

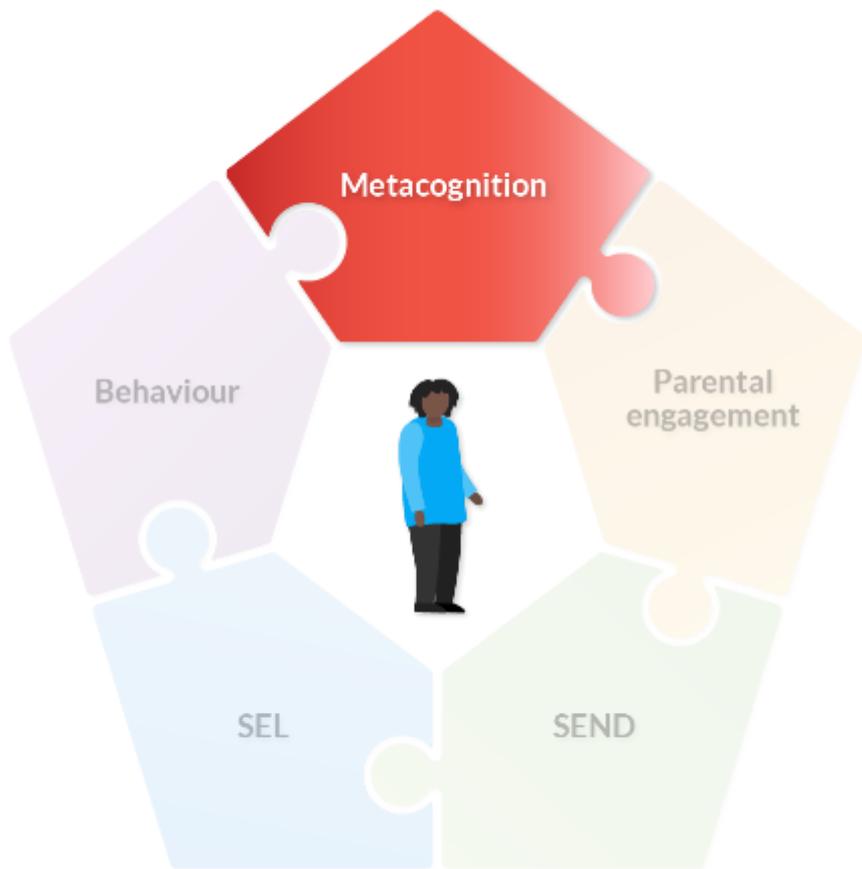
Metacognition and the use of the learning environment with Greater Manchester Combined Authority



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Research School, Meols Cop High School

Today...

- ❑ Chance to understand the evidence base around how children in the Early Years develop independent learning & self regulation skills
- ❑ Explore the importance of the learning environment to the development of independence and self regulation
- ❑ Explore the way practitioners model their thinking and use questioning to develop



Metacognition and self-regulation

High impact for very low cost, based on extensive evidence.



+7



Self-regulated learning:

- 1. Cognition**
- 2. Metacognition**
- 3. Motivation**

1

Teachers should acquire the professional understanding and skills to develop their pupils' metacognitive knowledge



- Self-regulated learners are aware of their strengths and weaknesses, and can motivate themselves to engage in, and improve, their learning.
- Developing pupils' metacognitive knowledge of how they learn—their knowledge of **themselves as a learner**, of strategies, and of **tasks**—is an effective way of improving pupil outcomes.
- Teachers should support pupils to **plan, monitor, and evaluate** their learning.

2

Explicitly teach pupils metacognitive strategies, including how to plan, monitor, and evaluate their learning



- Explicit instruction in cognitive and metacognitive strategies can improve pupils' learning.
- While concepts like 'plan, monitor, evaluate' can be introduced generically, the strategies are mostly applied in relation to specific content and tasks, and are therefore best taught this way.
- A series of steps—beginning with **activating prior knowledge** and leading to **independent practice** before ending in **structured reflection**—can be applied to different subjects, ages and contents.

