Australian Government

EARLY CHILDHOOD LITERACY AND NUMERACY: BUILDING GOOD PRACTICE

MARILYN FLEER AND BRIDIE RABAN

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CONTENTS

INTRODUCTION

We know early childhood education is important and what we do as professionals really matters. In order to provide the best possible environments for our children, we need to be able to:

- look at what we do
- think about what we do
- improve what we do.

In this book we provide you with different ways of looking at your practice. New ideas for thinking about children's learning and how you might interact differently with children are given. Some of the activities in this book will be challenging, but the outcomes will be rewarding for you and for your children.

WHY NOW?

Governments around the world are concerned about the level of literacy and numeracy of young children, particularly those from the hardest-to-reach families. Early childhood professionals have traditionally concentrated their literacy and numeracy efforts on programming for children's spoken development and focused on the development of number. For instance, we often plan to help children learn number by doing number rhymes with toddlers. We may plan to develop literacy through talking to infants while changing their nappies. However, more recent research indicates that early understandings of literacy and numeracy are best supported when early childhood professionals:

- have a deeper knowledge of literacy and numeracy
- deliberately plan for activities which support beginning development in literacy and numeracy
- have programmes which go beyond number and the spoken word
- have systems for looking at their own professional practices
- seek to improve their own understandings of literacy and numeracy.

PURPOSE AND STRUCTURE OF THE BOOK

This book has been designed to support you with improving literacy and numeracy learning for young children through looking at your own practice (self-appraisal). There are three sections in this book. The first section provides background information on literacy and numeracy concepts. The second and third sections provide different ways of thinking about literacy and numeracy learning:

- Mapping tools (mapping what you have or do).
- Concept development (thinking about literacy and numeracy).
- Workshops for developing literacy and numeracy.

Example cards are also available for download. The cards show how literacy and numeracy can be developed through simple family activities and how this links to later learning at school.

NEW THINKING ABOUT CHILDREN'S LEARNING

When we think about learning in the early years of childhood, we think about what are the concepts that we are helping young children to learn.

For example, we may ask ourselves: 'What are the literacy concepts and what are the numeracy concepts young children need to know during these early years?'

When we think about concepts, we need to think about what this means at home and what this means for early childhood settings.

Question: 'Will the everyday concepts developed in the home and the concepts being learned in your early childhood setting be the same?'

New thinking about children's learning draws our attention to the significance of children's everyday experiences, and the everyday concepts they learn through these experiences. For example, Djeda (a toddler) helps her Grandad to feed the chickens:

Grandad: *Let's give the chickens some yummy, yummy feed*
Grandad: *Half here*
Djeda: *Pola ovdje*
Grandad: *Half over here*

Children hear words like 'half' or 'quarter' every day. Having lots of experiences with splitting things into equal amounts helps children understand fractions later at school. Fractions or 'half' is the numeracy concept we are working towards, but Djeda needs lots of everyday experiences with putting half the chicken feed in one spot, and half in another spot.

What is significant for us, as early childhood professionals, is how we connect and build upon these everyday concepts developed at home. How do we find out the everyday concepts held by the children? What do we do in our early childhood settings to connect with these everyday concepts?

The idea of thinking about everyday concepts and abstract—literacy and numeracy—concepts (introduced in early childhood settings) comes from the writings of Lev Vygotsky (see reference list) and forms the basis of this book. We will introduce you to the details of these new ideas through the pages of this book.

WHAT DO WE MEAN BY NUMERACY CONCEPTS?

When we talk about numeracy concepts we think about more than just number. We think about the broad areas of measurement, about spatial knowledge and the many different aspects of number.

MEASUREMENT

Exploring measurement concepts can look like this when you are interacting with a child:

Early childhood professional: 'Let's wipe the table together.' (Using sponges or paper towel the children wipe the table.)

Early childhood professional: 'Did you wipe to the edge? We covered the whole area!'

When we talk about 'edge', 'side', 'top' or 'bottom', children are learning about area. Children often don't think about area. Helping children pay attention to it helps them later on when they will measure these surfaces and make comparisons.

SPATIAL KNOWLEDGE

Young children already have some spatial knowledge that we can build upon in our programmes. For example, when making roti at home, Ashraf and his mum had the following conversation:

Ashraf: '*Look what I made.*'
Mum: '*It's curved like a raindrop shape.*'

Using everyday words to describe shapes such as 'a raindrop', 'egg shape', 'curved' and 'round' are important for helping children understand shape.

Over time children will use words such as 'triangle', 'square' and 'circle'. These words help children to talk about the shapes in their environment. Noticing and studying shape is important for learning geometry later at school.

NUMERACY CONCEPTS

A summary of some important numeracy concepts is shown below:

‘Straight’, ‘curved’ and ‘bent’ are about shape	‘Sharing’ is about division
Using everyday words to describe shape such as ‘a raindrop’, ‘egg shape’, ‘curved’ and ‘round’ are important for helping children understand shape. Over time children will use words such as ‘triangle’, ‘square’ and ‘circle’. These words help children to talk about shapes in their environment. Noticing and studying shape is important for learning geometry later.	Children will share by saying ‘one for you’ and ‘one for you’ until nothing is left. Later children will learn that sharing is about division and will know what to do with the ‘left over’.

