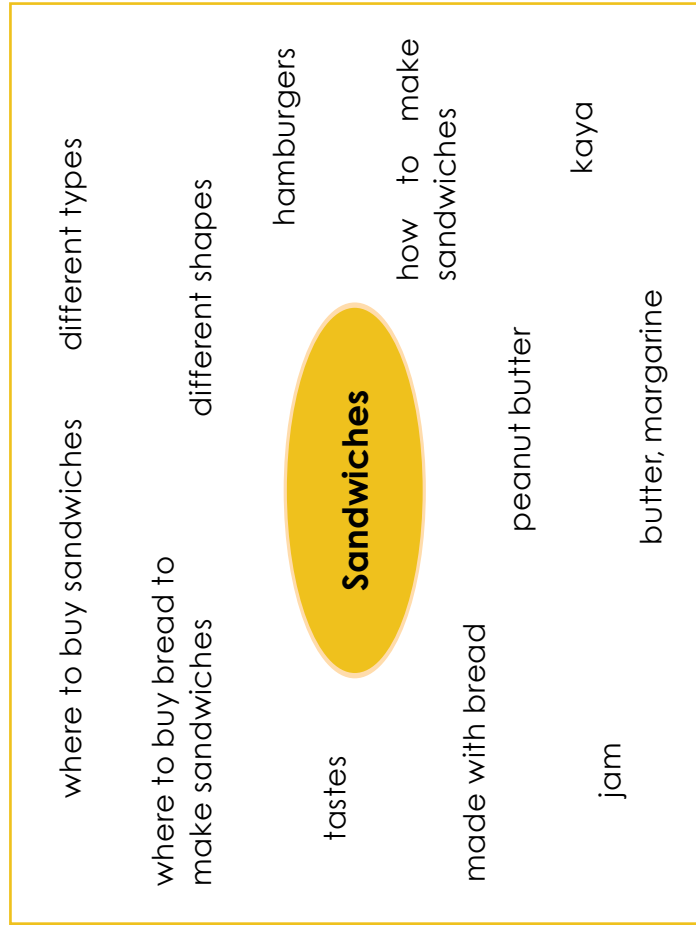
Theme identified for the term: Who Am I?

Context identified: The Food I Eat - Sandwiches

Considerations:	Examples:
Learning objectives that are appropriate for the children	<ul style="list-style-type: none"> • Identify a variety of sandwich spreads and talk about what they like/dislike • Identify and compare tastes and colours of different sandwich spreads • Use different types of shapes to express ideas in their artworks • Identify shapes in the food they eat • Sing a variety of rhymes and songs • Manipulate objects with dexterity • Use eye-hand coordination as they work with dough • Respond appropriately to who, what and where questions • Ask simple questions about why things happen • Talk about their observations and findings • Share their interests and ideas with teachers and peers • Work and play cooperatively in a group • Communicate thoughts and ideas effectively with others using words and gestures
Children's interests and abilities	<ul style="list-style-type: none"> • Sandwiches were identified as one category of food that children enjoyed after a series of discussions and learning experiences about the types of food that they ate everyday. • Children were served kaya sandwiches (cut into triangles) during snack time. The teacher observed that they started talking about how sandwiches could be of different shapes. Some ideas that children talked about in the midst of the discussion included: <ul style="list-style-type: none"> • "Can we make the sandwich into a square?" (A child bit around the edges of the sandwich to make a square.) • "I can make it into a circle" as child nibbled around the sandwich • "We can roll the sandwich", "The sandwich looks like a french fry."
Children's prior knowledge and experience	<p>Children have explored topics such as:</p> <ul style="list-style-type: none"> • Their favourite food (e.g. bread, sandwiches, hamburgers, noodle soup, roti prata, hot dog buns, chicken wings, chicken rice, satay) • Places where they can buy their favourite food

3. Brainstorming for Ideas

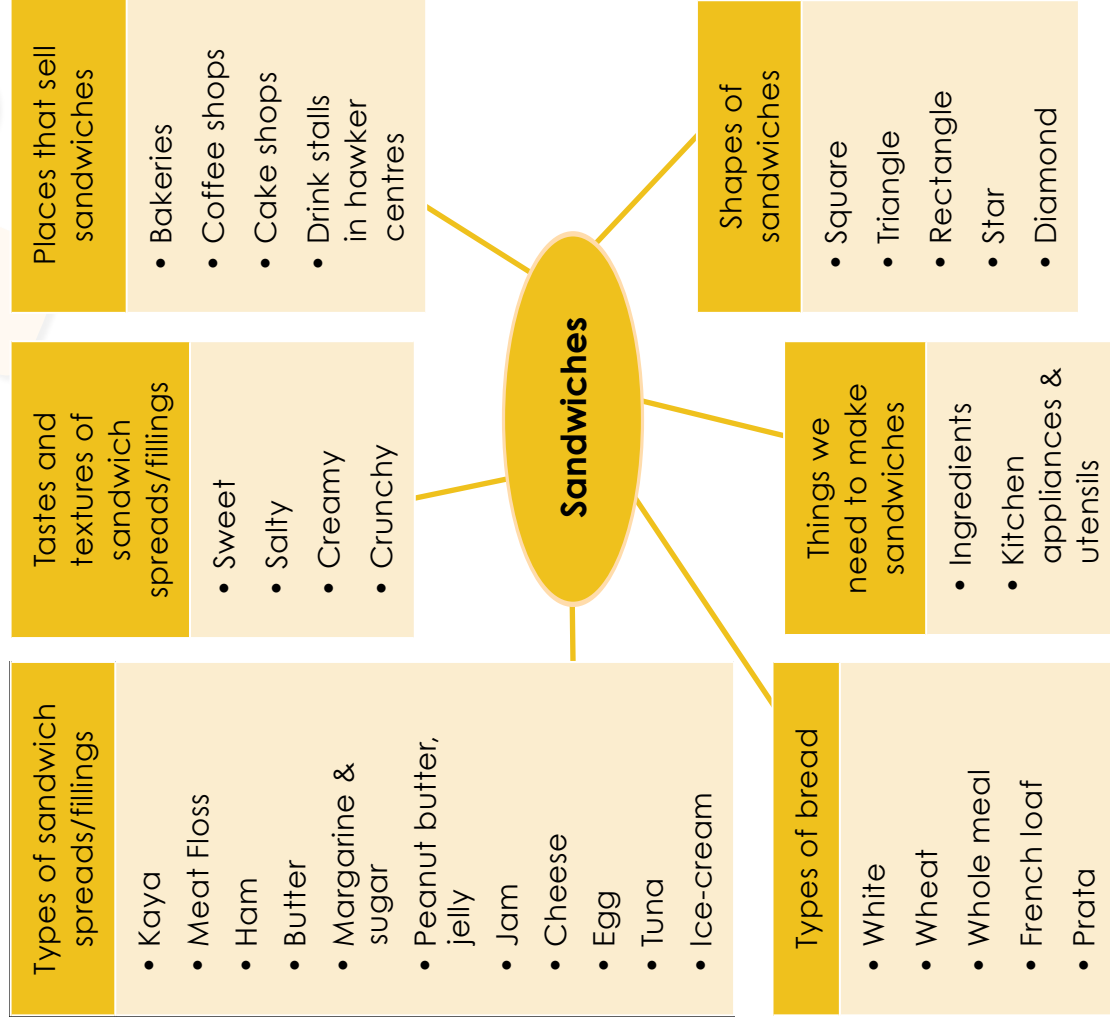
Examples of ideas generated using a thematic web:



The teacher noted down questions that children asked when brainstorming on the topic:

1. Who likes to eat sandwiches?
2. Is hamburger a sandwich?
3. Can sandwiches be round?
4. What else can we put in sandwiches?

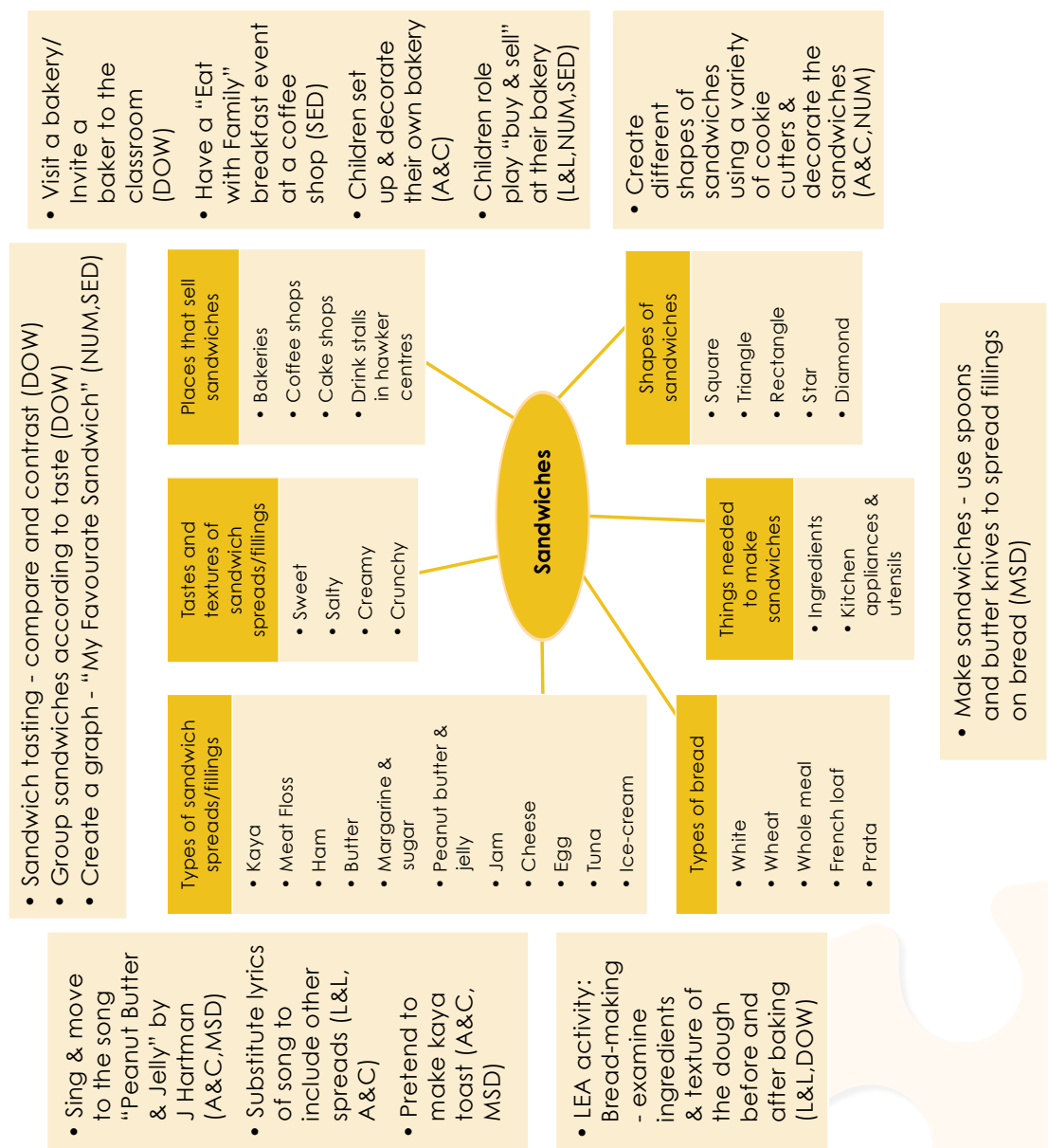
An example of how the teacher grouped ideas using a graphic organiser:



4. Generating Possible Activities

Examples of learning activities that were designed based on knowledge, skills and dispositions identified for the topic “Sandwiches”:

Learning Areas	Key Knowledge, Skills and Dispositions
Aesthetics & Creative Expression (A&C)	<ul style="list-style-type: none"> Observe texture and shape (elements of art) in the environment Sing confidently, accompanied by actions/body percussion Create actions and new verses to songs
Discovery of the World (DOW)	<ul style="list-style-type: none"> Observe similarities and differences, and patterns and changes in the environment Talk about their observations and findings
Language & Literacy (L&L)	<ul style="list-style-type: none"> Understand and follow one- to two-step verbal instructions Talk about personal experiences with others Ask simple questions
Motor Skills Development (MSD)	<ul style="list-style-type: none"> Manipulate objects with dexterity Use eye-hand coordination to perform fine motor tasks
Numeracy (NUM)	<ul style="list-style-type: none"> Compare things by one attribute Recognise the four basic shapes
Social and Emotional Development (SED)	<ul style="list-style-type: none"> Identify own likes and dislikes Show respect to the people whom they interact with
Perseverance Reflectiveness Appreciation Inventiveness Sense of wonder & curiosity Engagement (PRAISE)	<p>P: Persevere in their investigations</p> <p>R: Reflect about their visit to the bakery</p> <p>A: Appreciate different ideas contributed by their friends</p> <p>I: Show inventiveness in creating new shapes for sandwiches</p> <p>S: Ask questions about sandwiches</p> <p>E: Engage in setting up the bakery in the class</p>



5. Selecting Activities

Examples of selected activities based on children's prior knowledge, interests and abilities:

- Sing & move to the song "Peanut Butter & Jelly" by J Hartman (A&C,MSD)
- Substitute lyrics of song to include other spreads (L&L, A&C)
- Pretend to make kaya toast (A&C, MSD)

- LEA activity: Bread-making - examine ingredients and texture of the dough before and after baking (L&L,DOW)

- Sandwich tasting - compare and contrast (DOW)
- Group sandwiches according to taste (DOW)
- Create a graph - "My Favourite Sandwich" (NUM,SED)

Would creating a graph with the children facilitate higher level of interaction among the children?
Which activity would help to reinforce children's ability to compare and classify?