3

Model your own thinking to help pupils develop their metacognitive and cognitive skills



- Modelling by the teacher is a cornerstone of effective teaching: revealing the thought processes of an expert learner helps to develop pupils' metacognitive skills.
- Teachers should verbalise their metacognitive thinking (*'What do I know about problems like this? What ways of solving them have I used before?'*) as they approach and work through a task.
- Scaffolded tasks, like worked examples, allow pupils to develop their metacognitive and cognitive skills without placing too many demands on their mental resources.

4

Set an appropriate level of challenge to develop pupils' self-regulation and metacognition



- Challenge is crucial to allow pupils to develop and progress their knowledge of tasks, strategies, and of themselves as learners.
- However, challenge needs to be at an appropriate level.
- Pupils must have the motivation to accept the challenge.
- Tasks should not overload pupils' cognitive processes, particularly when they are expected to apply new strategies.

5

Promote and develop metacognitive talk in the classroom



- As well as explicit instruction and modeling, classroom dialogue can be used to develop metacognitive skills.
- Pupil-to-pupil and pupil-teacher talk can help to build knowledge and understanding of cognitive and metacognitive strategies.
- However, dialogue needs to be purposeful, with teachers guiding and supporting the conversation to ensure it is challenging and builds on prior subject knowledge.

6

Explicitly teach pupils how to organise and effectively manage their learning independently



- Teachers should explicitly support pupils to develop independent learning skills.
- Carefully designed **guided practice**, with support gradually withdrawn as the pupil becomes proficient, can allow pupils to develop skills and strategies before applying them in **independent practice**.
- Pupils will need timely, effective feedback and strategies to be able to judge accurately how effectively they are learning.
- Teachers should also support pupils' motivation to undertake the learning tasks.

7

Schools should support teachers to develop knowledge of these approaches and expect them to be applied appropriately



- Develop teachers' knowledge and understanding through high quality professional development and resources.
- Senior leaders should provide teachers with time and support to make sure approaches are implemented consistently.
- Teachers can use tools such as 'traces' and observation to assess pupils' use of self-regulated learning skills.
- Metacognition shouldn't be an 'extra' task for teachers to do but should be built into their teaching activities.



6 Explicitly teach pupils how to organise, and effectively manage, their learning independently



Consider...

- Teachers and practitioners should explicitly support pupils to develop independent learning skills.
- Carefully designed **guided practice**, with support gradually withdrawn as the pupil becomes proficient, can allow pupils to develop skills and strategies before applying them in **independent practice**.
- Pupils will need timely, effective feedback and strategies to be able to judge accurately how effectively they are learning.
- Teachers and practitioners should also support pupils' motivation to undertake the learning tasks.

Recommendation 6: Explicitly teach pupils how to organise, and effectively manage, their learning independently

So what does this look like for children in Nursery and Reception classes?



How to support independent learning in the Early Years Foundation Stage?

First consider the learning environment....

The learning environment in the early years both indoors and outdoors is planned to support the needs of all learners. To the trained early years educator, resources are chosen carefully and placed appropriately to support challenge and independence.

Have you observed the early years learning environment recently? In Marion Dowling's chapter five, *Becoming Independent*, she references how children can be supported in learning to become independent.





0 1 2 3 4 5 6 7 8 9 10

Can you make a ramp for your vehicle?

Which car is the fastest?

Can you move your vehicle along the road?

TRUCKS



Can you make a ramp for your vehicle?

Which car is the fastest?

Can you move your vehicle along the road?