‘Upside down’ is about position and direction	‘High’ and ‘low’ are measurements
Position (where something is) and direction (where they go) are key ideas in mathematics.	All of these are comparisons. Later children will learn to use centimetres (cm), kilograms (kg), degrees etc. to make comparisons.

‘Grouping things together’ is about noticing if something is the same or different	‘Up’, ‘down’ and ‘next to’ are about position
Lots of experiences with ‘same’ and ‘different’ help children later on with describing how something may be different (e.g. has three more), rather than just how things look.	Children learn that there are words (e.g. upside down, next to, behind) which describe position.

‘Big’ and ‘little’ are about measurement	‘Heavy’ and ‘light’ are about mass
These words are important for learning about measurement. Later, when children are older, they use centimetres (cm), kilograms (kg) and degrees to measure and compare more accurately or to find out ‘how much more’.	When children are lifting and carrying things they will talk about ‘heavy and light’, and ‘big and small’. Later, they will notice that the biggest thing is not always the heaviest or the smallest thing not always the lightest. Having lots of experience like this helps children understand about ‘mass’ (how dense something is).

‘Sorting things’ is about classifying	‘Full’ and ‘empty’ are about measurement
When we unpack the shopping, we sort things as we put them away. Early on, children sort by what is ‘the same’ and ‘what is different’. They may start by sorting colour and end up sorting by size. Later, children keep using the same sorting system (classification) and can tell you how they sorted.	Filling a measuring cup helps children think about measurement. Words such as ‘full’, ‘half a cup’ and ‘empty’ help children pay attention to measurement. Later children will learn that measuring how much is in a cup is about volume and will use words such as ‘litres’ or ‘millilitres’.

‘Half here! Half over there!’ is about fractions	‘Top’ and ‘edge’ are about area
Children hear words like ‘half’ or ‘quarter’ every day. Having lots of experiences with splitting things into equal amounts helps children understand fractions later.	When we talk about ‘edge’, ‘top’ and ‘bottom’, we can help children learn about area. Children often don’t think about area. Helping children pay attention to it helps them later on when they will measure these surfaces and make comparisons.

WHAT DO WE MEAN BY LITERACY CONCEPTS?

Long before a child utters their first word, parents/early childhood professionals and children begin to communicate. Their first communications take on the form of gestures initiated by the adults. Parents and early childhood professionals take a leading role in a child's language development by mainly:

- talking to young children about the here and now
- being selective about the words they use
- encouraging children to take turns in a conversation
- altering the way they say things, such as slowing down, or in the usage of short, simple sentences.

Children's language and literacy development takes place in everyday activities accompanied by interesting talk with lots of new vocabulary words. Although the development of literacy skills is different from the development of language, it is inter-related.

Literacy is about more than knowing letters and reading some words. In the early stages, we would be looking for evidence of young children showing that they are aware of literacy in their home and in the community in which they live. Do they respond to print material that enters the home like junk mail, letters and postcards, bills and other advertising materials? Do they respond to shop signs and printed material on cartons and other packaging in the supermarket? Do they know when they pass McDonald's or the petrol station?

Young children can be responsive to the purposes of different forms of print, for instance, a list for shopping, rules to play a game, a calendar, bank books or Pokémon cards.

They can show their understanding of the links between what they experience and what they say and what is written down through such activities as telling a story that gets written and 'read', following a recipe for making a meal, giving and writing directions for someone to visit, and writing captions to family photographs that can be re-read.

From these experiences, the young child learns that print is 'read' one page at a time, from left to right and from top to bottom of the page.

They can also learn to recognise their own name and learn some letters through this recognition.

LITERACY CONCEPTS

A summary of some important literacy concepts is shown below:

Sharing books is about beginning reading	Looking at 'signs' and 'logos' is about reading
Turning one page at a time is a fundamental concept for interacting with books and learned very soon with experience and opportunity.	Children can recognise shop signs, petrol station logos and other frequently seen signs in the community.

Playing with rhymes is about learning word and letter sounds	'Telling' stories is about story structure
Children enjoy joining in songs and the rhymes give them a sense of the patterns of language.	Telling stories gives a sense of the sequence of events and encapsulates a beginning, middle and end to events.

Pretend reading is real reading	Playing word games is about learning the patterns of sounds
Picture books give children opportunities to 'read' stories from the pictures and turn one page at a time to get the sequence of events.	Playing with rhyming words, playing 'I spy' and other games with words sensitise children to the patterns of sounds in the language.

Reading advertising is about thinking critically about print	Re-enacting or re-telling a story is about remembering the sequence
Mulling over junk mail and catalogues gives children the sense of being a reader as they take meanings from the pages.	This requires children to remember the sequence of events and capture the beginning, middle and end of the action from a story they have heard read or told aloud.

