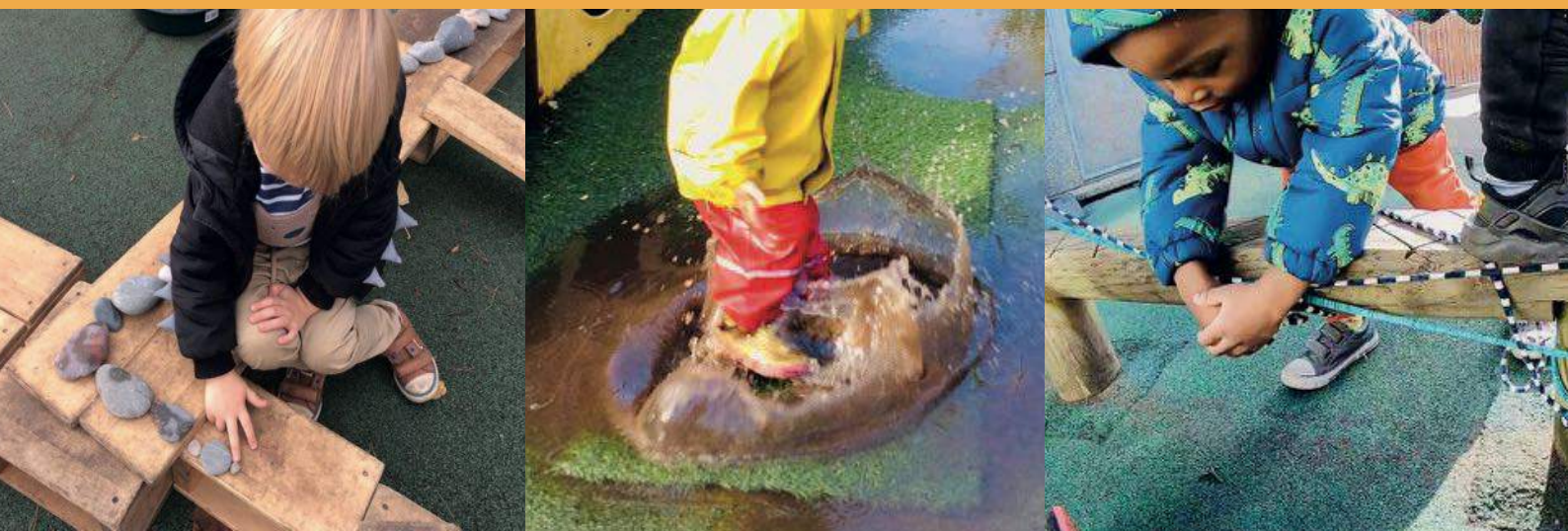


Listening-2: Investigating sensory-motor learning in two-year olds

A resource for anyone working
with families and young children



Dr Christina MacRae, Professor Maggie MacLure, with the children, staff and parents
at Martenscroft Nursery School and Children's Centre



Tuning into children's worlds

This booklet presents some thoughts from the Listening-2 project. We hope that it will help practitioners and parents to explore new ways of 'listening' to very young children as they engage with their everyday worlds – at home, at nursery, or in the community. We usually think of 'listening' to words or sounds. But it is also possible to 'listen' to how children use all their senses, and their own bodily movements, as they make sense of the world. This is sometimes called 'sensory-motor learning'.

The Listening-2 project was funded by the Froebel Trust and you can read more about the project on their website, where the full report and the articles published in connection with the research can be accessed.

Why is sensory-motor learning important?

Sensory-motor learning is a very well-known term in studies of early development. The psychologist Jean Piaget described it as a vital initial stage where children learn about the world through their sense of touch, sight, taste, smell and hearing, and through physical movement - for example, by grasping, reaching, crawling or climbing. However sensory-motor learning tends to get overlooked when children start to express their ideas in words, and adults tend to shift their focus towards children's language and cognitive skills. The Listening-2 project wanted to explore sensory-motor ways of knowing as *important in their own right*; ones that we carry with us through our lives. Listening-2 suggests that by paying attention to children's bodies-in-action we can understand more about their unfolding abilities, and also rediscover the significance of sensory-motor knowing throughout our lives.



The Listening-2 project

We invited parents and practitioners of 2-year-olds to be co-researchers with us so that we could try to 'listen to children' in a way that was more than listening to what children say. We extended our idea of 'listening' to include actions, sound-making, facial expressions, and gestures. Making films of children as they moved, and then watching these films together in slow-motion, was at the heart of this project. Slow motion viewing helps to overcome our tendency to listen for words and meanings, and instead to tune into the significance of children's gestures, glances, and movements. We give some examples below.