TRUCKS





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Indoor Learning Environment opportunities which promote choice



Flour

Salt

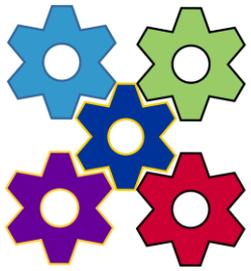


Large bowl



Small bowl

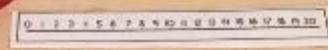




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Indoor Learning Environment opportunities which promote independence



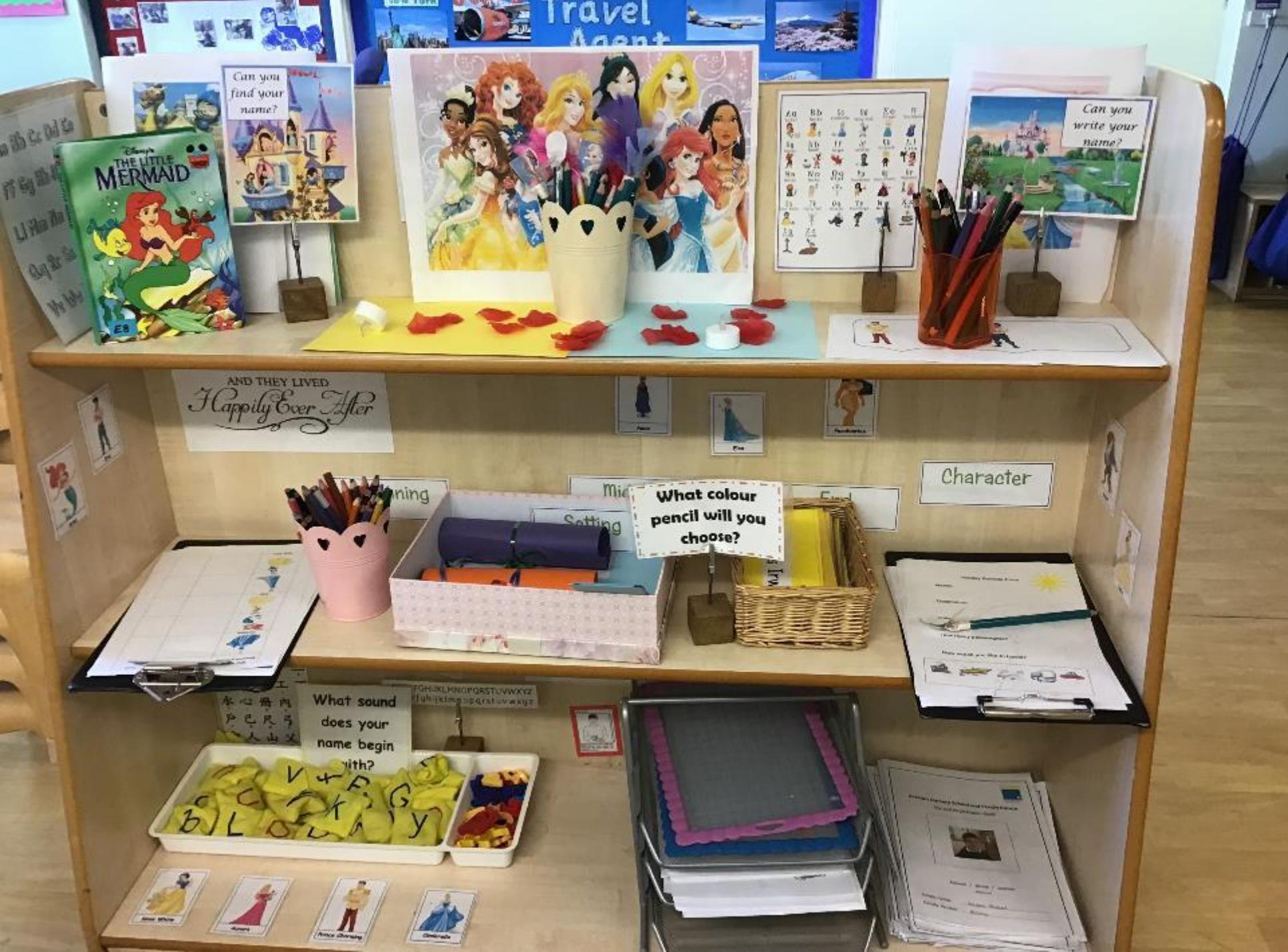


Indoor Learning Environment opportunities which stimulate initiative

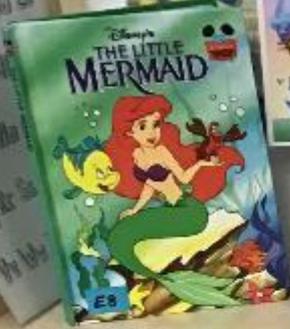


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Travel Agent



AND THEY LIVED Happily Ever After



What colour pencil will you choose?