Drawing and scribbling lead to writing	Writing means the same when it is read as when we wrote it
Children soon learn to distinguish between their drawings and their writing whether this is scribble, streaming, or making letter-like marks as they experiment with writing for themselves.	Writing materials of all kinds give children the chance to, for instance, write messages from phone conversations, leave messages for other people and learn that writing can carry meaning across time and space.

As you work your way through this book, other ideas about literacy and numeracy concepts will be shared. In such a small publication, we cannot provide you with a full discussion of literacy and numeracy concepts. However, in this publication we do provide some pointers about important things to think about. You may wish to draw upon the *Everyday Learning Series* or the *Research in Practice Series* which provide further information about literacy and numeracy (e.g. *Boys and Literacy Learning: Changing Perspectives, Everyday Learning about Maths and Everyday Learning About Talking*).

OVERVIEW OF SELF-ASSESSMENT ACTIVITIES

Assessing the environment that we create for children provides us with a lot of information about the potential for literacy and numeracy development. The first set of self-assessment activities will support you with this through mapping your environment and your interactions:

- Environmental scan
- Mapping interactions

The next self-assessment task concentrates on the cards that are shown throughout this publication and others which can be downloaded from the Department of Education and Training's website (www.education.gov.au).

You will find that the cards will help you think about the concepts that children develop at home and in the community and challenge you to link these to the literacy and numeracy concepts you are developing in your programme. There are three workshops to support you:

- Workshop 1: Thinking deeply about literacy and numeracy concepts
- Workshop 2: Understanding everyday concept development in the home
- Workshop 3: Transforming children's thinking

You could work your way through each of these professional learning activities, or you could pick those which you believe best support your development at this point in time (going back to the others later).

MAPPING LITERACY AND NUMERACY: ENVIRONMENTAL SCAN

An important part of thinking about your own literacy and numeracy programme is to map the environment that you share with the children. The list on the next page may help you start on this. First, tick what you already have in your environment. Only complete the second column for now.

Then choose one of the environment ideas (see example below). Think about the play that takes place there. Jot down one thing you have noticed about the children's play (see examples). Use the cards or the concept information in the literacy and numeracy section above to help you.

There are lots of ways you can use this environmental scan—you may decide to use it as it is, or you may simply do the first part only.

Environment: (literacy and numeracy)	✓	What have you noticed about children's play? What is the everyday concept being developed?	Why do we do this (use cards/ concepts to help you)? What is the literacy or numeracy concept?
Do you have scales or balancing beams available for children in the block corner, outside, in the home corner etc.?	☑	(example) Toddlers are in the sandpit and begin moving some of the play material around: Child: *'Is this too heavy for you?'* I notice they use the words 'heavy' and 'light'. I notice that we don't have a way of measuring 'how heavy something is' available for the children.	'Heavy' and 'light' are about mass. Lots of experience with measuring how much something weighs helps children notice that the biggest thing is not always the heaviest or the smallest thing not always the lightest. This helps children understand about 'mass' (how dense something is).
Do you have clipboards, pens and paper in the dramatic play setting?	☑	(example) Children write notes and make marks whilst answering a toy telephone: Child: '*What time would you like your appointment?'* I notice that when I have these tools available for children they incorporate more literacy and numeracy into their play.	Drawing and scribbling lead to writing. By writing or drawing their ideas, children begin to pay attention to using common symbols, so others can read what they wrote. They are also learning that keeping records of things that happen helps to remember them. 'What time is it?' is about measurement. Having a play clock helps children use the measurement language of time.
Do you have a range of shapes available for children to use (e.g. dramatic area, block area, painting paper, collage, window crystals etc.)?	☐		'Straight', 'curved' and 'bent' are about shape.
Do you provide spaces where individual/small group number games can take place?	☐		'How many' is about understanding number.
Do you have play materials in the home corner, such as plastic cakes (which are in equal parts) or containers of beads, animals etc. for children to share when playing?	☐		'Sharing' is about division.

Environment: (literacy and numeracy)	✓	What have you noticed about children's play? What is the everyday concept being developed?	Why do we do this (use cards/ concepts to help you)? What is the literacy or numeracy concept?
Do you have materials for setting up a shopping centre or library or other real-life experience where children need to sort things (not just packing up regular centre materials)?	☐		'Sorting things' is about classifying.
Do you have a selection of bags with books (e.g. Titch [Hutchins, 1971]) and props, such as a tape measure, ruler (can also include measuring cups and spoons, coins, clocks, watches etc.)?	☐		'Big' and 'little' are about measurement. 'Full' and 'empty' are about measurement. We can also measure time, area and money.
Do you have print in various forms around the walls of the room (e.g. notices, posters, labels, alphabet, children's names, number charts)?	☐		Looking at 'signs' and 'words' is about reading. They notice that labels tell them about the objects and capture their names through labels. Having their name on things tells them where their belongings go.
Do you display children's work with written captions underneath?	☐		Looking at 'signs' and 'words' is about reading.
Do you make writing and measurement implements always available and easily accessible for children to use (e.g. writing table, scales, tape measures, calculators)?	☐		Drawing and scribbling lead to writing.
Do you include a 'signing-in' book for children as well as parents, and have a clock close by so children can write down the time?	☐		Messages can be sent from one place to another. Children quickly learn to write their name in the book or on a list as they see their parents doing this.
Do you provide spaces where reading, writing, drawing and number games can take place?	☐		Reading helps us get things done.