Why Froebel?

Froebel helped to shape how we understand young children and how they learn. He famously said that adults should learn from children by living *with* them. He felt that if we attend closely to children, this could shape the way we respond to them. You can find out more about Froebel's principles on the Froebel Trust website.

Early education currently emphasises 'school readiness', and the need to bring children's language skills up to a level demanded by classroom learning. Froebel's ideas challenge these priorities, because they imply that children need to be led by adults along the path of development. This overlooks the ways in which children's knowledge 'unfolds' through their encounters with the world, and how children themselves build on this unfolding knowledge, to forge their *own* path. Froebel called this 'self-activity'. The adult's task is not to lead, but to understand better how children take responsibility for their own learning, and sensitively support them, without intervening too much. Listening-2 used Froebel's ideas to guide our attention to the sensory-motor dimensions of children's learning, and the active role that children themselves play in producing this bodily knowledge. This kind of knowledge is often under-valued in 'school readiness' programmes.

In this booklet, we share a few examples of how everyday events that were captured on films helped us to re-think the significance of the sensory-motor as a way of knowing the world. This led to us asking ourselves questions about how we, as adults, relate to children.



**To learn a thing in life and through doing is much more developing,
cultivating and strengthening than to learn it merely through
the verbal communication of ideas.**

Friedrich Froebel

Putting on coats: arms that think

By late Autumn, some of the children had learned how to put their own coat on using what is often called the "the flip trick". Sometimes it was quite difficult filming children's arms struggling to get into the sleeves, because our impulse was to intervene, to rescue and to help them to do this more quickly. But the slow-motion watching made us more aware that children's arms were doing a kind of thinking as they felt their way around the material and shape of the coat. This made us reflect on how the contact of arms/hands with objects was always a kind of knowledge production, even though our habit as adults is to assume that thinking takes place only in our minds. This is a kind of knowledge that is difficult to teach using words – it has to be learned in and through the body. This also made us reflect that dressing is usually seen as a physical or independence skill, but it is not valued as a thoughtful activity.

Question:

Why do we, as adults, find it hard to offer more time and space for children's self-activity, especially when they physically struggle – whether they are putting on a coat, or climbing a challenging surface?



The attraction of “the smallest of things”

In one of the clips a parent filmed their child skipping along an empty road. It seemed very unremarkable; the child was accompanying the skipping with song which sounded more like a hum the first time that we played the film. We played the film a few times in slow motion. Playing it in slow motion that meant we could not hear the song, so we also played the film a few times at the usual speed, but with our eyes shut so we could just listen to the song. These two methods allowed us to 'listen' differently, paying greater attention to movement itself. We noticed that there was a small stone involved in the movements of the child's skipping body. The child was throwing a very small stone ahead, and their forward steps allowed them to draw near to the stone to pick it up in time with the skipping. When we listened to the song, we could make out a few words and we realised they were repeated like a chorus. What became important to us was not the words themselves, but the way that the chorus was entangled with other things. There were many aspects of this small event that were impossible to separate out. We focussed on just some aspects of the event, but there were many others. The aspects of the event that we started to notice included the thread of the tune; the repetitions of stone-throwing; the rhythm of the feet; and the delight of picking up the stone after every throw. Later at nursery, when we showed the film to the child, they smiled and put their hand in their pocket and pulled out a small stone.

Question:

“How can we give language to the objects of the child's life when they are so silent to us?” (This is a question that Froebel famously asked in relation to his observation that children give their full attention to the “smallest of things”)



Tactful hands

In one film clip, three children were playing in the sand tray. When we watched in slow motion, we noticed the micro-movements of the children's hands as they responded to the sand, to the toys and to other hands. Hands moved in relation to all these things as they scooped and poured sand. We noticed how hands fluttered hesitantly when they reached towards toys held by other hands; sometimes they grasped toys tighter as other hands moved in their direction. Sometimes, in the moment, two hands tugged and pulled as they held the same toy. At the same time as these tussles over toys, we also noticed how often toys were silently exchanged. We realised that these co-ordinated moments of give and take happen through movement and touch, and they can be so small that they are easily missed. We became aware how often these negotiations over toys happened through children's bodies, rather than using speech, and were not necessarily about a conscious sharing. Sharing often took place through sensation and contact.

Question:

How could noticing how children's bodies respond to each other in this way help us to think about how we, as adults, support children to navigate and resolve conflict?



