



## SchemaPlay: Child-centred learning through free-flow play

### Focus: Transporting Scheme

SchemaPlay has been carrying out action research with nursery and pre-school providers in the UK over the past seven years and we are most grateful for this opportunity, which has facilitated professional dialogue with educators. It has been during this time that we have been able to start to identify and map how children's operational schemes are combined, and later chunked together to enable children to engage in more complex operations, such as measuring, adding and writing. This engagement with educators has really shone a light on the fact that we can make a profound difference to children's joy of learning, through the offering of quality enhanced experiences -experiences that relate to the child's pursuits.

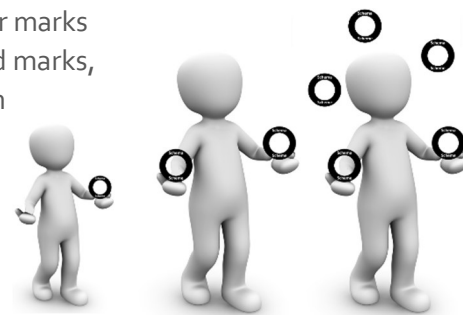
The early schemes that we observe in babies and later being combined by pre-school children, such as the trajectory, containing and rotating schemes, which we discussed in our previous SchemaPlay features, are the anchors - the foundations for learning, for developing resilience, problem solving and children's improved outcomes.

Supporting competencies in scheme applications by providing a range of contexts to apply a scheme to (contexts across the continuous provision/breadth of curriculum )and building upon schemes to support new schemes, requires educators working in early years' to develop a deeper pedagogical knowledge. Knowledge that supports skilful observations - what is it a child is **doing** as they play and they seek out invitations in their early years environment to apply their scheme/s, and what does a child know about - **what is the child exploring through their scheme applications – following their lines of thought, and their figurative schema knowledge –the objects/images/words that they already recognise and know about.** This will enable children's play and learning to be extended in a meaningful context. SchemaPlay provide in-service training for all adults working in early years to promote this engagement.

Just as Kellog (Plaskow, 1967) identified in children's drawings that their marks progress from dots, dabs and straight lines to enclosures and connected marks, we have been able to identify a progression in schemes; first engaged in individually and then combined and, later, chunked together in the long-term memory and recalled as an operation of many schemes, such as cooking, driving, adding and reading.

In this Focus we explore the transporting scheme. This is often recorded as, "A child may move objects or collection of objects from one place to another, perhaps using a bag, pram or truck" (SchemaPlay, 2015).

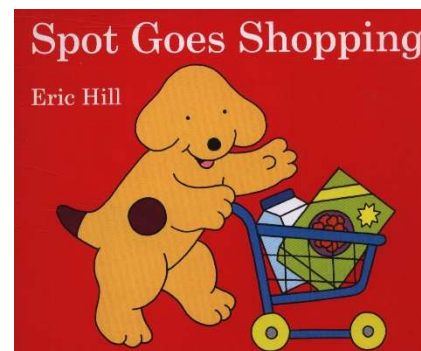
A child who enjoys exploring this scheme is very likely to have experienced being moved from one place to another whilst in a car seat or in a pushchair and of being contained whilst being moved. The transporting scheme often develops after the child has applied a trajectory and containing scheme in a variety of contexts, and he or she now draws upon these two competencies to explore how they can be combined. In combing them in a transporting scheme, the child may start to explore quantity, space, volume, size, weight and other material characteristics of the objects being moved from one destination to another. The child may also explore spatial awareness, orientation and develop some appreciation of force, momentum, inertia and friction.



The following are a few ideas of resources to 'seed' in the continuous provision for a child/ren who enjoys applying a transporting scheme to support their scheme application competencies:

Wheelbarrows, prams, carts, bags, baskets, sledges, pulleys, supermarket shopping trolleys etc., along with containing objects such as groups of blocks, balls, fruit and vegetables, logs, bark, sand, pebbles, leaves and pine cones. In supporting transporting indoors as well as outdoors we might offer beads, pom-poms and different sized boxes and bags. In sand play different sized dumper trucks could be provided and in water play, different sized boats with space on board to contain objects. Small-world play might include airplanes/cars with small world people, fostering children's narratives.

Children in pre-school often are heard verbalising their exploratory actions and, therefore, seeded resources should also include story books related to transporting, offered with props, so that the action of transporting can be carried out during the story telling and children can then go on to recall the story using props independently.