Environment: (literacy and numeracy)	✓	What have you noticed about children's play? What is the everyday concept being developed?	Why do we do this (use cards/ concepts to help you)? What is the literacy or numeracy concept?
Do you incorporate a computer area for everyday use?	☐		Messages can be sent from one place to another. Using email or sending letters is about learning that written language can carry a message. In talking about what appears on screen, children are learning that symbols mean something particular and can be re-arranged and placed in particular locations using the keyboard and mouse.
Do you have a collection of charts, posters, playing cards, games with spinners, dice, egg timers, stopwatches etc.?	☐		Literacy and numeracy tools give children more and different types of opportunities for talking and playing with numbers and words.
Do you have a collection of technologies (TV, telephones, faxes, emails, internet, mobile phones etc.) available?	☐		Talking about TV helps children learn.
Do you provide everyday print materials and draw children's attention to their purpose?	☐		Learning to read carefully takes time.
Do you have displays in other languages?	☐		You can't read too many stories.
Do you have access to alphabet books and books about numbers?	☐		Numbers are about how much, how long and how many. Letters are about reading.
Others you have?	☐		

What do you now know about your setting that you didn't know before?

Your ideas:

When English is a second language, adults read stories in their first language with children.

MAPPING LITERACY AND NUMERACY: MAPPING INTERACTIONS

Research has shown that there are many different ways that adults interact with children when supporting learning. The most common approach to adult–child interaction is scaffolding.

SCAFFOLDING

Scaffolding, in its simplest form, refers to the way an adult supports learning. The adult can take on three different roles during learning. The adult may model concepts to children. The adult may work together with a child on something, with the child doing what they can and the adult doing the rest. Or the adult may encourage the child to do or demonstrate the concept on their own. The adult will do this if they feel confident that the child already knows the concept or can do the task without support.

For example, when Yukiko wants to write her name on her work, she may write the initial letter and the early childhood professional writes the remaining letters (shared). James on the other hand, needs the early childhood professional to write his whole name and model this process to him (modelled), whilst Kiana can write her name by herself (independent).

When you think about scaffolding children's literacy and numeracy concepts, how do you interact?

- Do you model the concepts at all? For example, are the literacy and numeracy words spoken about in your early childhood setting (modelled)?
- Do you plan experiences beyond what the children can do on their own? In these experiences, do the children do what they can and you do the rest (shared)? For example, helping you read the recipe when cooking.
- Do you actively observe children's literacy and numeracy development and note when children have attained concepts (rather than just tasks)?

NUMERACY

Below are literacy and numeracy concepts—go through each and create an example of your interaction for each level. Examples are shown. Fill in the remainder.

Supporting children: (Interactions/Modelling)	Modelled	Shared	Independent
'1, 2, 3, 4, 5' is about number patterns. There are patterns in the way we say numbers and they help children to remember their order.	(example) When I am modelling, I sing/say lots of number rhymes and songs (up to five; up to 10; up to 20; up to 30). When I am modelling, I may say the number names up to three when I am about to pick up an infant from the change table.	(example) When I know a child can sing up to five, I will let them do this part, and I will do the next sequence of numbers (e.g. up to 10). When I know an older infant is confident in the counting routine, I will say 'one', 'two' and then wait to allow the infant to say 'three'.	(example) When I feel confident that a child knows the number sequence, I will encourage them to lead the group in the rhyme or song and will ask them to predict what numbers come after 10 or 20. When I feel confident that an older infant or toddler knows the number order to three, I will invite them to recite it.
Grouping things is about counting.			
Numbers are about 'how much', 'how long' and 'how many'.			
'More' and 'less' are about comparing things.			
'Half here! Half over there!' is about fractions.			

Supporting children: (Interactions/Modelling)	Modelled	Shared	Independent
'Upside down' is about position and direction.			
'High' and 'low' are measurements.			
'Grouping things together' is about noticing if something is the same or different.			
'Up', 'down' and 'next to' are about position.			
'Big' and 'little' are about measurement.			
'Top' and 'edge' are about area.			

Supporting children: (Interactions/Modelling)	Modelled	Shared	Independent
'Straight', 'curved' and 'bent' are about shape.			
'Heavy' and 'light' are about mass.			
'Square', 'triangle', 'straight' and 'bent' are about shape.			
'Sharing' is about division.			
'Full' and 'empty' are about measurement.			
'Sorting things' is about classifying.			