Implications for practice

What we learned from the children:

Watching children as they were actively occupied made us aware of how much, as adults, we often tend to over-direct children's activities. This made us think about how we might resist the urge to intervene in children's play too soon. This does not mean however, that we think that adults should pay less attention to children. On the contrary, it was only by paying closer attention than usual to what children were doing, and trying to 'listen differently', that we were able to recognise their intense engagement with objects and sensations as a form of bodily knowing. We often fail to notice this kind of knowing in our preoccupation with intentional action and words.

"It seems to me that such continuous guidance on the part of the adult must take away the spontaneity in childish play" *Friedrich Froebel*

What we learned from materials and things:

"Something in the world forces us to think" *Gilles Deleuze*

The slow motion watching gave us a sense of the lively part that materials, spaces and place play in the self-activity of children. Children are animated by the things they play with. The attraction of the puddle jumping tells us something about the inexpressible way that the water responds to jumping feet, and vice versa. The word 'splash' captures some but not all of the felt experience of splashing. As Froebel reminds us, "in the expression of ideas, the school is still satisfied with words and ignores the value of things".

What we learned from slow motion:

Watching film in slow-motion became a way for us, as adults, to pay attention to how the movements of children's bodies was an on-going, two-way conversation with the world: where children shape matter and matter shapes children. Although slow-motion was a way of making us aware of new dimensions of children's sense-making, it is just one way of experimenting creatively with more traditional child observation practices. Slowing film down brought motion into focus, but when we listened to just the sound of film by keeping our eyes shut, this made us more aware of the non-verbal dimensions of children's voices. As we became more aware of the expressive quality of movement and sound, this changed the way we responded to children, especially in our use of gestures, sounds and movements. This also made us appreciate the skills of performing artists and led us to think about inviting them to complement and add to the work of early years practitioners.

An example of practice: experimenting with ways of slowing down with children

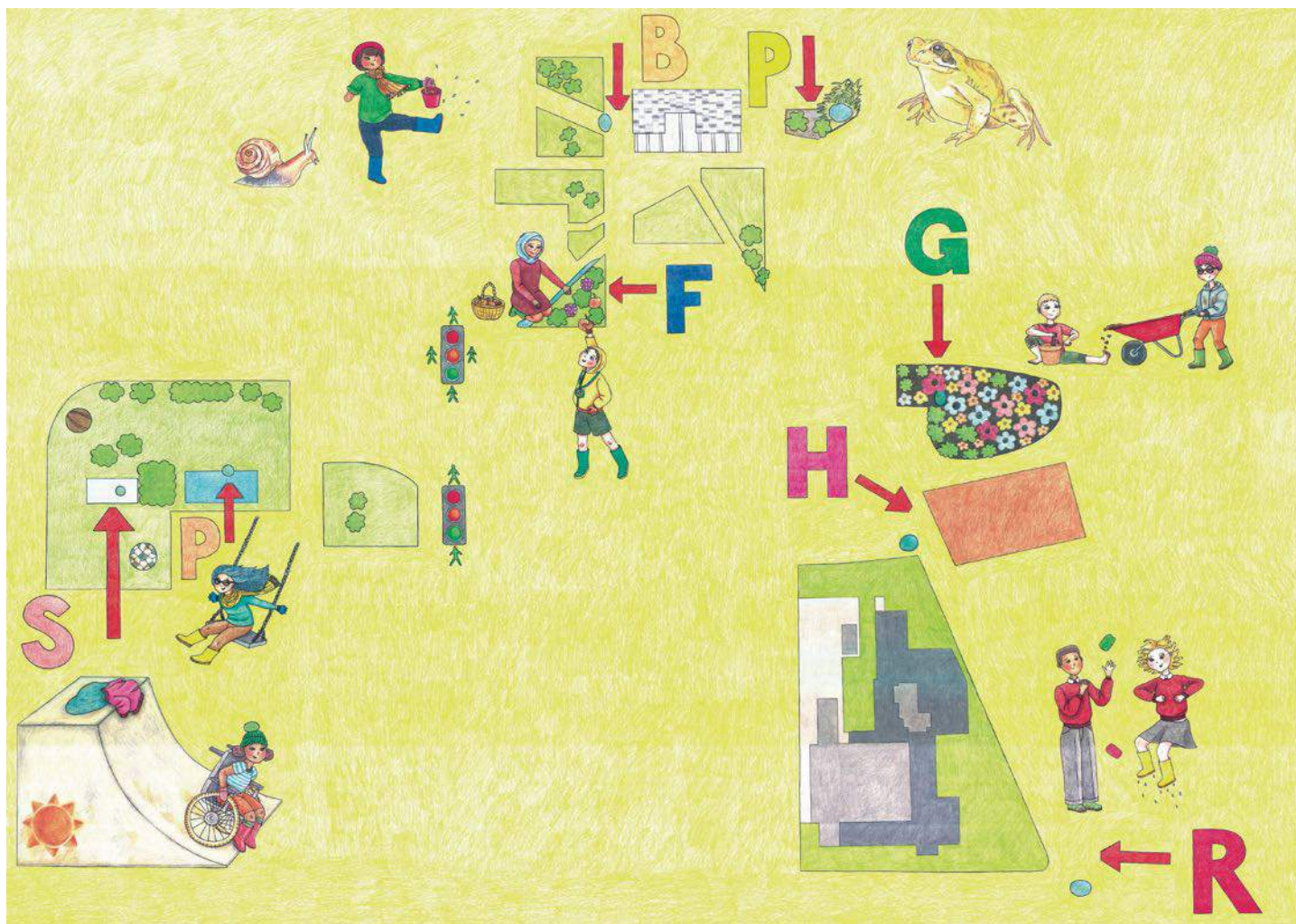
Going on a "Puddle Safari" is one example of how practice can try to respond to everyday events and to slow down. The word safari originated from the word "*safar*", an Arabic verb meaning "to make a journey". Walking around the streets with young children can be very exciting so long as you take time and go slowly enough! Puddles Safaris are free, inclusive, local, and powered by feet rather than petrol!