Are children confident or ready to experience sandwich spreads that they might not like?

What is children's understanding about making kaya toast?
How can I help them link to other experiences with bread?

What would children learn at the bakery?
How do I facilitate to ensure children work as a group during the set up of the bakery?

What do children know about bread-making?
How is this activity different from making sandwiches?
Which of these activities would help children to make connections with what they already know?
What new knowledge, skills and concepts can be introduced or reinforced?

Are children ready to use the cookie cutters without any difficulties?

- Visit a bakery/ Invite a baker to the centre (DOW)
- Have a "Eat with Family" breakfast event at a coffee shop (SED)
- Children set up & decorate their own bakery (A&C)
- role play "buy & sell" at their bakery (NUM,SED,L&L)

- Create different shapes of sandwiches using a variety of cookie cutters & decorate the sandwiches (A&C,NUM)

- Make sandwiches - use spoons and butter knives to spread fillings on bread (MSD)

6 Sequencing Activities and Developing Activity Plans

The table below shows how activities could be sequenced based on the four phases of the learning cycle.

What Children Can Do	Learning Cycle	What Teachers Can Do
<ul style="list-style-type: none"> Create a graph entitled "My Favourite Sandwich" Sing & move to the song "Peanut Butter & Jelly" by J. Hartmann Substitute lyrics to include other sandwich spreads 	AWARENESS	<ul style="list-style-type: none"> Invite interest by talking about the sandwiches they ate during snack time (e.g. taste, how they were made) Ask if they have tasted other types of sandwiches, have them describe their experience and tell where they got the sandwiches from Introduce the song "Peanut Butter and Jelly"; generate interest about different types of sandwiches sold in bakeries, coffee shops, etc. by having children substitute the lyrics in the song
<ul style="list-style-type: none"> Taste a variety of sandwiches Compare and group sandwiches according to taste Sandwich making - use spoons and butter knives to spread fillings on bread Talk about their experiences Visit a bakery to observe how bread and buns are made 	EXPLORATION	<ul style="list-style-type: none"> Build on children's curiosity; letting them taste different types of sandwiches and decide on what they like most Have them form a human graph based on the sandwich they like most Provide stickers/counters/blocks for children to count and make a 2- or 3-D graph of their favourite sandwiches Introduce different types of bread, talk about the ingredients used to make them and how bread is made Provide resources and organise learning spaces to encourage observation and documentation of how bread is made and the changes in colour, shape and texture when the ingredients are subjected to heat during baking Ask questions to help children understand the concept of change Ask open-ended questions to help children explain what they are doing
<ul style="list-style-type: none"> Set up & decorate their own bakery in class; talk about what are sold and the people who work in a bakery Role play as bakers making toast or sandwiches 	ACQUISITION	<ul style="list-style-type: none"> Assist children in setting up the bakery and assigning of roles – ask questions to find out what is needed and how to go about getting or arranging them Ask questions to help children make new connections between what they observed during their visit to the bakery and the roles they play
<ul style="list-style-type: none"> Bread-making – examine ingredients and texture of the dough before and after baking; predict changes, observe changes; attempt to explain changes based on personal experiences 	APPLICATION	<ul style="list-style-type: none"> Encourage and guide children in self-reflection and testing their predictions Help children become aware of new observations/findings and make new discoveries – compare their observations between toasted and untoasted bread

Having sequenced the activities to be implemented across two weeks, the teacher began to develop detailed plans that described how each learning activity would be carried out with the children. These plans included a combination of ideas generated earlier.

Below is an example of an activity plan which could be carried out over an hour or two different days, depending on the pre-school centre's daily schedule.

Activity Plan for "Sandwich Tasting"

Learning Objectives:

Children will

1. Describe the taste of sandwiches based on their personal experiences (Teachers must be aware of allergies to food among the children and avoid ingredients that would cause these allergies.)
2. Talk about their preferences and form a human graph to determine the most/least popular type of sandwich
3. Group the sandwiches by their taste – sweet/not sweet

What to prepare:

1. Sandwiches prepared before class and cut into bite-sized pieces (check to ensure that children are not allergic to any of the sandwich spreads):
 - a. Kaya sandwiches
 - b. Butter and sugar sandwiches
 - c. Strawberry jam sandwiches
 - d. Chicken ham sandwiches
 - e. Fish otak (non-spicy) sandwiches
2. Photographs, pictures or containers/packaging of the sandwich spread/filling that you have used to make the above-mentioned sandwiches
3. Disposable plates and plastic fruit picks – place sandwiches on children's plates and have them use the plastic picks to pick up the bite-sized pieces during the tasting activity
4. Activity Sheet: "Sweet or Not Sweet"

Learning Areas	Knowledge, Skills and Dispositions
L&L	<ul style="list-style-type: none"> • Talk about personal experiences with others
DOW	<ul style="list-style-type: none"> • Observe and be aware of the world they live in (similarities and differences)
SED	<ul style="list-style-type: none"> • Show respect for diversity

Learning Dispositions:

Perseverance	Reflectiveness	Appreciation	Inventiveness	Sense of wonder and curiosity	Engagement
		√			

Activities	Notes for Teachers												
<ol style="list-style-type: none"> 1. Help children recall their experiences when eating sandwiches at snack time, meals at home or other eating places, and the types of sandwiches that they have eaten before. 2. Talk about the taste of the sandwich and the types of spread used (e.g. sweet, salty, not sweet) 3. Have the children taste 2 of the sandwiches that have been prepared – one with a sweet spread and the other with a spread that is not sweet. Get them to: <ol style="list-style-type: none"> a. Describe the taste of the sandwiches b. Guess what sandwich spread/filling you have used c. Share what they think makes the spread sweet or not sweet 	<ul style="list-style-type: none"> • Teacher draws on children's interest and personal experiences • Children actively participate by tasting, guessing and describing 												
<p>Sandwich tasting:</p> <ol style="list-style-type: none"> 4. Give each child a plate and a mixture of small slices of the different types of sandwiches that have been prepared. 5. Encourage children to taste the sandwiches and guess the spreads that have been used. Use a graphic organiser to collate their guesses. 6. Give the children another 6 sandwiches to taste. Have them record the taste by putting a tick in the appropriate column on the "Sweet or Not Sweet" Activity Sheet. 7. Have them count each column in the activity sheet to find out how many types of the sandwiches are sweet, and how many types are not sweet. 	<ul style="list-style-type: none"> • Active involvement, using concrete and hands-on experiences • Making connections – favourite sandwich, graphing <div data-bbox="1034 188 1430 645"> <p>Activity Sheet</p> <p>Name: _____ Date: _____</p> <table border="1"> <thead> <tr> <th></th><th>Sweet or Not Sweet</th></tr> </thead> <tbody> <tr> <td>4</td><td></td></tr> <tr> <td>3</td><td></td></tr> <tr> <td>2</td><td></td></tr> <tr> <td>1</td><td></td></tr> <tr> <td></td><td>Sweet Not Sweet</td></tr> </tbody> </table> </div>		Sweet or Not Sweet	4		3		2		1			Sweet Not Sweet
	Sweet or Not Sweet												
4													
3													
2													
1													
	Sweet Not Sweet												

Activities	Notes for Teachers
<p>My Favourite Sandwich:</p> <p>8. Ask children: “Out of the 6 types of sandwiches you have tasted, which was your favourite?” Have them share with the class the reasons for their preference.</p> <p>9. Have them form a human graph based on their choices of favourite sandwiches. Have children talk about which sandwich is the most and least popular.</p>	

Teacher’s Evaluation

Observe and record the following:

1. Experiences shared by the children
2. The thinking process of the children when completing the different activities



7. Track Learning Goals

An example of how learning goals, knowledge, skills and dispositions for the learning area, Aesthetics and Creative Expression could be tracked is shown in the table below:

Aesthetics and Creative Expression				
Learning Goals and Knowledge, Skills and Dispositions	Introduced	Reinforced	Revisited	
1. Enjoy art and music and movement activities				
2. Express ideas and feelings through art and music and movement				
• Recognise elements of art - shapes	10/1/13	15/1/13, 24/1/13	1/3/13	
• Recognise elements of music – rhythm	7/2/13	21/2/13	4/7/13	
• Recognise sounds from a variety of sources	4/4/13	25/4/13	1/8/13	
3. Create art and music and movement using experimentation and imagination				
• Create artworks using a variety of tools and different parts of the body	20/1/13	25/1/13	1/3/13	
• Improvise simple rhythms for percussion instruments to accompany songs	17/2/13			
• Create actions and new verses to songs	4/5/13	21/3/13		
4. Share ideas and feelings about art and music and movement				
• Observe art as it occurs in nature and talk about it	12/7/13	12/9/13		
• Listen to different types of music	10/10/13			

Organising the Learning Environment

An effective learning environment is purposefully designed to provide engaging, stimulating and challenging learning experiences to promote children's holistic development. The three key aspects that teachers need to consider include:

- The physical environment
- The interactional environment
- The temporal environment

The Physical Environment

The physical environment can be set up to provide opportunities for children to engage in purposeful play and learn at their own pace.



A space where children can explore with concrete materials and manipulatives to solve problems and discover answers to questions on their own.





A space where children work cooperatively and make decisions independently.



A space for children to engage in pretend play and try out different roles to make sense of their daily experiences.



A space where children can experiment with different media and tools to express their thoughts and ideas.

The physical environment can also be organised to allow children to explore and develop their creativity and imagination.



A space for children to perform and create.



A space for children to imagine and express themselves.

A space where children cooperate and work together.



A space where children play to find out how things work.

The Interactional Environment

The interactional environment can be designed to allow children to interact with objects, peers and adults and engage in shared and sustained conversations.



Children are given sufficient time to interact with objects and talk about their experiences with their peers.

Children interact with each other before expressing themselves through movement.



Children develop language and social skills as they take turns to tell a story.



Children ask questions and express their thoughts and feelings with their peers and teachers.

The Temporal Environment

The temporal environment refers to the time and space for activities such as routines and transitions between activities.



Children learn self-help skills in their daily experiences.



Children learn to share and say "thank you".



Children learn to help their teachers and begin to understand that things need to be put away after use.



Planning for Routines and Transitions

What are Routines?

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/cannot do during each part of the day. Routines help children to feel more comfortable within the pre-school centre. In the classroom, routines are developed into a daily schedule.

What are Transitions?

Transitions happen in between the scheduled routines of the day. They indicate a change, either of activities, location or teachers, which should be seamless.

Why are Routines and Transitions Important?

Routines and transitions are good opportunities for teachers to observe and enhance children's learning in an authentic way. Many teachable moments may arise during routines and transitions and provide opportunities for teachers to guide children in their social and emotional development.

Examples

- Arrival and dismissal routines are opportunities for children to show care and concern for others by exchanging greetings with peers and adults.
- Cleaning up after an activity will teach children to take responsibility for their learning environment.
- Putting on their own shoes, for example after music and movement activities, will help children to develop positive feelings about their abilities.
- Snack time is a good opportunity to instill good dining habits.
- Toileting routines such as flushing after use and hand-washing provide opportunities for children to perform basic life skills.