LITERACY

Supporting children: (Interactions/Modelling)	Modelled	Shared	Independent
Sharing books is beginning reading. Learning how a book works and that reading is fun, is important for learning to read. Print goes one page at a time and from left to right. Pointing to the print as I turn the pages and read a story will help to reinforce for the children the way print works—one line at a time, left to right, top to bottom of the page.	(example) When I am modelling, I show the children the front of the book and point to the words as I read them.	(example) When I know children know some of the words, I ask the children to show me where to start reading.	(example) When I am confident the children know how a book 'works' and how the words tell the story, I invite them to begin a familiar story for me from the pictures.
Making lists is useful for writing.			
Writing means the same when it is read as when we wrote it.			
Knowing what is written down can be 'read' again is about the permanence of literacy.			
Playing with rhymes teaches children about sounds.			

Supporting children: (Interactions/Modelling)	Modelled	Shared	Independent
Drawing and scribbling lead to writing.			
Reading gives us information.			
Pretend reading is real reading.			
Signs and words are all around us.			
Watching and listening teaches language.			
Describing things and grouping them develops the language of classifying.			

Supporting children: (Interactions/Modelling)	Modelled	Shared	Independent
You can't read too many stories.			
Reading advertising takes care.			
Talking about TV helps children learn.			
We can tell stories in lots of ways.			
Reading helps us get things done.			
Messages can be sent from one place to another.			

WORKSHOPS TO BUILD CHILDREN'S INTELLECTUAL LIVES

The purpose of the workshops is to enable colleagues to come together and to think about their programmes with respect to literacy and numeracy development. These workshops should be facilitated by the centre director or some other person holding a leadership position.

- Workshop 1: Thinking deeply about literacy and numeracy concepts
- Workshop 2: Understanding everyday concept development in the home
- Workshop 3: Transforming children's thinking

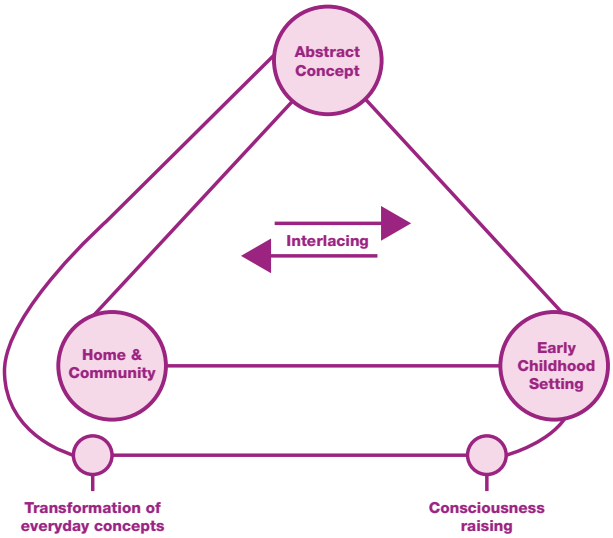
AMELIA'S TRANSFORMATION

Amelia at four years of age was learning to ride her new bike. Jess, her mother, took her regularly to the community oval for bike riding practice. On the oval were four poles. On each occasion she managed to hit one of the four poles. Amelia kept looking at the things that frightened her the most: the poles. Jess told her that the bike will go the way you are looking. As soon as she looked to where she wanted to ride—and not the poles—she immediately stopped hitting the poles.

Amelia's everyday practice was transformed because she had learned an important abstract concept about how to control the direction of her bike. The abstract concept was consciously held, and allowed her to change her everyday practice.

Children in their home and community have developed a series of everyday concepts that help them make sense of their everyday lives. These everyday concepts are part of their everyday practice. However, in early childhood settings, we develop abstract concepts that help children transform their everyday experience—as happened to Amelia.

THEORETICAL STORY



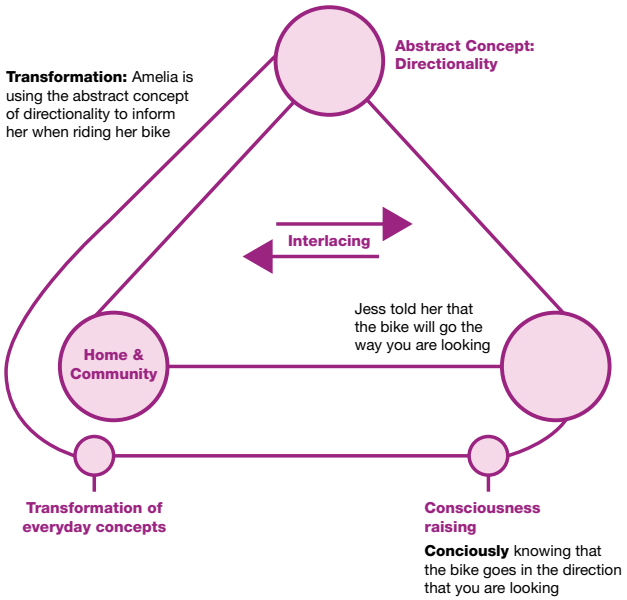
MODEL: AMELIA'S TRANSFORMATION

In the model below, Amelia's everyday experience of riding her bike is transformed through a new concept of 'directionality'. This mathematical concept means that Amelia could think about how she could direct her bike to go where she wanted.