Character

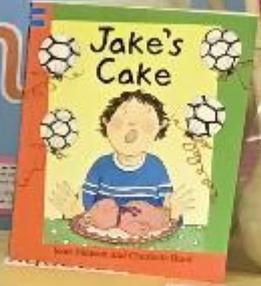
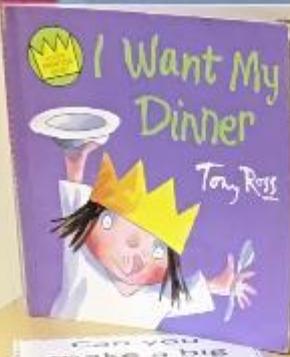
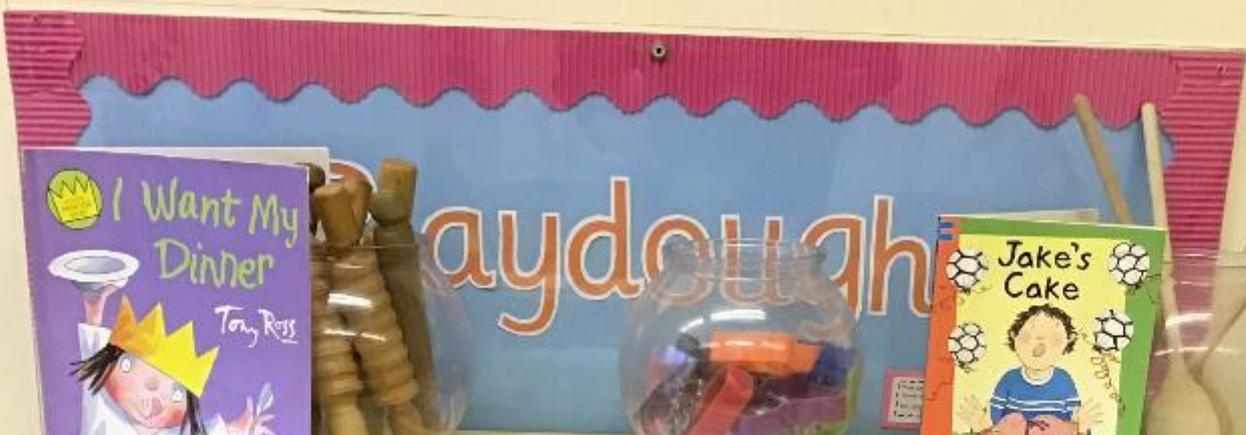
本心舟内
尸已尺子
人山义

What sound does your name begin with?



Indoor Learning Environment opportunities which promote decision making



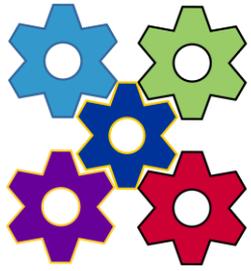


Can you make a big cake?

Rollers

Can you make a small cake?





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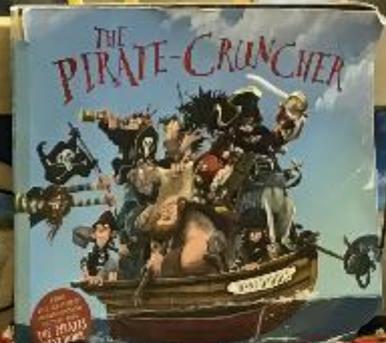
Indoor Learning Environment opportunities which stimulate thinking



MAP

WET

TREASURE



SAND

GRAIN

SIEVE

DRY

ALL



1 2 3 4 5



Empty

Cylinders

Water



Duck



Fishing Rod

Numicon



Empty

Tip

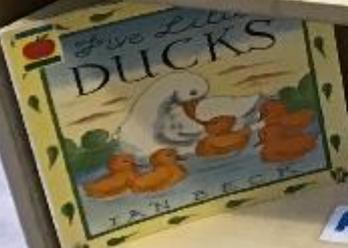
Full

Swim

Get

Pour

1 2 3 4 5



Float

Sink





What happens in the middle of this story?