We can also consider the rhymes we sing that have transporting in the lyrics to support further language development and counting.

As was identified in the trajectory and containing scheme focus, we can identify schemes in the metaphors that we use (Lakoff & Johnson, 2003).. Schemes help to make sense of words and many popular phrases. Metaphors with the transporting scheme include phrases, such as :

“Life is a rollercoaster!” “Pulse like a racing car.”

#### CASE STUDY FROM CARA JANE, TOBY'S KEY PERSON AT LITTLE LEARNERS, SELLINGE, KENT – FOLLOWING A CHILD'S SCHEMES AND LINES OF THOUGHT.

Obs 1: Over the past few weeks Toby had been exploring a trajectory and containing scheme in a range of contexts; in sand play with dumper trucks, in block play building towers and enclosures, and in small world play putting 'people' into vehicles which were moved along a rug.

Recognising the trajectory and containing scheme being applied in Toby's play, and his exploration of shape and volume as well as his new interest in the small world vehicles, I decided to 'seed' different types of transporting containers in the outdoor area, along with books about transport and journeys. I seeded a rucksack, bags, trolleys, a supermarket shopping trolley, wheelbarrows etc., along with groups of objects to transport. I then observed Toby's responses to the resources seeded and I overheard him say "I have a lot of things in my shopping trolley", followed by "I can't find one!" I stepped in at this point to see if I could help. "What are you looking for?", I asked. In response he answered, "I am recycling". I did not know what Toby knew about recycling, but I remembered



that  
inside  
the



classroom there was a toy recycling truck. Toby has

some of the key pre-requisite schemes to recycle. He can transport objects and enjoys applying both containing and trajectory schemes. Therefore, this seemed an opportune moment to bring in 'matching' – sorting objects that needed to be put into containers by their material characteristics and explore the activity of being a recycler. This excited Toby and he readily went in search of buckets to expand upon what I had modelled when looking at how the recycling truck works: all the plastic objects are placed in one container and the card in another. That afternoon I mentioned Toby's interest to his mother and she organised to take Toby on a trip to the local recycling centre. When Toby returned after the weekend he created the most amazing recycling centre and ensured that every child who entered had their name recorded, something that he told me had seen the recycling centre. He modelled to all his peers how to match objects, sorting them into the correct containers. This was the first time I had seen Toby taking a lead in play as well as demonstrating an interest in early writing, making marks to record a person's name. He was now applying a trajectory and containing/enclosing scheme graphically. Over the days that followed Toby went on to transporting the recycled objects to our junk modelling area, and counting the objects collected – demonstrating an interest in quantity and expanding upon his earlier exploration, through the containing scheme, of volume. This led us to draw upon his trajectory scheme and to support him to tally the quantities.

What I have enjoyed in applying SchemaPlay in practice is a new ability to identify suitable planning to support Toby's scheme application, and his schema interest (being a recycler) and, at the same time, to foster his learning in Understanding the World (a recycler/material characteristics), in Maths (exploring volume, shape, weight and quantities), in Language (new words) and in Literacy (mark-making/recording for a purpose). Toby has also developed great confidence and self-esteem in running the recycling centre and, later, his play became much more collaborative, and he was interested to seek out others to play with. Reflecting on my training in SchemaPlay, my skills in observing and planning have been continually developing and it was wonderful to be able to bring sustainability into our day-to-day activities too.

Lynnette remarks: Cara and Toby's family supported Toby's learning together – a great partnership. Cara affirmed to Toby that she was interested in what he was exploring and offered an appropriate timely guided activity to take his line of thought further – he could apply his schemes of containing and transporting, with his emerging schema of recycler and his mother, by taking Toby to the recycling centre, supported his understanding of the world, what a recycler is, as well as his literacy engagement. Toby has joined, as Frank Smith discussed, the 'literacy club'. The recycler supported a meaningful literacy context for Toby to explore, which he did in his free-play, independent of an adult – but with 'seeded' resources - an effective continuous provision; enabling him to find the resources he required to extend his own play and thoughts. Toby understood what a recycler is by the actions he or she carries out, such as transporting, containing, and recording and directing customers to the appropriate bins.

“Toby, what are you doing?”  
 “I'm recycling!”



Schema

Schemes