Some questions that teachers need to bear in mind when managing routines and transitions:

Have I:

- Given clear instructions to children on what to do?
- Spoken to the children in a calm and friendly way?
- Helped children to regulate their behaviours using a firm but friendly tone?
- Received them warmly on arrival and sent them home in a friendly way during dismissal?
- Paid attention to individual children by listening to them and complimenting them?
- Involved children to help with maintaining order?
- Made use of suitable opportunities to interact with children individually to help them build social and emotional competencies?

Through proper planning of routines and transitions, children can gain self confidence and develop social skills.

Planning for Field Trips

Field trips provide authentic learning experiences that increase children's understanding of the world around them. Carefully planned, field trips can also provide valuable lessons to inculcate respect, appreciation, cooperation, listening, courtesy, communication and a sense of wonder. Field trips also inspire activities in art, music, story-writing, drama, movement and show-and-tell time.



Children made collages based on their observations during a nature walk.



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 objective in mind and involves children's active involvement and participation before, during and after the trip. For a field trip to achieve its objectives, it needs to be carefully planned, like any other activity in the pre-school centre.

Planning Learning Activities for a Field Trip

When planning a field trip, teachers need to consider the following 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/topic related to the field trip to excite the children and establish their existing knowledge. They 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 make observations of the exhibits and displays, where appropriate. This will make their learning more concrete and meaningful. Teachers are strongly encouraged to take photographs for post-field trip activities.



A field trip to the Singapore Philatelic Museum for children to find out more about stamps and how they are used.

Post-field trip activities

It is important to plan follow-up activities after the field trip to encourage the children to reflect on what they have learnt.

Examples

- Ask the children to take turns to describe something they had seen, heard or learnt from the outing.
- Help the class create a display board, poster or scrapbook to document the things observed during the outing.
- Ask the class to make and send a "Thank you" card to the host or guide.

Follow-up activities like class projects or artwork that children can do in the classroom or with their families will reinforce the learning acquired during the field trip.



Children talk about and create collages of animals after a visit to Swan Lake at the Singapore Botanic Gardens.

Example: Planning a Visit to a Primary School

Learning Objectives:

Children will

- Learn about the routines and facilities in a primary school setting
- Develop positive attitudes about attending a primary school
- Experience buying things at the school canteen

Suggested Pre-field Trip Activities:

- Discuss about going to a primary school the following year with the K2 children. Talk about:
 - How they feel about going to a new school
 - Who they will meet at the new school
 - What they will see at the new school
 - What they will do at the new school
 - What they think they will like or dislike about the school
- Using photographs taken of different parts of a primary school, talk about some of the facilities that they will find in a primary school.
- Draw attention to the canteen and talk about how they can buy things at the school canteen. Have children set up a “school canteen” in the pre-school centre's Dramatic Play Centre and practise buying and selling using tokens.
- Inform children about the plan to visit a primary school and discuss what they will be doing during the visit (include the need to bring a certain amount of money to buy food at the canteen), what they would like to find out and the questions they would like to ask.

Suggested On-site Activities:

- Meet the principal or host teacher of the primary school.
- Tour the school's facilities such as the Primary 1 classrooms, library, music room and school field before visiting the canteen.
- Walk around the school canteen to learn about the different food stalls and the types of food that they can buy. With the assistance of parent volunteers and accompanying teachers, children will:
 - decide what they want to buy and interact with the stall holders to find out the cost of their purchase
 - use the money they brought to pay for the food and drinks they wish to buy
 - bring the food and drinks to the table

-
- Take photographs of the different facilities visited by the children and their experiences in the canteen.

Suggested Post-field Trip Activities:

- Recall and talk about their experience using the photographs taken during the visit.
- Have children draw their experience of visiting the primary school. Document the tour of the school and the learning that took place using photographs and children's artwork.
- Write a thank you note to the principal or host teacher of the primary school.

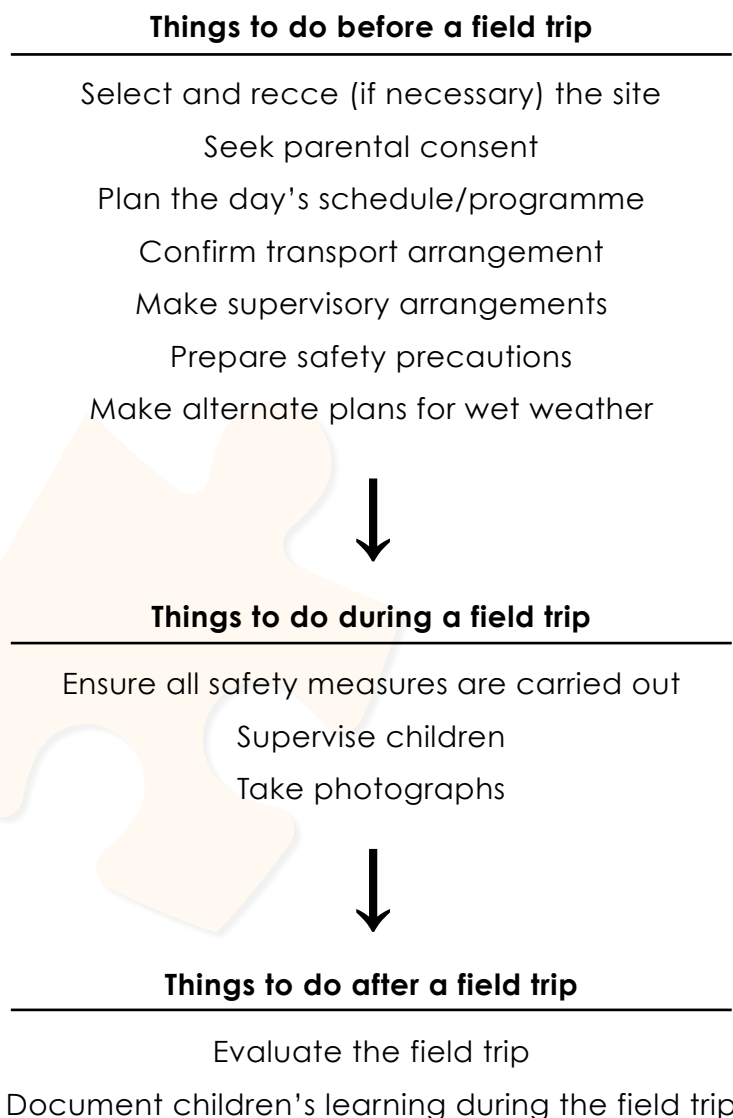
Involve Parents/Families

Parents/families can be involved by helping to supervise the children during the field trip. In addition, they can help to facilitate and extend the learning process at home. For example, they can bring their children to the library and read up on the relevant topic or watch documentaries together. This will further enrich the children's learning experiences and foster closer family ties.

Administrative Considerations When Planning a Field Trip

Besides planning the activities, other aspects of the field trip should also be carefully planned. Below is a flowchart that summarises the administrative responsibilities that teachers need to consider when planning a field trip. Figure 3 below highlights what teachers can do before, during and after a field trip.

Figure 3: Flowchart showing the administrative considerations when planning for a field trip



Things to do before the field trip

Select and recce the site

Identify the learning objectives of the field trip and select a suitable place to visit. Contact the site operators to obtain pre-trip information such as:

- Opening hours
- Admission charges
- Floor plan
- Facilities
- Education programmes available for pre-school children

In many places of interest, there are education officers who are able to conduct hands-on learning activities to provide children with a meaningful and enriching experience. Make reservations for specific educational programmes that you would like their experts to conduct for the children during the visit. For more information, contact the education departments of the places of interest or visit their websites.

If possible, visit the site to familiarise yourself with the learning opportunities and be alerted of potential risks and challenges that staff and children might face during the visit.

Seek parental consent

Once the date of the field trip is confirmed, send a note to the parents/guardians describing the field trip to get their consent for their child's/ward's participation.

The consent form could include the following:

- Venue
- Date and time of the trip
- Educational purpose of the trip
- Itinerary
- Cost
- Transport arrangements
- Supervisory arrangements
- Refreshments

Refer to Annex B for a template of a consent form.

Things to do before the field trip

Plan the day's schedule/ programme	<p>A programme for the day could include time, activities, places to visit and talking points. Ensure that ample time is given for the children to observe, ask questions and work on any tasks given during the field trip.</p> <p>Refer to Annex C for an example of a programme for a field trip.</p>
Confirm transport arrangements	<p>Confirm the date of the trip and make the necessary transport arrangement with the bus company that serves the pre-school centre. Ensure that the bus driver is familiar with the bus route and destination. Confirm pick-up and drop-off time and points. Obtain the contact number of the bus driver.</p>
Make supervisory arrangements	<p>Approach the principal, teachers or parents to help supervise the children during the field trip. A small adult-child ratio is desirable to ensure safety and maximise learning opportunities. The increase in adult-child interactions enhances children's confidence and reinforces their learning.</p> <p>Before the trip, brief all accompanying adults on the following:</p> <ul style="list-style-type: none"> • Objectives of the field trip so that they can maximise learning opportunities when interacting with the children • Itinerary/programme • Their roles and duties • Procedure for handling emergencies
Prepare safety precautions	<p>Brief all the children on individual and group safety during the field trip. It might be advisable to assign a group leader or have a buddy system to help children look after one another. Ensure that the first-aid box is well-equipped to treat minor accidents such as cuts, bruises, insect bites and stings.</p> <p>Prepare a list of parents' contact numbers, in case of an emergency, to take along during the trip.</p>
Make alternate plans for wet weather	<p>Advise the children to be prepared for wet weather by bringing extra clothing and an umbrella/raincoat. It might also be advisable to have alternative plans in case of bad weather.</p>

Things to do during the field trip

Ensure all safety measures are carried out	<p>Teachers need to do the following:</p> <ul style="list-style-type: none"> • Remind children of individual and group safety • Observe and ensure that the group leader or “buddy” and accompanying adults carry out their roles • Inform everyone where and who they should seek help from in case of an emergency
Supervise children	<p>All children should be supervised at all times, including visits to the toilets and at rest areas. Ensure children keep to the designated walkways and stay away from potential dangers.</p>
Take photographs	<p>Teachers should take photographs of the activities, people, artefacts and/or equipment at the site to:</p> <ul style="list-style-type: none"> • Help children recall their learning experiences • Help teachers to document children's learning • Facilitate post-field trip activities

Things to do after the field trip

Evaluate the field trip	<p>It is important to evaluate the outcomes of the field trip in terms of the achievement of the planned learning objectives, the educational programmes as well as the facilities at the site. It is also useful to reflect on the problems encountered so that a better field trip could be organised in the future. When evaluating a field trip, teachers could think about some questions:</p> <ul style="list-style-type: none"> • <i>Have the learning objectives been met?</i> • <i>Are the facilities and on-site educational programmes/activities relevant and appropriate?</i> • <i>What problems/challenges did teachers/children encounter?</i> • <i>Should the site be recommended for future field trips?</i>
Document children's learning during the field trip	<p>To help children continue talking about their experiences, teachers can display the following:</p> <ul style="list-style-type: none"> • Artefacts collected during the field trip • Children's documentation of their observations during or after the field trip • Photographs with brief descriptions of the learning process that took place before, during and after the trip • Photographs of children's constructions or drawings about what they have learnt during the field trip

Reflecting on My Practice

Identify a learning goal or a specific skill/disposition that you want children to learn and describe the contexts and learning experiences/ ideas that are relevant for each type of environment.

Learning Goal:



Key Knowledge, Skills & Dispositions:



	Environment	What the Teacher Can Do?
1	Physical environment	
2	Interactional environment	
3	Temporal environment	

Chapter

4



Teachers Facilitate the Learning Process

“As facilitators, teachers play a vital role in stimulating children’s thinking and extending their learning by providing opportunities for purposeful play and authentic learning through quality interactions.”

Strategies to Facilitate Learning

An effective pedagogical approach that teachers can use to nurture holistic development is to motivate and extend children's learning by building on their interest and curiosity. This can be facilitated by:

- Engaging children in learning through purposeful play
- Providing opportunities for authentic learning through quality interactions

When selecting strategies to facilitate learning, teachers need to be mindful of the process through which children construct knowledge and acquire concepts and skills (refer to the learning cycle mentioned on page 15). Facilitation of learning should take place at each phase of the learning cycle (*awareness, exploration, acquisition and application*) and strategies selected should enable children to move on to the next phase of learning.