It's called **READING**. It's how people install new software into their brains.



Spine

Front cover

"I been in like a garden, carried in the pocket."

Back



Who are the characters in this story?



Large bowl

Medium bowl



New York

Travel Agent

TUI
Discover your smile

Spain

Paris

THE PERFECT HOLIDAY DESTINATION

RYA

The

Travel Agent

How irresistible are your books and book areas?

ECERS-E Item 2 pg. 26

5.1 A variety of types of books are accessible to children

7.1 Book area is comfortable (rug and cushions or comfortable seating) and filled with a wide range of books varied style, content and complexity







Young children learn, think, problem solve and reason in all the same way as adults – what they lack are the experiences to make sense of what they see, hear, smell, find and so on.

Outdoor heuristic play enables children time, space and opportunity to create, manipulate and control an array of multi-sensory learning experiences within a world and learning environment that is ever changing due to weather, seasons and community.











Why engage in Heuristic play?

- gives opportunities to develop imagination and creativity.
- provides excitement and challenge.
- allows children time to apply their skills and knowledge in known and unfamiliar contexts.
- facilitates children's drive to explore, experiment through problem solving.
- gives opportunities to extend and support play in thoughtful and imaginative ways.
- ensures the development of positive relationships as part of the play experience.



Breakout Room 1

Using the Environment Independently p71-73

Marion Dowling (2014) referenced Tina Bruce's (1987) wise suggestion: "Children who are given choice and real opportunities to take responsibility for their actions are more likely to understand that adults are there as a resource to support their enterprise. Their confidence as decision makers is strengthened as they begin to understand how they can have a stake in their own lives".

Questions to consider:

How often do you encourage children to solve their problems, make choices and decisions rather than taking responsibility for this yourself?

What is the role of the adult in supporting independent learning?



Have you ever thought about how young children think?

The following example re Child M talks about observing other young children engaged in the metacognitive process:

“She’s making a mask. I think it’s a mask. It kinda looks like one. She’s thinking about what to do next. She looks a bit stuck. She’s trying to use the glue. I don’t think that’s going to work. She’s hilarious. See. She’s thinking about what to do next. Oh look, she’s using the tape now. That’s a better idea. THAT’s good thinking. I would have used the tape.”

Child L looked at his Special Book and with no adult prompting said the following:

“I was thinking when I made that house with the Duplo. First I made a roof but it didn’t stay. So I had to think what to do next. I changed it and made it with the long pieces instead. I was doing thinking.”

Tanya Choudhury 2020, Metacognition: Replicating Lewis’ study at a diverse Nursery School in East London. Impact Journal.







Remember
To wash your
hands


DO NOT
Open the
Incubator!