Jess knew that Amelia's everyday experience was to look where she didn't want to go, and she consciously introduced her to the abstract idea of directionality. Jess was able to bring together Amelia's everyday concept with the abstract concept. She planned to interlace these concepts so that Amelia could ride her bike with new thinking.

As professionals we need to think about children's everyday concepts and how these can be transformed into concepts in both literacy and numeracy. An example is given for both literacy and numeracy below.

THEORETICAL STORY



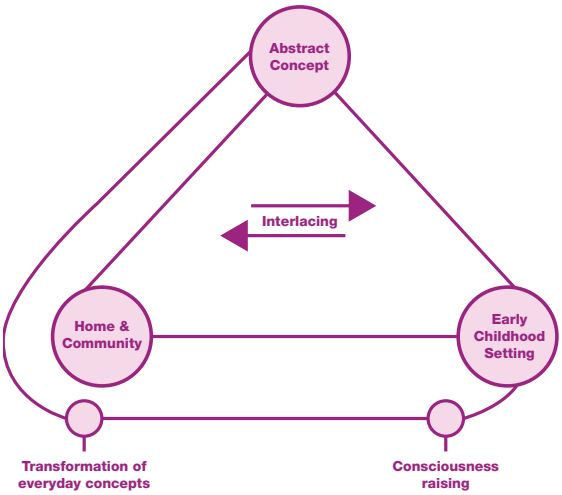
Card	Description of the everyday practice (concept).	What is the everyday concept?	What is the literacy/ numeracy concept that builds on this everyday experience?	Your programme: Mapping what you have or do. What is in my centre environment? What sorts of conversations do I have with the children?
(example) 'Grouping' and 'matching' are about counting. See sample card on page 32.	Mum: 'Can you set the table?' Aaliya: 'One for you, and one for you, and one for you ...'	Having a bowl for every teddy.	Children will share out by saying 'one for you' and 'one for you' until nothing is left. Later children will learn that sharing out is about division and will know what to do with the 'left over'.	Dramatic area: Provoking 'sharing opportunities': 'Can you share out the bowls for the teddies?' Talking about the 'left overs' with the children.
(example) Signs and words are all around us. See sample card on page 35.	Brodie: 'Mum, what does this say?'	Knows that print says something.	Knows that print says something specific and that the same print will say the same thing on another occasion.	Do you provide displays of print and labels around the room for children to notice and engage with? Do you tell children what the print says when they ask and when they don't ask?
Your chosen card.				

WORKSHOP 1: THINKING DEEPLY ABOUT LITERACY AND NUMERACY CONCEPTS

WARM-UP ACTIVITY – IDENTIFYING LITERACY AND NUMERACY CONCEPTS

Workshop leader:

- 'In small groups write down everything you know about literacy and numeracy' or
- 'Share with the group the outcomes of your "environmental scan" or "mapping interactions" activity'



DEVELOPING THE CONTEXT

Look at the cards linked to this resource (example below). Discuss what is happening. Relate the content to your own programme. Brainstorm as a group how you would build this activity into your programme, or one similar to that shown.

WHAT WE DO AND WHAT IT MEANS

Dad: *Ollie, there isn't any more spaghetti. Do you want some more sausages?*

Ollie: *No, I have enough. Look how many I got!*

Knowing what 'more' and 'less' means helps children know how to compare different amounts.

Comparing different amounts is necessary for maths development because later children will be able to compare groups of things, counting which has more.

Description of the everyday practice (concept)	What is the everyday concept?	What is the literacy or numeracy concept that builds on this everyday experience?	How does this happen in your programme?	What else might we do to support literacy and numeracy development?
(example) 'More' and 'less' are about comparing things. Dad: '*Ollie, there isn't any more spaghetti. Do you want some more sausages?'* Ollie: '*No, I have enough. Look how many I got!'*	Being able to ask for more or saying I have enough to eat.	Knowing what 'more' and 'less' means helps children know how to compare different amounts. Comparing different amounts is necessary for maths development because later children will be able to compare groups of things, counting which has more.	Lisa decides to read the story Wombat Stew (Vaughan, 1984) in the sandpit, and invites the children to help her put all the natural ingredients into the stew pot—leaves, nuts, flies etc. as they read the book. They discuss: Is it enough?; Do you want to put in some more?; How many have we put in?	Lisa could have also had the same conversation with the children over lunch. She could set up a cooking experience, paying particular attention to 'how many' cups or spoons are needed and asking: Do we need more? Less?
Your choice.				