Four of such strategies are:

- Using purposeful play
- Using authentic learning contexts
- Using cooperative learning strategies
- Using questions

Using Purposeful Play

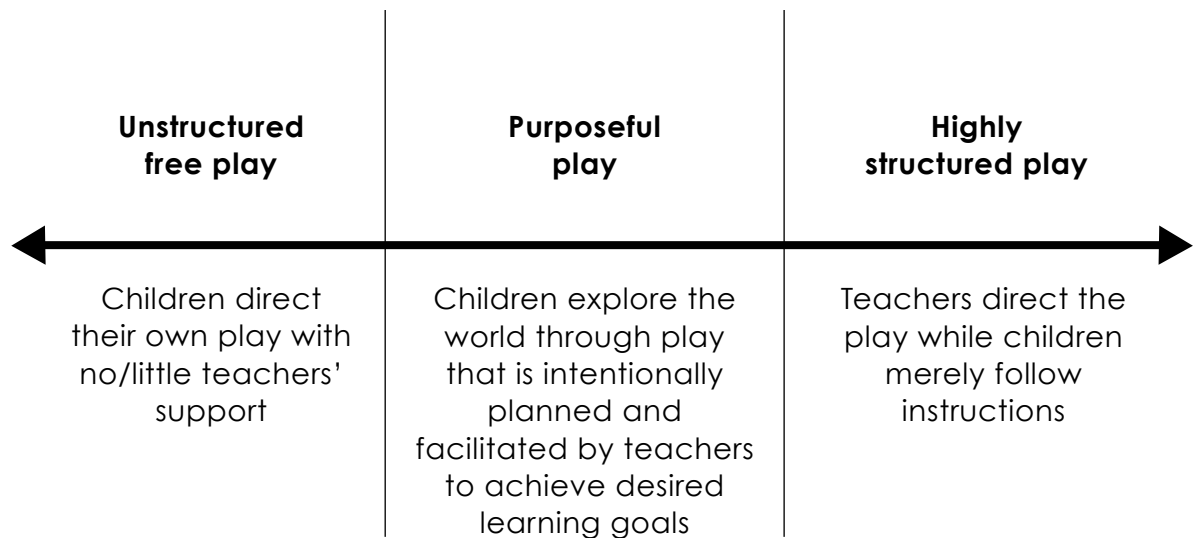
The concept of purposeful play seeks to ensure that teachers purposefully plan for learning and interact with children in their play with the intent of achieving desired learning goals. It is also about being sensitive to children's interests and always seeking to find out 'what they know', 'what they are paying attention to' and 'what might engage them to learn in fun and meaningful ways'. At the same time, teachers are consciously considering the goals and objectives they wish to work towards through the children's play.



Children learn about Numeracy concepts through games that require them to count with their fingers.

Purposeful play forms part of the continuum of play which ranges from child-directed play (unstructured with free choice by children and with no/little support from teachers) to teacher-directed play (highly structured with only teacher-led instructions and directions). The figure below illustrates the degree of teacher involvement in the continuum of play.

Figure 4: Teachers' involvement in relation to children's play



Successful learning through purposeful play is evident when the following four characteristics are observed:

- Children enjoy the learning experience.
- Children are actively involved in exploring, developing and applying knowledge and skills.
- Teachers have carefully thought through the learning objectives and considered children's interests and abilities.
- Teachers observe children at play to discover what they have learnt and then facilitate/shape their activities to reinforce or extend their learning towards intended objectives.

Teachers' roles in facilitating purposeful play include:

- Intentionally planning learning experiences that are fun, enjoyable and allow children to be actively involved in exploring, developing and applying knowledge and skills
- Organising the environment to support active learning
- Observing children at play to find out what they have learnt
- Guiding and extending children's learning to achieve the desired learning goals



As children participate in parachute play, they develop eye-hand and body co-ordination skills. The purpose of this learning experience is also to foster a good sense of camaraderie among the children.

Using Authentic Learning Contexts

Authentic learning contexts are important as they help children make sense of the new information that they have learnt and relate it to what they already know or have experienced. Learning experiences are authentic if they are situated in meaningful contexts and reflect how knowledge/skills can be applied in children's everyday lives. When children engage in authentic learning, they learn first-hand how to apply their knowledge and skills in actual settings and experience what they, or other people, might do or respond in real-life contexts.

Real-life problems and challenges can be presented to children through group games, small group investigations and in learning centres set up in the classrooms. Field trips also provide children with opportunities to learn in contexts that are authentic.

Examples of authentic learning experiences include having children:

- Reuse items in the classroom
- List ways to be good neighbours
- Investigate the relationships between people and other living things
- Find out why rules/safety measures are important, for example, why they need to put on the seatbelt when travelling in a vehicle and wear a helmet when cycling on a bicycle

It is the teachers' role to create authentic learning contexts and engage children in quality interactions in order to help them develop knowledge and skills that are transferable to real-life situations.



The child manipulates with real bolts and nuts.



Children explore how to open a tin can with a can opener.

Using Cooperative Learning Strategies

In cooperative learning, small groups of children learn together to maximise their own and each other's learning. Each group member is responsible not only for learning what is taught but also for helping teammates learn, thus building an active and interactive learning community in the classroom and an atmosphere of achievement and success.

Teachers can promote cooperative learning in the classroom by:

- Providing children with a safe and challenging learning environment
- Encouraging group work so that everyone can contribute
- Setting clear tasks for the children to work on

Why is cooperative learning important?

- Promotes active participation in learning activities
- Promotes self-esteem by valuing all contributions
- Develops oral communication skills
- Develops social skills (e.g. listening, turn-taking, helping, praising)
- Develops thinking skills
- Makes learning enjoyable and meaningful

Children in a cooperative learning-based classroom are often engaged in productive conversations and interactions and may forget to be mindful of their environment. Thus, teachers need to have quick and simple ways of getting their attention and maintaining a reasonable noise level in the classroom. Some management strategies include:

Questions that teachers can use to help children reflect and evaluate their cooperative learning experiences:

- How well did you work together as a team?
 - How can you do it better the next time?
- **Quiet Signal:** Raise one hand or hold up a picture cue and slowly count to 3. Children stop talking and raise one hand to pass the quiet signal to others. Room must be quiet by the count of 3.
 - **Six Inch Voices:** Use a length of string to demonstrate how softly a child must speak to be heard only 6 inches away. Remind children to use their 6 inch voices when working in their groups.

The table below shows examples of commonly used cooperative learning strategies.

Table 1: Commonly used cooperative learning strategies in pre-school classrooms

Purpose: To Generate and Share Ideas	
<p>Strategy: Think-Pair-Share</p> <p><i>Social Skill: Listening</i></p> <ol style="list-style-type: none"> 1. Set a task or ask a question and give children time to think about the question. 2. Ask children to pair with a partner to discuss their responses. 3. Ask children to share their ideas with the whole class. 	<p>Strategy: Round Robin</p> <p><i>Social Skills: Listening, turn-taking</i></p> <ol style="list-style-type: none"> 1. Divide class into groups of 4 to 6. 2. Set a task or ask a question and give children time to think about the question. 3. Within each group, ask children to take turns to share responses with one another in a specific order after the "think time".
Purpose: To Practise and Revise New Skills	
<p>Strategy: Pairs Check</p> <p><i>Social Skills: Helping, praising, turn-taking</i></p> <ol style="list-style-type: none"> 1. Divide class into groups of 4 and give each pair within a group a task or activity sheet. 2. Have Child 1 in each pair work on the task/first task on the activity sheet while Child 2 acts as the coach to watch and assist. 3. Encourage Child 2 (coach) to praise Child 1 if he/she agrees with Child 1's response. If Child 2 disagrees with Child 1's response, encourage the pair to review the response and decide on another response. 4. Have the partners exchange roles for the next task and repeat steps 1 to 3. 5. When the tasks are completed, invite the pair to check responses with the other pair in their group. 6. If both pairs agree with the responses, let them celebrate by using silent cheers. If the group disagrees, encourage them to review their answers and come to an agreement. 7. If no consensus is reached, intervene by providing assistance and talking children through their disagreement. 8. Reinforce the key knowledge/skills/disposition taught to consolidate children's learning. 	<p>Strategy: Numbered Heads Together</p> <p><i>Social Skill: Helping</i></p> <ol style="list-style-type: none"> 1. Divide class into groups of 4. 2. Assign a number between 1 and 4 to each individual child in a group. 3. Set a task or ask a question by saying, "Put your heads together and think of ..." 4. Give children time to discuss as a group and make sure that all group members know the answers. 5. Call a number (any number between 1 and 4) at random and ask the child with that number in every group to share their answers with the whole class. 6. Reinforce the key knowledge/skills/disposition taught to consolidate children's learning.

Using Questions

Quality interactions involve teachers and children engaging in extended conversations to build on ideas and concepts. Teachers need to be skilful in asking questions and using prompts to engage in conversations and discussions with children.

Research has shown that higher-level thinking skills develop when children are encouraged to reflect, predict, question and hypothesise. As such, teachers need to find ways to facilitate children's thinking beyond what they already know.

Teachers seek to understand children's thinking and learning process by encouraging them to put into words their thoughts or what they have seen, heard, experienced and learnt. Through conversations and by listening respectfully to what children have to say, teachers reinforce and extend children's learning and develop their thinking skills.

The discourse between teachers and children builds trust and reinforces the close personal relationship between them. This caring and nurturing relationship also enables children to be confident in asking questions and extends their natural sense of curiosity to seek answers to their questions.

Teachers formulate questions to arouse and sustain children's interest and motivate them to think and develop inquiring attitudes. Asking relevant questions also helps scaffold children's learning, challenging them to a new level of understanding and acquisition of skills.

Higher-level thinking skills that can be infused in the curriculum include:

- Organising skills – to arrange information so it can be understood or presented more effectively (e.g. by matching similarities, noting differences or indicating sequence)
- Analysing skills – to clarify existing information by examining parts and relationships
- Generating skills – to add information beyond what is given and make connections between new and old information so as to elaborate on an idea, draw generalisations, make predictions and explore alternatives
- Metacognitive skills ("thinking about thinking") – to help children be aware of their own thinking processes and have active control over these processes

A good question has focus, clarity and appropriate intonation to support discovery and critical thinking. The table below shows examples of types of questions that teachers can ask.

Table 2: Questions that teachers can ask

Questions for ...	Examples	Examples based on the topic "My Feelings" (Context - Children have just learnt the songs "Appa Ennai" and "Chan Mali Chan")
Purpose: To promote information-gathering skills		
Recalling information	<ul style="list-style-type: none"> What do you remember about ...? What happened the last time we ...? Can you name the ...?" 	<ul style="list-style-type: none"> What do you think the song "Appa Ennai" is about? As you were listening to the song "Chan Mali Chan"/"Appa Ennai", how did you feel? How many times did we sing the phrase "Chan Mali Chan"?
Directing attention	<ul style="list-style-type: none"> What do you see/hear/feel/smell ...? 	<ul style="list-style-type: none"> What does the song "Appa Ennai" make you want to do? Can you show me what you feel like doing when you sing the song "Chan Mali Chan"?
Purpose: To promote organising skills		
Comparing and classifying	<ul style="list-style-type: none"> How are they alike/different? How can we group ...? 	<ul style="list-style-type: none"> How is the song "Chan Mali Chan" different from "Appa Ennai"? Which song would you like to listen to when you are sad? Which song makes you feel happy?
Sequencing of events	<ul style="list-style-type: none"> What happens first? What comes next? 	(Context: Children have learnt the dance steps for "Chan Mali Chan") <ul style="list-style-type: none"> What should we do first? What action should we do after the 2 claps?
Purpose: To promote analysing skills		
Analysing parts and whole	<ul style="list-style-type: none"> What are the parts or features of ...? How do you know ...? 	<ul style="list-style-type: none"> Which part of the music makes us want to move slowly? What should we do when the music sounds like it is moving faster? What is a chorus in a song? How is the chorus different from the verse of the song?
Analysing patterns and relationships	<ul style="list-style-type: none"> Why do you think ...? What is ... and why is ...? What are the changes that take place? What would have caused ...? What was the problem with ...? 	<ul style="list-style-type: none"> Why do you think the song writer added a chorus to the song? What is the musical pattern in the song "Chan Mali Chan"? After singing the verse, which part do we sing? How many times do we sing the chorus? Why do you think we call this section of the song a chorus?