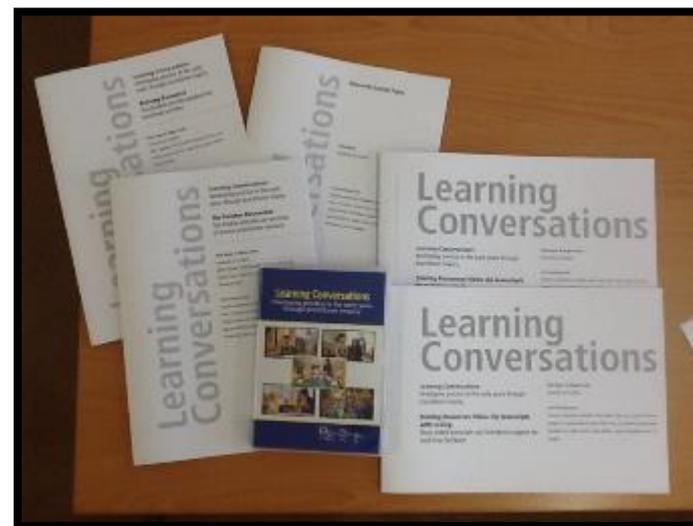
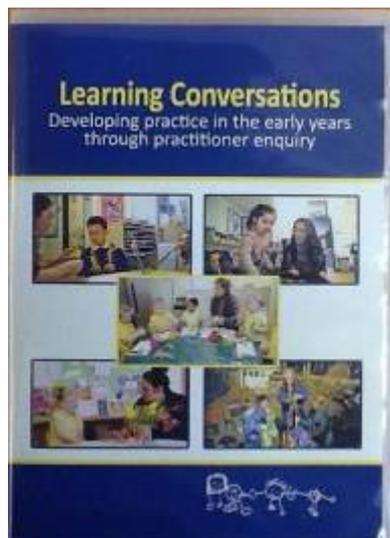
University of
Cumbria 

Collaborative Practitioner Research

- Teacher video process recall interviews
- Research team twilight meetings
- Collaborative qualitative analysis
- Applying frameworks



Learning Conversations Language Toolkit



The Toolkit was designed to support practitioners in two ways:

Firstly, to help practitioners to enhance learning conversations with children.

Secondly, to provide guidance on developing teacher inquiry.

Thinking time – related to video clip

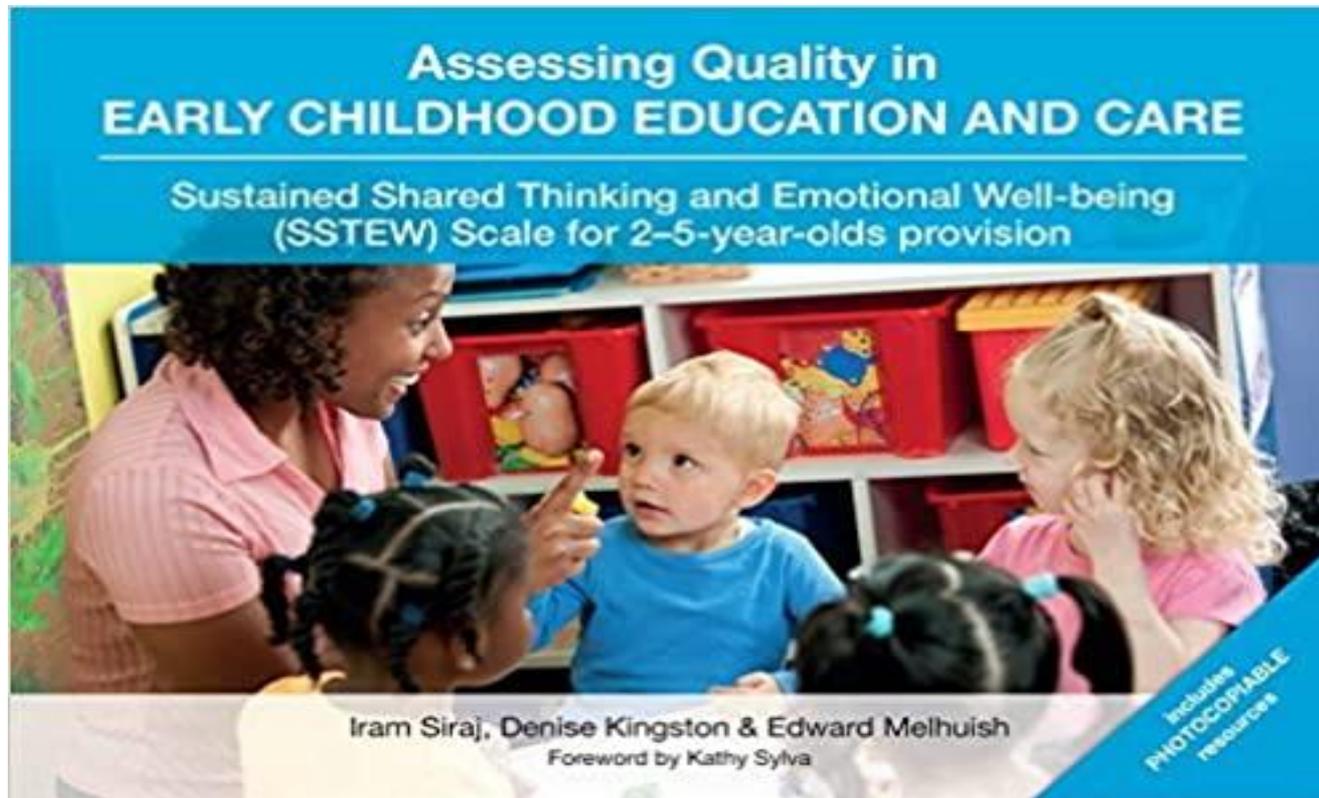
The teacher uses a strategy of asking questions to stimulate thinking. An additional strategy of 'thinking time' simply means that the teacher allows sufficient time for children to compose an answer. The teacher needs to resist the urge to fill the silence. Unless the teacher is willing to allow thinking time then it is difficult to build reciprocity in the conversation.