The idea of going urban safaris with young children chimes with Froebel's thinking. He tells us that children learn about the world from being part of it and experiencing it. Going on a Puddle Safari demonstrates Froebel's belief that adults have much to learn from the fascination that children show towards what he calls the "smallest of things". Acknowledging a child's love of puddles is a simple way to value how much children learn directly from experiencing the climate. They do this by sensing it directly through the elements: feeling, smelling, moving, and touching them. The enjoyment of puddles can simply be about sensing how water moves as a puddle comes alive in response to children's actions. Froebel believed that noticing the small things encountered outside connects us with the universal. This concept allowed us to make connections between children's fascination with puddles and climate change. Paying attention to puddles can be a way to bring attention to how water moves through the cityscape as part of the rainwater and wastewater cycle.



A map of puddles.

This hand-drawn local map of puddles became a provocation we used for taking urban walks with children. The map was a resource that came about after Manchester was placed in lockdown because of Covid-19. At the time of strict social distancing, one of the parents at the nursery went on local walks with their child in search of puddles. Later the map was hand-drawn to share their knowledge of where the best local puddles were. As each walk is unique, each walk will unfold entirely differently in response to the climate that day; in response to the different people on the walk; and in response to the unexpected things that are encountered along the way.



Map illustration by "thewonderfulship"

Because each walk is different, each safari provokes new questions and leads to new experiences, new doings and new thoughts. These are a few questions that emerged on some of our puddle safaris.

How can I find my favourite spot on the map?

Which are the best puddles to jump into?

When we couldn't find any puddles, we wondered where had they gone and when would they come back?

What other interesting things can we find?

Could we make our own maps?

Summary

The Listening-2 project supports the idea of more 'relational' ways of teaching and learning in the early years. Froebel offers us insights into how we might combat the imbalances of power and knowledge that exist between adults and young children, to become more sensitive to children's distinctive ways of relating to the world, both human and physical. This is an approach that takes its lead from children and their curiosity-driven encounters with the world. These are thoughtful encounters where children respond through movement and their senses. They can bring attention to how things and spaces play an active role in children's learning. The research supports an approach to children's development as emergent. Rather than following a straight and broadly predictable path, development unfolds as children encounter the external world, and make sense of these encounters in relation to themselves and their lives.

You can access a Webinar about the project here:

<https://www.froebel.org.uk/training/films/exploring-froebels-idea-of-unfoldment>

Related articles:

MacRae, C. and MacLure, M. (2021) Watching two-year olds jump: video method becomes 'haptic'. ***Ethnography and Education***

MacLure, M. and MacRae, C. (forthcoming) Folding Froebel with Deleuze: rethinking the significance of imitation in early childhood. ***Global Education Research***

MacRae, C. (2020). Tactful hands and vibrant mattering in the sand tray. ***Journal of Early Childhood Literacy***

If you would like to find out more, you can contact Christina at: c.macrae@mmu.ac.uk





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