Questions for ...	Examples	Examples based on the topic "My Feelings" (Context - Children have just learnt the songs "Appa Ennai" and "Chan Mali Chan")
Purpose: To promote generating skills		
Eliciting predictions	<ul style="list-style-type: none"> What do you think will happen if ...? What do you think will happen next? 	<ul style="list-style-type: none"> What do you think will happen if we move slowly for the chorus? What do you think will happen if we use the movements in "Chan Mali Chan" for the song "Appa Ennai"?
Proposing alternatives	<ul style="list-style-type: none"> What are some other ways to ...? How else ...? How many ways can you ...? How would you change ...? 	<ul style="list-style-type: none"> How would you change the movements in "Chan Mali Chan" so that they better fit the song "Appa Ennai"? How else can we move to the song "Appa Ennai"?
Encouraging creative/imaginative thinking	<ul style="list-style-type: none"> What would it be like if ...? Can you design a ...? Can you create ...? 	<ul style="list-style-type: none"> What other words can we use to sing the chorus for "Chan Mali Chan"? Can we create a new action for the words "hoi, hoi" in the chorus?
Purpose: To promote metacognitive skills		
Becoming aware of one's thinking processes	<ul style="list-style-type: none"> How did you know ...? How did you decide ...? What made you think of ...? 	<ul style="list-style-type: none"> How do you know that the song "Chan Mali Chan"/"Appa Ennai" is a happy/sad song? What makes you think that "Chan Mali Chan" is not a Chinese song?
Comparing one's thinking with the thinking of others	<ul style="list-style-type: none"> How is your ... different from your friend's? Do you think it is better or worse? 	<ul style="list-style-type: none"> How are the words you suggested different from your friend's? Whose suggestion fits better with the music? Why do you think so?
Expressing emotion and making personal connections	<ul style="list-style-type: none"> What do you like about ...? How did you feel ...? Have you ever felt ...? 	<ul style="list-style-type: none"> Which song do you like better? "Chan Mali Chan" or "Appa Ennai"? Which part of the song do you like most? Why? Which part of the song makes you feel happy/sad?

Reflecting on My Practice

Identify a theme and a learning goal and think about how you can use the following strategies to facilitate learning:

- Using purposeful play



- Using authentic learning contexts



- Using cooperative learning strategies



- Using questions







Teachers Observe and Assess Learning and Development

“Teachers can collect information about children’s learning and development through systematic observation and documentation. Systematic observation involves coming up with a plan to look at and record a specific group of children over a period of time in a variety of spontaneous and planned situations, rather than observing all the children at the same time.”

Observing and Assessing Learning

In early childhood education, assessing children's learning involves on-going and systematic observation and documentation of children in action. Evidence gathered about the children will help teachers understand children's likes and dislikes and strengths and weaknesses. When combined with information gathered from the children's parents/families and fellow teachers who have worked with them, a holistic view emerges to inform curriculum decisions and planning. Using the information, teachers can plan to maximise their children's learning and development and ensure that they are making progress in all learning areas.

Observing and assessing learning and development within pre-school settings enable teachers to:

- **Know** and **understand** the competence levels, interests and attitudes of the individual child and group of children in order to:
 - inform others (parents/families, carers, teachers and other professionals) about the child/children's progress
 - assess specific developmental needs such as behaviour, speech and language, physical development and social interactions
 - provide appropriate learning opportunities for all children, and not adding stress to their learning
- **Reflect** on the effectiveness of the environment and the teaching strategies in order to:
 - revise their activity plans in response to children's needs
 - offer a well-planned and well-organised environment for purposeful play and quality interactions
 - interact more sensitively with children and build positive relationships with them



Through daily interactions and observations of children, the teacher understands their interests, needs and abilities and plans appropriate learning experiences to enhance their learning.

Observations can be conducted on:

- Individual children – teachers can observe a specific child during a pre-determined time to gain insights about the child's:
 - interests
 - development of skills
 - interactions with others such as characteristics of people whom he/she prefers to interact with and under what circumstances and the type of language used

Teachers can use these insights to guide the child's development and enhance his/her learning.

- Small groups of children – teachers can focus on one or more areas of development, e.g. abilities to resolve conflicts, dexterity in manipulating materials, etc.
- Whole group – teachers can assess whether all the children have mastered a particular skill/concept, e.g. gross motor skills like hopping and galloping, conservation of numbers, etc.

To ensure accurate records, teachers should be prepared at all times to make brief and precise notes which should include the name of the child and the date of the observation.

The table below shows some areas for teachers to focus on when observing children.

Table 3: Examples of areas of observation and questions that teachers can think about

Areas of observation	Questions to bear in mind while observing children
Interests	<ul style="list-style-type: none">• What topics cause the child to be attentive and engaged?• What kinds of things does the child talk about?• What does the child do when given the opportunity to choose?• What questions does the child ask?
Skills and abilities	<ul style="list-style-type: none">• What does the child do well?• What does the child find challenging?• What skills are the child currently working on?
Approach to learning	<ul style="list-style-type: none">• How does the child approach new materials?• How does the child interact with materials?• What is the child's preferred way of expressing himself/herself?
Use of verbal language	<ul style="list-style-type: none">• Does the child speak? If so, how much language does he/she have?• With whom does the child talk to?• How does the child express himself/herself through words?• Is the child comfortable speaking one-on-one or in a large group?
Social interactions with adults and peers	<ul style="list-style-type: none">• Does the child interact with others?• Does the child seem comfortable interacting with adults or other children/familiar people/classroom visitors? How does the child initiate interactions?• What kinds of activities does the child do with others?• How does the child handle conflicts with others?• In what situations does the child seek help from teachers?
Use of body language	<ul style="list-style-type: none">• How does the child move?• Does the child use gestures? How often?• Is the child physically expressive?

Collecting and Documenting Information

Good observation notes are accurate, objective and non-interpretive. They can be written in narrative or point form. For example, "Li Meng asked his friends, Adi and Pravin, to help him lift the long block and place it on top of 2 pillars to make a ramp."

Teachers need to consider the following when choosing the methods for gathering information about children's learning and development:

- Purpose of the intended observations – *"Why do I need the information?" "How will the information be used?" "To whom will the reports be given?"*
- Type of information that will be meaningful – *"What kind of information/artefacts will be helpful for my purpose?"*
- Sources of information to be obtained – *"Can the sources provide meaningful and valid information?"*

Methods of observation can include:

1. Anecdotal records
2. Checklists and questionnaires
3. Time sampling
4. Event/Frequency sampling
5. Photographs, artefacts and work samples
6. Information and Communication Technology (ICT) resources

Teachers can do the following to ensure that an observation is effective:

1. Determine the need and purpose of the observation
2. Plan the schedule for observation
3. Understand the ethical issues that might be involved
4. Begin the observation
5. Analyse and interpret information gathered from the observation
6. Reflect on previous teaching strategies and revise planning based on interpretation of information gathered
7. Monitor children's progress
8. Plan ahead to meet children's needs better

Anecdotal Records

This is an observation of what children say and do while they are engaged in an activity. Teachers should have a notebook or sticky note pads and pen or hand-held devices (with note-taking applications) close at hand to jot down observations that can be added to portfolios and progress reports. These can be surfaced during a parent-teacher conference at a later time.

Prepared observation sheets can include:

- Child's name and age
- Date and time of observation
- Setting or area where children are observed
- Purpose of observation
- Observations of what children said and did

Checklists and Questionnaires

Checklists and questionnaires should be carefully designed to ensure the items listed are most appropriate for a particular setting and situation. Teachers should use checklists and questionnaires for the purpose of improving practice and not as a "report card" to evaluate children's achievement. When using checklists, a 'mix and match' approach that combines checklists with another data collection method is preferred.

Some considerations when using checklists:

- Checklists only offer a snapshot picture of what a child can do on that day and at that particular time of the observation, and is usually used for marking achieved milestones.
- Checklists are usually based on a sequential approach to development and assume that all children will proceed through the defined stages in much the same systematic order.

Time Sampling

This can be defined as the teacher making a note of the child's actions and interactions at regular intervals over a set period of time (e.g. every 10 minutes throughout a 40-minute activity, over 2 mornings.)

Examples of situations that call for time sampling:

- Child is observed to be spending too much or not enough time at a particular activity/learning centre
- Child is observed to be interacting with only a small group of children in the class
- Child is constantly exhibiting an inappropriate behaviour

Event/Frequency Sampling

Event or frequency sampling is useful when teachers want to re-direct children's unacceptable behaviours. Recording can take the form of a simple table where teacher checks off the number of times the unacceptable behaviour occurs. Details such as events leading up to the behaviour, time of the day and the presence of another person can also be included.

Photographs, Artefacts and Work Samples

Teachers usually keep children's completed work or photographs of their work in progress in a folder. The children get to bring the entire folder home at the end of the semester. This compilation of artwork and activity sheets, collection of artefacts from field trips, photographs of children in action, video/sound recordings, etc., together with a systematic record of teachers' comments and observation notes can provide comprehensive information of a child's learning, development and progress.



This series of photographs show how a 5-year-old overcame her fear in coming down the play equipment: (from left) She was nervous and observed how others stepped onto the circular platform to come down the pole; she gained some confidence and tried on her own; she made room on the circular platform and came down with another friend.

Information and Communication Technology (ICT) Resources

Teachers can make use of ICT resources for ease and convenience when documenting observations. Showing parents/families what their children are doing is often more powerful than communicating via written reports.

ICT resources allow teachers to communicate with parents/families easily, especially when parents/families are anxious to know how their children are coping in a new environment at the pre-school centre.

ICT folders such as online portfolios can accompany “paper-based” methods for children’s observations.

Video and sound recordings can be used to document children’s interactions with their peers, social behaviours and use of language. They are also useful when teachers wish to document children’s learning through play. Video recordings, in particular, makes learning more visible and can be shared with parents/families to help them understand what their children are involved in at the pre-school centre and how they are progressing in their learning and development.

Digital cameras, mobile telephones and tablets can be used to capture the process and products of children’s learning. These photographs and short video clips can be uploaded into digital folders. Password-required access can be given to parents to view their children’s progress at their convenience.

MP3 recorders or voice recorders can be used to make sound clips of children’s interactions with others. These are also useful when teachers want to assess children’s language and speech development.

Organising Documentation into Meaningful Portfolios

There are various ways of organising observation notes and records for the purpose of informing the teacher’s own practice and sharing with fellow teachers, parents/families and other professionals. A more meaningful way to organise what has been learnt about a child’s development and learning is by compiling a portfolio that consists of a collection of observation notes, narratives, photographs, audio/video recordings, artefacts of children’s work, etc. that informs the holistic development of each child or a group of children.

Portfolios can be organised in various physical forms, depending on the preferences, objectives, types of work samples collected and space available in the pre-school centre. Large display boards (or class portfolios), magazine holders, different types of files and folders, ring binders, photo albums, digital platforms and a combination of these can be used.

Portfolios can take several forms such as:

- Class portfolios
- Showcase portfolios
- Teachers' working portfolios

Class Portfolios

Class portfolios can document collaborative work and group achievement. They can be a recording, a photograph album, scrapbooks or display board with pictures and work samples that chart the children's learning over a period of time. Class portfolios help sustain children's excitement about what they are learning and keep parents/families informed of their children's progress and engagement in the pre-school centre on an on-going basis.

Class portfolios can also be a way of sharing information with others, in particular among the children, between families and children, families and teachers and among teachers. By sharing and talking about the documented accomplishments, children learn unique things about their friends and families learn unique things about their children. Teachers are also able to anticipate challenges and adopt teaching strategies that have been used effectively.

Showcase Portfolios

Showcase portfolios contain specially selected items that show evidence of individual child's accomplishment in relation to the learning goals. They can also be "a celebration of the child's unique abilities, achievements, and progress, displayed through authentic samples" (Batzle, 1992, p. 60).

Children can be encouraged to select the work samples that they feel show their achievement and add on to the portfolios. This process allows children to reflect on the work that they have been doing. Teachers can use the following questions to encourage children to reflect as they decide on what should be included:

- *Why do you want this to be in your portfolio?*
- *What can you tell your friends, parents/families or teachers about yourself?*

Teachers' Working Portfolios

Teachers' working portfolios contain materials that help teachers determine a child's achievement of learning goals, abilities, strengths, weaknesses, and needs. These materials provide concrete evidence of a child's development and learning and can set the basis for discussions at parent-teacher conferences and periodic reports to parents.

Materials in a teachers' working portfolio include:

- Photographs of children in action
- Children's work samples/artefacts
- Observation notes
- Interviews with the child
- Interviews with other teachers about the child's development/learning/behaviours
- Checklists and questionnaires

The above materials will enable teachers to communicate to parents/families and other teachers on:

- The child's process of learning – what the child has learned and how he/she went about learning
- How the child thinks, questions and creates
- How the child interacts with others
- The child's learning and development over time

Examples of how Observations are Documented

Example 1



Context:

Various ingredients for sandwich-making were placed on two trays – one tray containing slices of white and wholemeal bread, another tray containing chicken ham and garnishings such as cucumber, shredded lettuce and thin slices of tomatoes. A choice of strawberry jam spread and kaya spread were provided in two plastic bowls. Each child was given a paper plate and encouraged to create their own sandwich, using whatever ingredients they wish. They had to use the pair of plastic tongs to select their sandwich ingredients and the butter knife to scoop and spread the jam or kaya on their bread.