A teacher strategy of 'extension' involves the teacher extending the thinking of the child in some way. They may summarise the idea expressed by the child and then add a new idea or vocabulary to it.

The following clip shows the teacher in action using open ended questions, using extensions to add new vocabulary and demonstrating the power of thinking time by adopting a patient and questioning style and being willing to wait for an answer.



SSTEWS Sub-scale 1 and 4 (p16, 28 and 34)



Breakout Room 2

Assessing Quality in Early Childhood Education and Care (2015)

Sustained Shared Thinking and Emotional Well-being (SSTEWE) Scale for 2-5 year olds provision. Iram Siraj, Denise Kingston and Edward Melhuish

Look through the following Sub scales and question whether these scales are evident in your Nursery and Reception classes:

Sub-scale 1 - Building trust, confidence and independence - Item 2 - Encouraging choice and independent play

Sub-scale 4 - Supporting learning and critical thinking - Item 9 - Supporting curiosity and problem-solving

Sub-scale 4 - Supporting learning and critical thinking - Item 12 - Supporting children's concept development and high-order thinking

What do you need to consider as next steps for your provision to support choice and independent play, problem solving and high-order thinking?



Learners for Life

As they play, children have rich opportunities for Thinking Creatively and Critically. Children think of their own ideas, imaginative possibilities, and creatively combine ideas in spontaneous ways.

Adults planned activities can offer scope for children to reinforce and develop their self-regulation and learning powers, when they are organised to include opportunities for children to explore, follow their interests and think for themselves – building on children’s engagement, motivation, and both creative and critical thinking.

P22-23 Birth to 5 Matters: Non-statutory guidance for the Early Years Foundation Stage, Early Education 2021.



References

Assessing Quality in Early Childhood Education and Care – Sustained Shared Thinking and Emotional Well-being (SSTEW) Scale for 2-5-year-olds provision – Iram Siraj, Denise Kingston and Edward Melhuish (2015). IOE Press, London.

Birth to 5 Matters – Guidance by the sector for the sector – Non-statutory guidance for the Early Years Foundation Stage (2021) Early Education.

Learning Conversations – developing practice in the early years through practitioner enquiry (2014) – Everton Nursery School staff team and Professor Pete Boyd, University of Cumbria.

Metacognition: Replicating Lewis' study at a diverse Nursery School in East London – Tania Choudhury (2020) Impact Journal of the Chartered College of Teaching.

Young Children's Personal, Social and Emotional Development (4th Edition) – Marion Dowling (2014), Sage Publications Ltd.



Thank you for listening...