OTHER CONTEXTS

In the area of literacy, developing appropriate literacy concepts (such as the print tells the story, which way do I go to track the print) could also have been focused on when reading the story of Wombat Stew:

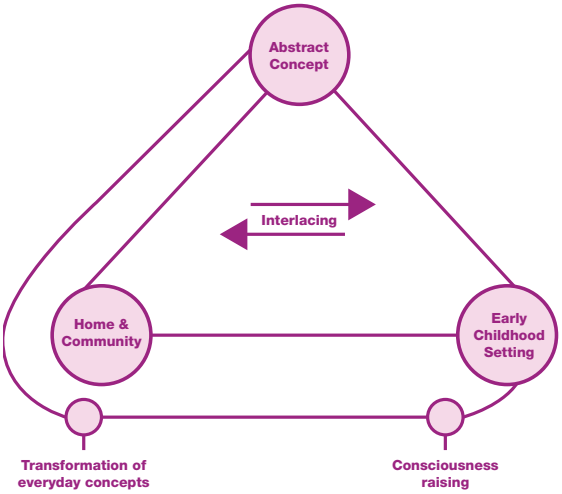
- Did I point to the print when I was reading the story?
- Did we count the number of things that went into the stew?
- Did I ask the children if they make stew at home?

WORKSHOP 2: UNDERSTANDING EVERYDAY CONCEPT DEVELOPMENT IN THE HOME

Invite your families to bring in photos of their children involved in everyday activities at home or in the community. Ask the families to tell you about the photos—record their comments.

Using this information, make your own cards or have a conversation about the children's photos using the table below.

You may like to draw upon the literacy and numeracy concept information shown earlier in this book or on the cards to help you with the final two columns.



MAKING OUR OWN CARDS

Photos	What the families said about the photos – everyday practice	What are the everyday concepts?	What are the literacy or numeracy concepts that I can develop?	Later children will learn that ...

NUMERACY

'FULL' AND 'EMPTY' ARE ABOUT **MEASUREMENT**

WHAT WE DO AND WHAT IT MEANS

Mum: *We need two cups of plain flour. We'll fill the cup right to the top.*

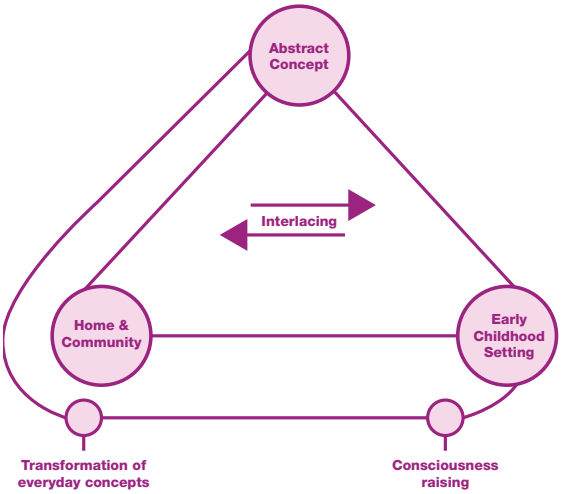
Tommy: *I can do it.*

Filling a measuring cup helps children think about measurement. Words such as 'full', 'half a cup' and 'empty' help children pay attention to measurement.

Later, children will learn that measuring how much is about capacity, and will use words such as litres (l) or millilitres (ml).

WORKSHOP 3: TRANSFORMING CHILDREN'S THINKING

Take one of your cards that you developed in Workshop 2 and brainstorm all the ways you could build upon the children's everyday concepts. An example is shown below to get you started.



Photos	What the families said about the photos – everyday practice	What are the everyday concepts?	What are the literacy or numeracy concepts that I can develop?	Programme and home connections
(example) Photo of unpacking groceries	Mum, Gemma and Jana are unpacking the groceries. They stop and look at two tins of beans. Mum: *'That's what we have in tacos and that's what we have in...'* Jana: *'Where do they go?'* Mum: *'...soup.'* Jana: *'Where do they go?'* Mum: *'They go in the pantry. In the pantry.'* Gemma: *'And this goes in the pantry?'* (Turning to look at Mum as she gets more things from the shopping bag.) Mum: *'Yes it does.'*	With help from the family, being able to put away the shopping. When doing everyday jobs, such as unpacking the shopping, we sort things as we put them away. When children help out, they use the adult's system for putting things away (classification). Children may sort their toys or other things using adult classification systems or they may create their own.	Literacy Through packing away groceries, children are practicing the identification of symbols, some of which are pictorial and some of which are more print orientated. As they fine tune their identification of symbols, they will be able to 'read' the contents of packages by their signs and words. Numeracy Early on, children are sorting by what is 'the same' and what is 'different' and the criteria they use may change as they sort. Later when they are older, children notice and consistently use particular attributes/criteria for sorting, such as dry things go into the pantry and things that need to be cold go into the fridge. Later on they will also be able to sort the same things in different ways (e.g. deliberately use different criteria for sorting). Mathematical idea: 'Same' and 'different' for sorting and classifying.	Vignette 1: (see next page). Vignette 2: (see next page). Vignette 3: (see next page).
Your card				

VIGNETTE 1:

Ingrid notices in the photographs she has collected of the children in the home and community that many of their experiences are around shopping. Ingrid decides to change parts of the early childhood setting into a shopping mall. The children go on an expedition to the local shopping mall and draw pictures of the places and spaces they visit, noting some of the objects and items located in these areas. In groups, some of the children go off and focus on the dress shops, some on the toy shops and some on the supermarket. In the early childhood setting, children bring in items from home, as does Ingrid, and they decide how they are going to design their shopping mall. They discuss how they will sort and classify all the items they have brought in.