Teacher's Anecdotal Record:

Aadil was very excited and repeatedly asked if it was his turn to use the tongs and the spreads, but waited patiently for his turn. When it was his turn, he took more than 3 minutes to decide on the ingredients for his sandwich. He hesitated between cucumber and lettuce, and but eventually decided not to have any. Then, he became upset when he could not pick up a slice of chicken ham from the tray. It kept slipping from the tongs each time he tried to pick it up. He also had difficulty with the butter knife when trying to transfer the jam onto his slice of bread and ended up dropping most of it on the table top. Although he finally succeeded in creating his sandwich, he commented that his sandwich did not look as good as his friend's and refused to eat it.

Possible Interpretation/Assessment

- Aadil understood the need to wait for his turn and was able to self-regulate.
- He did not seem to be very confident in making decisions for himself.
- The task was too difficult/inappropriate for Aadil, especially the use of tongs and butter knife.

What the Teacher can Do:

- Provide pairs of tongs and plastic butter knife in the Dramatic Play Centre for Aadil to practise using
- Provide opportunities for Aadil to build structures with manipulatives to strengthen his fine motor skills and encourage him to make decisions about what he wants to construct

- Involve Aadil in activities that require him to transfer objects from one container to another using spoons and pincers to strengthen his eye-hand coordination and build his confidence in handling simple tools and implements
- Praise him for his effort each time he attempts to pick things up with the tools and implements

Documentation

The teacher can document Aadil's progress using photographs taken over a period of time and narratives to show:

- Aadil's progress in manipulating and handling different types of tools and implements and the development of his eye-hand coordination and fine motor skills
- Aadil's self-confidence when given the opportunity to make his own decisions

Example 2



Context:

Children were asked to draw a picture of their family after listening to the story "I'm Going to Be a Big Sister" by Brenda Bercun.

Teacher's Anecdotal Record:

Devi drew a picture of her family, then used a black crayon to colour over the entire picture. When asked what she had drawn, she replied, "I don't like my mum and dad. They are going to have a baby. They talk about the baby everyday."

During story time, Devi got angry when the story "I'm Going to be a Big Sister" was read, and started pushing her friends beside her.

Possible Interpretation/Assessment

- Devi was distressed by stories about babies and caring for siblings because her mother was expecting another child.
- She is having difficulty coping with the changes in her parents' behaviours and attitudes towards her.
- She does not know how to communicate her feeling of insecurity and fear of the unknown with her parents.

What the Teacher can Do:

- Devise a strategy with the parents to assure Devi that she is just as important as the baby and involve her in any discussion concerning the baby
- Get her excited about preparing for the arrival of the baby brother/sister
- Work with Devi's family to identify some responsibilities for her to do at home so that she feels her help is needed as she learns to become an elder sister

Documentation:

The teacher can document Devi's progress using a combination of children's work samples and observation notes to:

- Describe sequentially how Devi's responses and attitudes towards stories and role play involving parents and babies change over time
- Chart the increase in Devi's contributions and interactions with others during group activities

Example 3



Context:

The class was given a task that required them to work in small groups of 3 to 4 to create a picture using twigs and leaves. Ee Jin was observed to be touching the twigs and leaves but did not contribute towards completing the task. He also had the tendency to run from one corner of the room to another, sometimes exhibiting disruptive behaviours that upset other children. He is only interested in tasks that involve objects with wheels.

Teacher's Observation:

Observations were made every 5 minutes over a 35-minute period for 3 days (Monday, Wednesday and Friday) for a week, and the following were observed:

- Ee Jin could only stay focused at an activity for 2 minutes or less, then rushed off to another learning centre to participate in another activity. The only activity that he engaged in for more than 5 minutes was the Block Centre where cars, lorries and train sets were included as part of block play.
- He did not complete the tasks he started.
- He was always running about and rushing from one activity to another.

Possible Interpretation/Assessment

- Ee Jin does not have the necessary language and social skills to interact and cooperate with his friends to complete given tasks.
- He is very creative when activities involve vehicles and wheels.
- He needs to feel a sense of success in activities other than those at the block centre.

What the Teacher Can Do:

- Re-arrange tables and low shelves in the classroom to reduce the size of open spaces so that Ee Jin will exercise more care and control when moving across the room
- Since Ee Jin appears to be interested in vehicles and wheels, remove the vehicles from the block centre and place them in the art centre and table activities to encourage Ee Jin to participate in a variety of activities such as creating artworks by printing with the vehicles, making tracks on paper and playing matching games, etc.
- Give more attention to Ee Jin during table activities to help him complete his work and experience success, learn turn-taking and language skills that enable him to interact with his friends more meaningfully
- Break down tasks into smaller steps to ensure Ee Jin experiences success
- Praise him whenever he attempts to complete a task

Documentation:

The teacher can document Ee Jin's progress by compiling a portfolio of his completed artworks, activity sheets, photographs of him in action and notes about his interactions with other children. Comments and observation notes can be included to indicate Ee Jin's change of behaviour (e.g. his increased attention span, that he is more on-task, his decreased tendency to run across the room).

Reflecting on My Practice

Reflect on one child within your setting whom you are particularly interested to know more. List his/her behaviour/skill/disposition that attracts your attention. Identify appropriate methods of observation and documentation to enable you to report on his/her progress in learning and development.

What?	
Context:	
Teacher's Observations:	

What Now?	So What?
<i>What can I do to help the child progress in his/her learning and development?</i>	<i>What can I learn more about the child? What are some areas of concern?</i>
	<i>What is/are the cause(s) of the problem(s)?</i>





Teachers Reflect on and Enhance Professional Practice

“An important determinant of quality pre-school education is the quality and professionalism of teachers. What teachers believe in, know and do have a great impact on how children learn.”

Nurturing Early Learners: A Curriculum Framework for Kindergartens in Singapore, 2012, p.59

Reflective Practice

A good teacher must be a reflective practitioner.

Teachers use the processes of reflective practice to examine their beliefs, goals, and practices to gain new or deeper understandings that lead to actions that improve children's learning (York-Barr, Sommers, Ghere, & Montie, 2006).

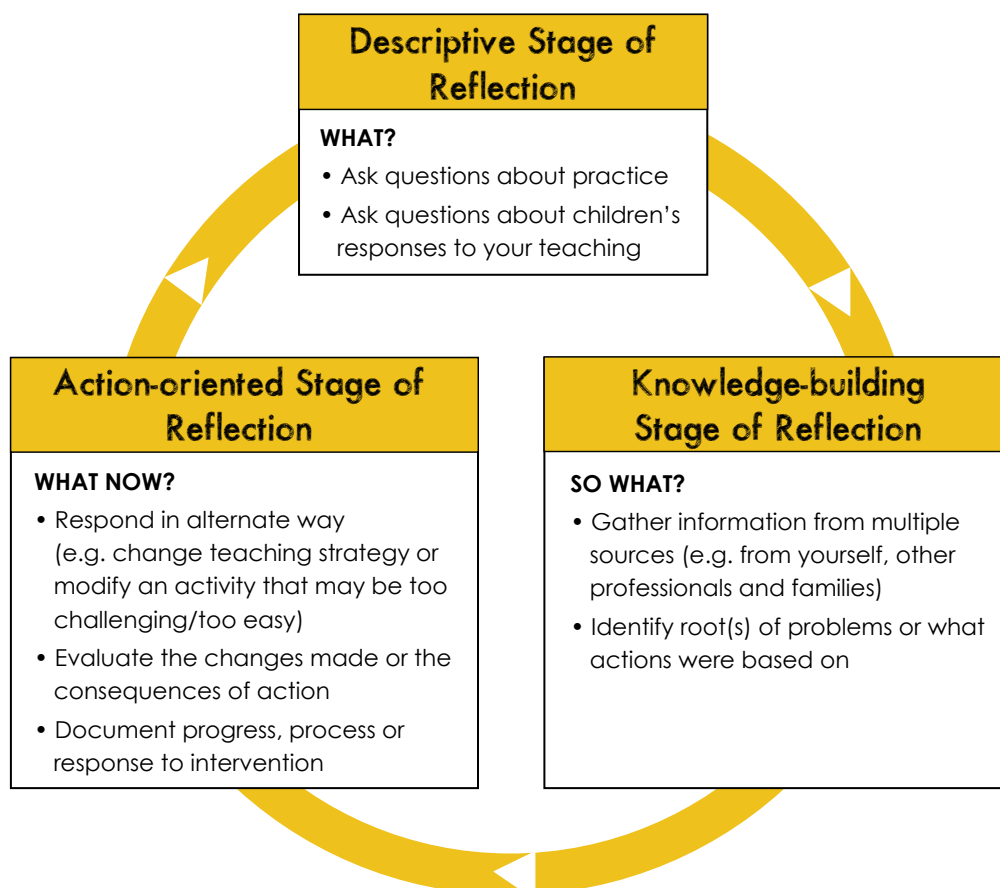
The NEL Framework recommends a cyclical process (Figure 5) that requires the teacher to ask the following questions:

Reflective practice involves:

- looking back and making sense of what happened and what one has learnt about one's practice, values and others' perspectives
- looking back and making interpretations that lead one to look ahead and make plans for future teaching and learning opportunities
- an ongoing and cyclical process of monitoring, evaluating and revising one's own practice continuously

- **What happened?** (*What did I do? What did the children do?*)
- **So what?** (*What have I learnt from this activity? How might this change my future thinking, behaviour and interactions with the children/parent/families/ other fellow colleagues?*)
- **What now?** (*What do I want to change when faced with a similar situation? What improvement can I make to the environment to ensure children progress in their learning and development? How do I evaluate the changes?*)

Figure 5: The cycle of reflective practice



(Adapted from Rolfe, Freshwater & Jasper, 2011)

The table below provides a guide for teachers to engage in instructional practice reflection and personal reflection.

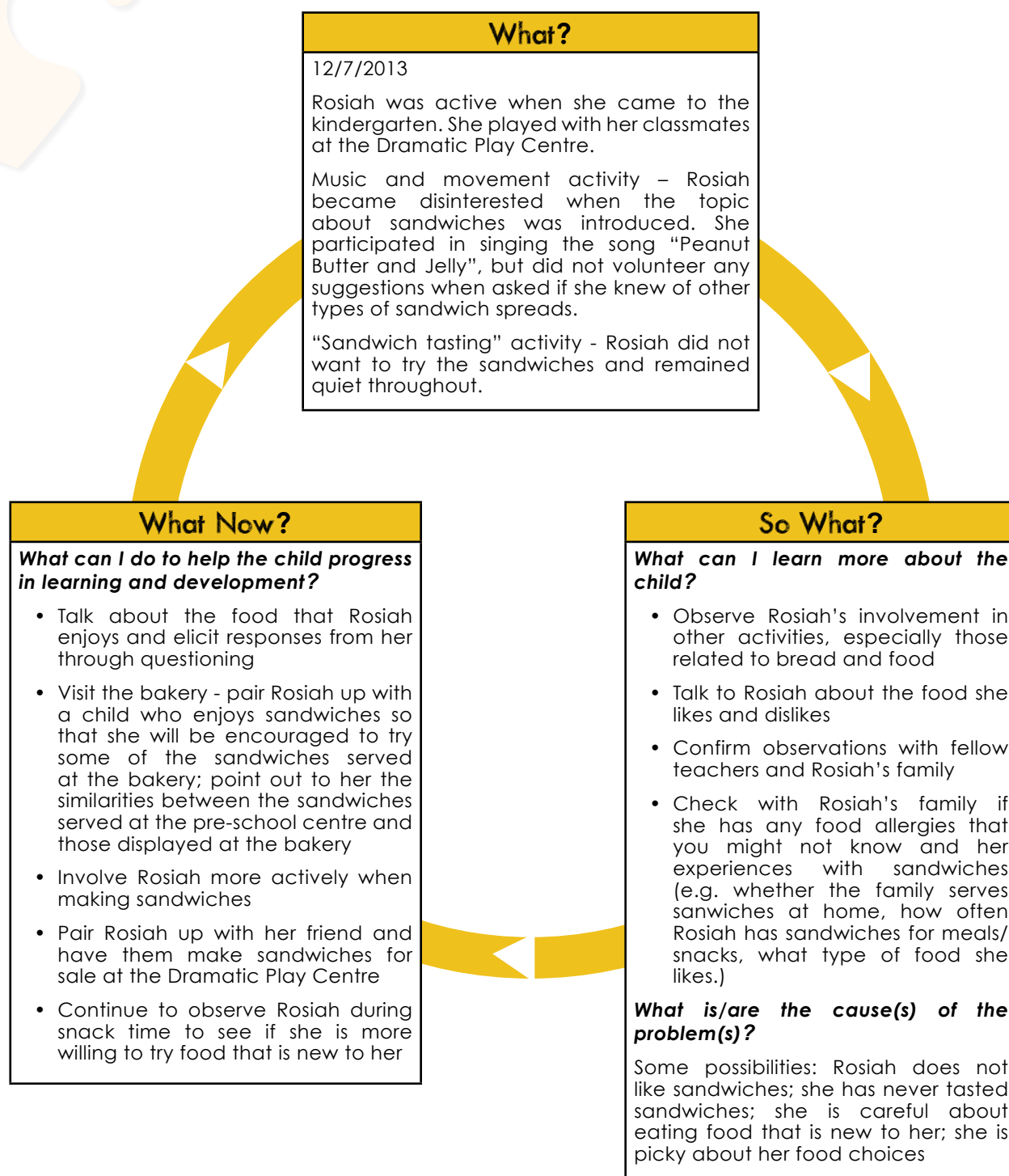
Table 4: Reflection guide for teachers

	Instructional Practice Reflection	Personal Reflection
What?	<ul style="list-style-type: none"> • What did I do in class? • How was the classroom set up? • How did the children utilise the resources/space provided? • What were the learning activities that were carried out? • How did the children behave, respond and react? • Did the children manage themselves independently at the learning centres? 	<ul style="list-style-type: none"> • What are my values, beliefs, biases, expectations and past experiences?
So what?	<ul style="list-style-type: none"> • What are the consequences of my action? • How can I observe and assess children's needs and learning? • How can I find out about children's past experiences, interests and preferences? • How can I gather information about children from multiple sources (i.e. their families, teachers, other caregivers and peers)? 	<ul style="list-style-type: none"> • How do my beliefs, values, expectations and past experiences affect my practice? • How do my values, beliefs, biases, expectations and past experiences affect my relationship with professionals, children and families, especially those who may be different from me?
What now?	<ul style="list-style-type: none"> • What can I do to create meaningful and relevant learning experiences for children? • How can I extend children's learning and thinking? • How can I document and evaluate what I have learnt? • What can I do next? • How can I change my practice to achieve what I set out to do? • How can I plan my learning experiences that allow the children to utilise the resources/space provided? • How can I develop alternative strategies to work with families or professionals who may have different views/beliefs from me? • Are there professionals I can approach to help me (e.g. with communicating with families in their home language or with negotiating a different culture)? 	<ul style="list-style-type: none"> • How can I learn more about others who may have different teaching philosophies/beliefs in how children learn?

Examples of Reflective Practice

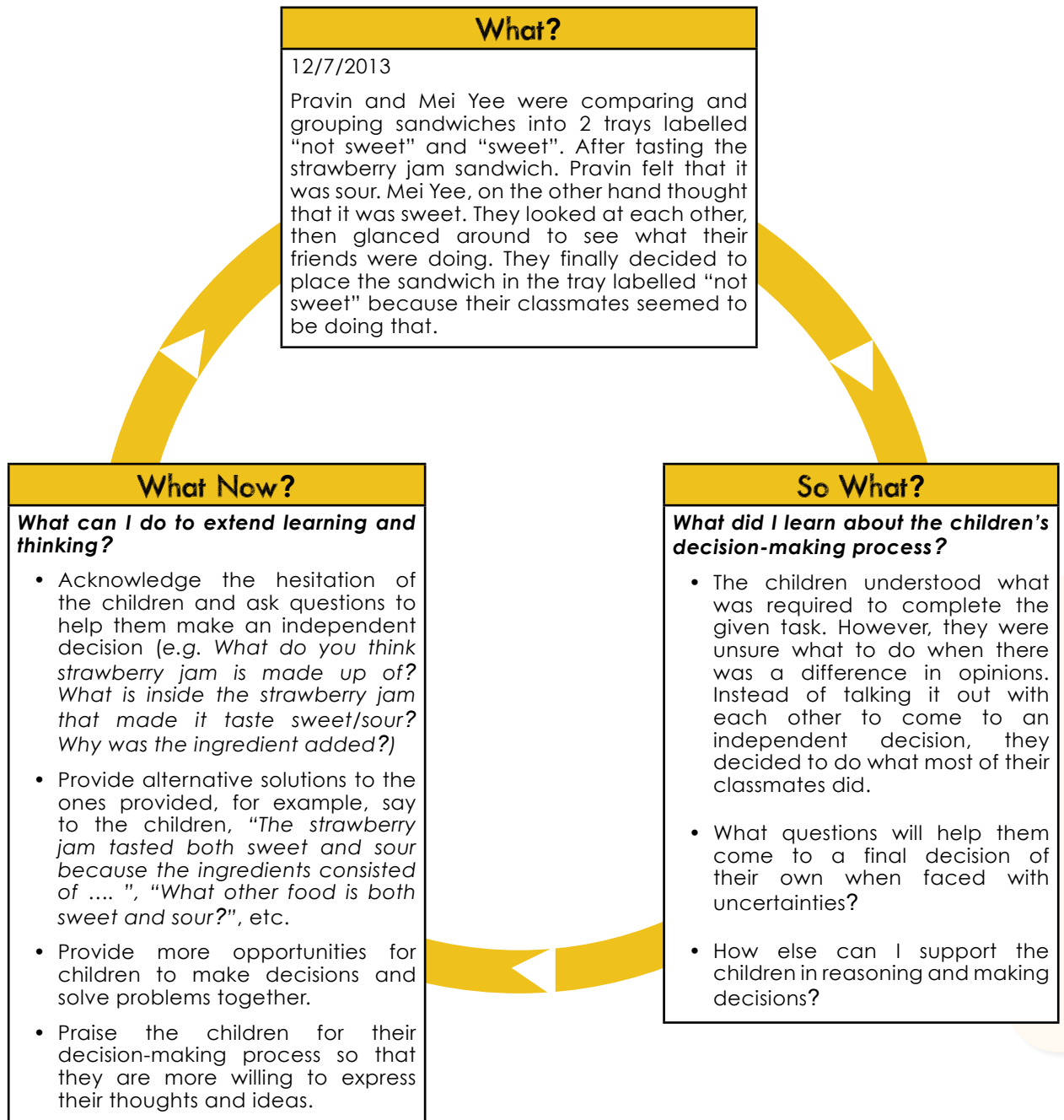
The figure below demonstrates how a teacher reflected on a child's response towards activities that she implemented in her classroom. It also illustrates how she planned to use the information gathered to guide her practice so as to stimulate a higher level of participation and interaction.

Figure 6: A teacher's reflection based on observation of Rosiah



The figure below demonstrates how the teacher reflected on her practice to understand what children had learnt and how she could extend their learning and thinking.

Figure 7: A teacher's reflection based on observation of Pravin



Reflecting on the Application of iTeach Principles

To evaluate if the iTeach principles were applied, teachers can use the checklist below to reflect on their daily practices.

Table 5: Reflecting on the application of iTeach principles

iTeach Principles	Checklist for Reflection
Integrated approach to learning	<p>The activity:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Is structured within a meaningful context for the children <input type="checkbox"/> Provided opportunities for children to be involved in more than one learning area
Teachers as facilitators of learning	<p>I have considered the following in my activity plan:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Children's needs <input type="checkbox"/> Children's interests <input type="checkbox"/> Children's abilities <input type="checkbox"/> Children's prior knowledge and experiences <input type="checkbox"/> Opportunities to nurture learning dispositions
Engaging children in learning through purposeful play	<p>The play experience:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Is enjoyable to the children <input type="checkbox"/> Actively involves children in exploring, developing and applying knowledge and skills <input type="checkbox"/> Involves learning objectives that take into consideration children's interests and abilities <input type="checkbox"/> Helps children to reinforce or extend their learning towards intended objectives
Authentic learning through quality interactions	<p>There is provision for:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Meaningful interaction between children and objects/people <input type="checkbox"/> Sustained conversation between children and teachers
Children as constructors of knowledge	<p>The activity allows children to:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Explore materials and discover answers for themselves <input type="checkbox"/> Try alternative ways of doing things and/or expressing themselves <input type="checkbox"/> Make connections between their prior and new learning <input type="checkbox"/> Extend their thinking
Holistic development	<p>The planned learning activities develop the children in the following learning areas:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Aesthetics and Creative Expression <input type="checkbox"/> Discovery of the World <input type="checkbox"/> Language and Literacy <input type="checkbox"/> Motor Skills Development <input type="checkbox"/> Numeracy <input type="checkbox"/> Social and Emotional Development

Teachers may also use the checklist below to reflect on their activity plans or on their daily practice.

Table 6: Reflection checklist for teachers

Checklist for Reflection	
Child development and learning principles	Are my practices guided by child development and learning principles?
	Have I:
Children develop holistically and learn as a whole	<input type="checkbox"/> Planned learning experiences that value and recognise the holistic development of children? <input type="checkbox"/> Designed learning experiences within a meaningful context to support children's holistic development? <input type="checkbox"/> Planned a daily schedule, routines and transitions that support children's holistic development? <input type="checkbox"/> Included all aspects of children's development in my observations and assessment?
Children learn best when they are actively involved in the construction of knowledge	<input type="checkbox"/> Planned activities and provided materials to support children in their exploration of the environment and their expression of ideas? <input type="checkbox"/> Created learning environments and experiences that engage children in exploration and experimentation? <input type="checkbox"/> Actively engaged children to stimulate their thinking and extend their learning?
Every child can learn and each child learns differently	<input type="checkbox"/> Gathered enough information to know the developmental and learning needs of each child? <input type="checkbox"/> Gathered enough information to know the interest and abilities and of each child? <input type="checkbox"/> Set realistic expectations for each child? <input type="checkbox"/> Planned and carried out activities/projects/curriculum that cater to children with different learning needs?
Children develop knowledge, skills and dispositions by building on those already acquired	<input type="checkbox"/> Provided opportunities for children to progress from simple to complex concepts or from concrete to abstract understanding? <input type="checkbox"/> Made links between individual children's prior knowledge, skills, dispositions and experiences with their current classroom learning experiences? <input type="checkbox"/> Provided materials and resources with varying levels of difficulty?
Children's development is influenced by the different social and cultural contexts they live in	<input type="checkbox"/> Gathered information about individual children from a variety of sources e.g. families, care providers and other teachers? <input type="checkbox"/> Provided opportunities for children to interact with their peers, teachers, families and community? <input type="checkbox"/> Provided opportunities for children to interact with materials of different cultures?
Children develop and learn best when they feel safe and valued	<input type="checkbox"/> Formed positive relationships with individual children? <input type="checkbox"/> Ensured that all children feel included and valued? <input type="checkbox"/> Built trusting relationships with children and their families?

(Adapted from Bredekamp, S. & Copple, C., 1997)

Reflecting on My Practice

Reflect on one of your classroom activities. Note the setting and some observations that you have made and suggest how you can extend the children's learning and thinking.

What?	
Setting:	
Teacher's Observations:	

What Now?	So What?
<i>What can I do to help the children progress their learning and development?</i>	<i>What can i learn more about the children? What are some areas of concern?</i>
	<i>What is/are the cause(s) of the problem(s)?</i>



Teachers Collaborate with Families and the Community

“Teachers can harness the strengths and expertise of families to enrich the teaching and learning in and beyond the classroom. When families are involved in what their children are learning in the pre-school, they are more likely to cooperate. Stronger ties and commitment to the centres are formed.”

Partnering Families and the Community

While pre-school centres work diligently to provide all children with quality curriculum in a nurturing environment, they cannot do it alone. One of the key components in an effective curriculum is the strong partnerships that pre-school centres build with families and the community. When the community, families and teachers regard one another as partners in education, a caring community is inevitably formed to support children in their learning.