VIGNETTE 2:

In Ingrid's analysis of the photographs, she notices that the boys are spending time in the shed. She decides to take an excursion to one of the children's homes and the children take photographs and notes of how the shed is organised. The children then visit a series of community places such as the local mechanic, the service station, the tyre centre, carpenter's shop and hardware store. The children examine their shed in the outdoor area and they reorganise their shed on the basis of criteria they decide upon. Together with the local community, the children transform the outdoor area so that it contains two different kinds of workshops (e.g. carpentry area and a car mechanic's workshop). Real tools are purchased and donated by the community and real projects initiated by the children and supported with volunteers (e.g. fixing trikes and making wooden toys for the block area).

VIGNETTE 3:

Ingrid takes the children to the local library and the children's task is to try to work out where their favourite stories/books/areas may be located in the library. When they return to the centre, the children discuss the sorting and classifying criteria used by the librarians. They decide to create their own library and produce their own books on the other activities they have been engaged in and on future projects. The children also design their own system for borrowing books from their 'library'. Children become librarians and monitor book returns, storing them in their places, using the classification system they have designed. As they make new books for their library, they undertake the necessary classification procedures for storing and retrieving the books.

LITERACY IN THE VIGNETTES

Vignette 2: The workshop activity helps children to develop their oral language through recognising and naming tools such as 'open-ended spanner'.

Vignette 3: The library experience deepens children's classification systems by recognising real community classifications. By simulating this in their centre, they use and play with classification systems where there is a real purpose of classifying books. Through creating books and adding these to the library, children develop high-level skills in book orientation, e.g. authors, illustrators and other aspects of books etc.

CONCLUDING STATEMENT

This book was designed to get you thinking more about literacy and numeracy learning for young children. The focus was on children's concept formation and how we may be able to further enrich children's capacities in literacy and numeracy.

SAMPLE CARDS – NUMERACY

Further cards can be downloaded from the Department of Education and Training website (www.education.gov.au).

WHAT WE DO AND WHAT IT MEANS

Mum: *How many friends are coming to the tea party?*

Aaliya: *Five!*

Mum: *How many cups do we need? Let's see if we have enough.*

When friends play together they often group things, and ask 'How many are there altogether?' Finding out how many there are of something helps children think about the group of things (and not just the last thing they counted).

Later children will understand that a number can represent a group of things and will trust that number, for example 5, will always represent a group of things.

NUMERACY

'SORTING THINGS' IS ABOUT **CLASSIFYING**

WHAT WE DO AND WHAT IT MEANS

Jana: *Where does this go?*

Mum: *That goes in the cupboard.*

Jana: *The oranges go in the fridge?*

When we unpack the shopping we sort things as we put them away. Early on, children sort by what is 'the same' and 'what is different'. They may start by sorting colour and end up sorting by size.

Later, children keep using the same sorting system (classification) and can tell you how they sorted.

NUMERACY

‘1, 2, 3, 4, 5’ IS ABOUT LEARNING **NUMBER** NAMES

WHAT WE DO AND WHAT IT MEANS

Mum: *1, 2, 3, 4, 5 toes!* (tickling each toe as she counts).
You have 5 toes.

There are patterns in the way we say numbers and they help children to remember their order. Children need to learn the order of the early number names by saying number rhymes and imitating the order they hear.

When the numbers begin to be repeated (21, 22, 23, 24 etc) children notice the pattern of the numbers so they can work out what number comes next. When using number order to count objects children need to learn that the last number tells them how many.

SAMPLE CARDS – LITERACY

Further cards can be downloaded from the Department of Education and Training website (www.education.gov.au).

WHAT WE DO AND WHAT IT MEANS

Mum: *This is where the bus will pick us up. Look! The sign says bus!'*

Drawing children's attention to signs in the environment helps them learn to read letters and words.

Children begin to recognise symbols that are important to them, such as letters in their own name, the word for their street and the signs on buildings, or shops, that they pass often.

Later, children will learn that words keep the same meaning, even when they appear in different places. This idea is very important for literacy learning.

LITERACY

MESSAGES CAN BE SENT FROM ONE PLACE TO ANOTHER

WHAT WE DO AND WHAT IT MEANS

Look, you've got a letter. What does it say?

When we talk about the mail we've received, children learn that written language can carry a message from one place to another.

Later, they will learn that there are different kinds of messages. Some are cards and letters from family and friends; others may be advertising or bills.

LITERACY

DRAWING AND SCRIBBLING LEAD TO **WRITING**

WHAT WE DO AND WHAT IT MEANS

What have you drawn this time?

Letting children scribble and draw helps them learn to write.

Over time, children learn that writing is a particular kind of ‘drawing’ that carries a message.

Later, children will learn that writing can be used to make lists, fill out forms and to tell people about things in stories and letters.

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LITERACY AND NUMERACY CARDS

The full set of early childhood literacy and numeracy cards referred to in this resource can be downloaded from the Department of Education and Training website (www.education.gov.au)