Examples of Benefits in Partnering Families and the Community

Parents/Families	Teachers	Children
<ul style="list-style-type: none">• Are more involved in their children's learning and development• Can share information about their children's interests and needs• Support and extend children's learning at home• Know more about their children's experiences beyond home setting and use the information to support their learning and development more effectively	<ul style="list-style-type: none">• Develop a better understanding of children and their families and use the information to make children's learning more enjoyable, meaningful and rewarding• Benefit from parents' / family members' contributions as they share their skills and expertise• Develop trust and communication	<ul style="list-style-type: none">• Have enhanced performance, attitudes and interests towards learning• Have a more enriched parent/family-child interaction• Feel more secure and benefit more from the learning opportunities given to them• Develop greater confidence moving from home to pre-school setting• Experience continuity in learning

The Family

To help families support children's learning at home, it is important for the teacher to keep families informed of the learning that takes place in the pre-school centre. Similarly, families can keep teachers informed about what and how the children learn at home.

Ways in which families and teachers can work together

- Communicating and sharing information
- Connecting learning at home and in the pre-school centre
- Contributing to the pre-school centre

Communicating and Sharing Information

Good communication between families and teachers is key to promoting children's learning and development. Teachers need to be mindful of the home situation and their needs when communicating with families. Teachers can begin by creating an atmosphere in the pre-school centre that welcomes parental involvement and encourages two-way communication between families and teachers. Some possible areas that teachers can share with families include:

- The pre-school centre's vision, mission, philosophy and values
- The curriculum, goals and pedagogical approaches
- Staff training and qualifications
- Teacher-child ratio
- The pre-school centre's facilities
- Opening hours and fees
- Policies concerning managing behavior, promoting healthy living, providing first aid and settling in

Families and teachers also need to communicate regularly about the children's interests, needs, daily experiences and progress. Writing notes, talking and using photographs are all helpful ways to communicate with families.

It is important for teachers and principals to be able to relate well with families. However, occasionally differences might arise.

When managing differences, teachers should remember to:

- Focus on what is best for the child
- Adopt an open view
- Listen actively to families' feedback
- Ask questions to obtain a better understanding of the issue and to assure them that their feelings and viewpoints are acknowledged
- Put across views calmly and provide explanations that are based on their professional assessment of the child

Connecting Learning at Home and in the Pre-school Centre

Learning is made more meaningful for children when teachers find out from families their children's interests, abilities, skills and dispositions. This serves as a starting point for them to plan learning experiences that are interesting to and appropriate for the children.

Examples of ways in which teachers can help families to support and extend learning:

- Sharing information about the curriculum with families via the pre-school centre's bulletin board and digital photograph-sharing platforms
- Sharing resources such as pamphlets, tips and learning kits about parenting and children's development and learning
- Inviting families to join in activities to learn about how and what their children are involved in at the pre-school centre
- Printing and distributing a regular newsletter that provides useful information such as song lyrics and rhymes that the children are learning, important dates, policy updates, snippets of child development theories, fun activity ideas to do at home, etc.
- Suggesting ways that families can support their child's learning and development at home (e.g. reading, singing, telling stories and playing games with their child and encouraging their child to ask questions and find out things together)

Contributing to the Pre-school Centre

Families can make valuable contributions to their children's learning and development by sharing their experiences and skills with the pre-school centre.

Some ways in which families can contribute to their children's pre-school centre are:

- Share their skills and expertise (e.g. demonstrate a craft, tell stories or help with sports, drama and musical activities)
- Participate in the pre-school centre's projects or events (e.g. accompany children on a field trip, assist in raising funds, etc.)
- Contribute resources to support the setting up of learning centres (e.g. provide plants and gardening tools for a garden patch, props for dramatic play centres and outdoor play area, etc.)
- Share information about their family culture and traditions
- Talk to children about their ideas and artwork
- Form a Parent/Family-Support Group

The Community

The partnership between home and the pre-school centre can be further enriched by linkages to the community. 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 practices that support children's learning and development.

Examples of ways that pre-school centres can collaborate with community partners such as commercial or government-related agencies/organisations:

- Using educational materials developed by community partners to plan learning experiences in the classroom
- Bringing children to the agencies/organisations to help them gain a better understanding of the services rendered and their contributions 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 learnt in the classroom and how the information/skill is applied in actual contexts
- Inviting resource persons from the agencies/organisations to the classroom to share their expertise or information

Potential Community Partners

Types	Examples
Commercial agencies	<ul style="list-style-type: none">• Banks• Singapore Science Centre• Wildlife Reserves Singapore
Government-related organisations	<ul style="list-style-type: none">• National Arts Council• National Environment Agency• Neighbourhood Police Post• Singapore Civil Defence Force
Non-profit organisations	<ul style="list-style-type: none">• Community Development Councils/Community Centres• Self-help groups
Schools/Pre-school centres	<ul style="list-style-type: none">• Child care centres• Kindergartens• Primary schools
Statutory boards	<ul style="list-style-type: none">• Health Promotion Board• Museums• National Library Board• National Parks Board• Public Utilities Board• SingPost

Working with Primary Schools to Smoothen Transition

Pre-school 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.

Examples of practices that pre-school centres can carry out to facilitate a smooth transition to primary school:




- Bringing Kindergarten 2 children on a field trip to primary schools
- Inviting primary school principals or teachers to share with the children about what they do at their schools
- Inviting primary school principals and teachers to give talks to families on primary school education
- Having combined celebrations with primary schools such as Racial Harmony Day and National Day celebrations
- Providing families and teachers with general information of primary school education
- Talking about the daily routines in the primary school (e.g. flag-raising ceremony, recess, assembly, timetable and wearing of the school uniform)
- Creating routines that allow time and space for children to work and learn independently
- Encouraging children to practise skills such as buying food, organising their school bag and passing messages between school and families

By getting children excited about new experiences, such as making new friends or learning new things, teachers can build confidence and enthusiasm in the children and better prepare them for Primary One. Teachers can further help the children look forward to attending primary school by highlighting the enjoyable and positive aspects of learning in a new environment.

Reflecting on My Practice

Examine your existing partnership programme with families and reflect on how you can increase parents/families' involvement to enhance children's learning and development.

Date:

What?	So What?	What Now?
		





Annexes



A Summary of the iTeach Principles in Action

Annex A

iTeach Principles	Teachers plan to nurture holistic development	Teachers facilitate the learning process	Teachers observe and assess learning and development	Teachers reflect on and enhance professional practice	Teachers collaborate with families and the community
integrated approach to learning	<ul style="list-style-type: none"> Plan daily programme to cater for all learning areas Organise learning environment that supports integrated learning Integrate transitions and routines as part of curriculum Select a theme/story/topic for investigation based on the children's interests, culture and shared experiences Find teachable moments throughout the day to nurture learning dispositions Design a variety of activities and play (e.g. small and large groups, learning centre activities, games, etc.) Design learning experiences based on interests, needs and abilities Plan and design learning environments that encourage high quality interaction Design activities to facilitate children's learning beyond the pre-school centre (e.g. field trips and neighbourhood walks) Plan opportunities for children to experience the 4 phases of the learning cycle Design appropriate learning experiences for children to acquire the necessary knowledge, skills and dispositions in all learning areas Provide meaningful contexts for learning, taking into consideration the home environment, culture and value system that each child brings with him/her to the pre-school centre Identify learning objectives based on children's needs 	<ul style="list-style-type: none"> Provide a variety of resources for children to have first-hand experiences Respond to children's ideas through sustained conversations Ask questions Provide learning experiences and opportunities to extend children's thinking Respond and adapt to the holistic needs of children Provide guidance and support to lead children to new learning Praise and encourage children's efforts Use a wide range of teaching strategies, to guide children through the thinking process, help them classify and communicate their ideas, and make their thinking visible Provide real objects and natural resources for children to explore, investigate and experiment Arrange for children to apply knowledge, skills and dispositions in authentic contexts Give sufficient time for children to talk about their experiences, ask questions, express their thoughts and feelings, and explain how they solve problems that occur during play Scaffold children's learning Provide ample opportunities for children to explore with materials and interact with the environment, peers, teachers, families and communities in a variety of contexts Observe children at play and understand their thinking process for future planning Organise the learning environment to promote development children in all six learning areas. Find teachable moments throughout the day to guide children to solve problems they encounter 	<ul style="list-style-type: none"> Integrates observations and assessment into planning process to ensure learning experiences meet children's needs Observe and understand the interests, needs and abilities of children Gather data about children's prior knowledge, interests, needs, abilities and attitudes Document and interpret information to find out what children know, understand and can do Analyse and interpret learning and development to ensure children are given the right support and motivation in future experiences Evaluate the effectiveness of the learning opportunities and environment provided in achieving the learning objectives, learning goals and desired educational outcomes Share and communicate children's progress with fellow teachers and parents/families to plan for holistic development 	<ul style="list-style-type: none"> Evaluate own classroom teaching practices Engage in professional dialogues and discussions Attend professional development courses Share good practices at conferences/seminars Ask questions about practice Document progress/response to intervention Improve teaching practices via action research Evaluate changes made and the results of improved teaching practice Reflect on teaching strategies to effectively support and scaffold children's learning and development 	<ul style="list-style-type: none"> Consult with parents/families to understand the children better Organise events and programmes that involve parents/families and the community Create channels for two-way communication between teachers and parents/families Tap resources and services in the community when planning learning experiences for children Share resources with families to support and extend children's learning at home Tap strengths and expertise of parents/families for school events and learning experiences within and beyond the classroom Encourage children to participate in community events, especially those organised in the neighbourhood
Teachers as facilitators of learning					
engaging children in learning through purposeful play					
authentic learning through quality interactions					
children as constructors of knowledge					
holistic development					

A Template of the Field Trip Consent Form

XXX KINDERGARTEN Field Trip Consent Form	
Field Trip:	
Date/Time:	
Venue:	
Fee:	
Programme:	
Teacher-in-Charge:	
Accompanying Adults:	
REPLY SLIP	
Field Trip:	
Date/Time:	
Teacher-in-Charge:	
I, _____, NRIC No. _____, the parent/ guardian* of _____, allow/do not allow* my child/ ward* to participate in the above field trip.	
Signature of Parent/Guardian*	
*Delete where appropriate	

An Example of a Field Trip Programme

A Visit to YYY Primary School			
Time	Location	Activities	Talking Points
0900 - 0915	Assembly Ground/Hall	<ul style="list-style-type: none"> Talk about the function of the assembly ground/hall Have a sing-a-long session 	<ul style="list-style-type: none"> Why is the assembly/hall ground so big? Why do you have to sing the National Anthem and recite the pledge at the school? What is the stage used for?
0915 - 0930	School Library	<ul style="list-style-type: none"> Have children look at some books in the library 	<ul style="list-style-type: none"> How is the library different from the pre-school centre's reading corner? What must you do if you wish to borrow a book out of the library?
0930 - 0945	Classroom or Music Room	<ul style="list-style-type: none"> Visit a P1 classroom or the music room Conduct a story-telling or music and movement activity and have children experience being in a P1 class 	<ul style="list-style-type: none"> What must they do when they are in the class? What should they do when the teacher is teaching? What must they do if they need to go to the toilet when a class is going on?
0945 - 1000	Toilets	<ul style="list-style-type: none"> Show children where the toilets are and how they should use it (e.g. close the door, flush, wash and dry their hands, etc.) 	<ul style="list-style-type: none"> Do boys and girls share the same toilets? How are the toilets different from those in the pre-school centre?
1000 - 1030	Field/Physical Fitness Corner	<ul style="list-style-type: none"> Participate in a telematch with the assistance of the school's student helpers 	<ul style="list-style-type: none"> How is the field different from the pre-school centre's outdoor playground? What kind of games do the pupils play in the field?
1030 - 1100	School Canteen	<ul style="list-style-type: none"> Visit the various stalls to look at the types of food sold Have children take their tea break in the canteen Show them how to put their crockery and plates away and the wash area 	<ul style="list-style-type: none"> How is the canteen different from the pre-school centre's snack area? What food would you like to buy if you were in this 'big' school? How do you buy your food? What must you do to keep the canteen clean?
1100 - 1130	Return to the pre-school centre		



Bibliography



Batzle, J. (1992). *Portfolio Assessment and evaluation: developing and using portfolios in the classroom*. Cypress, CA: Creative teaching press.

Bredekamp, S. & Copple, C. (1997). *Developmentally appropriate practice in early childhood programs*. Washington, DC: National Association for the Education of Young Children.

Kostelnik, M.J., Soderman, A.K. & Whiren A.P. (2007). *Developmentally appropriate curriculum: best practices in early childhood education (4th Ed.)*. Upper Saddle River, NJ: Prentice Hall.

Ministry of Education, Singapore. (2012). *Nurturing Early Learners (NEL): a curriculum framework for kindergartens in Singapore*.

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

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



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