

Intelligent materials: agency and aesthetics

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I first visited the pre-schools and infant-toddler centres of Reggio Emilia, on a Sightlines Initiative study tour in 2003. I was curious about the way in which their educators prepared, curated and designed materials and learning contexts for young children that met with the ideas and thinking of the children themselves. It seemed somewhat of a contrast to what I had been experiencing as an artist educator in the UK where the emphasis seemed to be more about the filling of open shelves and surfaces with numerous possible choices of materials from which children could freely choose and encounter. It was a contrast of pedagogical choices that at one end appeared connected to ideas about aesthetics and expression whilst at the other, about choice and accessibility. Neither appeared to be wrong in either context, but it was a contrast that I had identified in those first visits and encounters with what is now known as The Reggio Approach.

On my return from Reggio Emilia I began to evaluate – in the Italian sense of giving value to something – the aspects of my practice as an artist educator that I wanted to think more deeply about. I began to look again at the familiar materials and tools of clay, graphics, wire, collage, light, photography, blocks and loose parts that I regularly explored with young children and set about researching how children approached and used these materials when they were presented in different ways. I also examined the perspective and perceived role of the educators who I worked alongside to explore our own intentions and knowledge about the materials we used in our work with young children. The underlying question that arose out of these researchful encounters with materials and children was to try to find out if our adult ways of working as educators were attuned and fitting with the strategies of the children themselves.

I found myself thinking more about:

- ▶ the qualities and intelligences of the materials
- ▶ the transformative potential of the materials
- ▶ the dialogues proposed with the materials
- ▶ the agency of the materials.

And how these were affected by:

- ▶ the educator knowledge of the materials and their potential
- ▶ the curation, design, organisation and presentation of the materials
- ▶ the intentions of the educator in meeting with the ideas and theories of the children.

Thinking with intelligent materials

For me, taking Reggio's idea of intelligent materials has made me think about the intra-active relationships and qualities that exist between materials, intentions and the environment. There is no free, independent choice of materials for the child in any early childhood settings because as educators we are making choices as to which type of materials to make available for children to explore, discover and play with. Materials have no neutrality but are imbued with different kinds of transformational, sensorial and representational qualities, with some having more of these characteristics than others. For example, clay is a material that can be as hard as a brick, that can create human-sized spaces, yet also be malleable and liquid in form, it can be used over and over again, or fired to create both functional and sculptural forms.

Cuffaro (1995) reminds us all that materials in the hands of children are akin to tools, which give form to and express their meaning-making and knowledge about the world. It requires us to:

- ▶ pay closer attention to our choices of which materials will meet the ideas of the children.
- ▶ consider which ways to propose and present the materials, in both the micro and macro environment.
- ▶ give thought to which materials are richer in potential and intelligence that enable children to give form to their thinking.

In thinking about materials, we know just how important it is for children to explore and discover their characteristics and

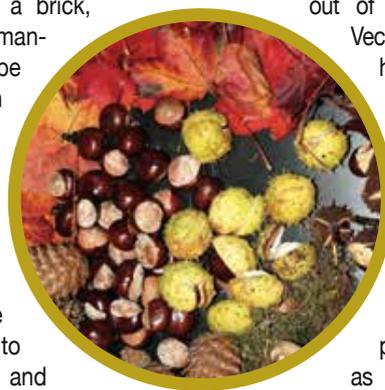
properties. These experiences are rich in sensorial exploration, are often open-ended and invite curiosity and questioning and provoke children to find ways to describe their surprising qualities.

Vecchi (2010) provokes our thinking further in suggesting that with young children, we must venture beyond the exploration of properties and techniques and consider the processes of empathy, of the expressive and emotional properties together with the rational and the cognitive processes of learning which will always be together in the study of intense relationships with both materials and ideas that we might call the ability of thinking with materials. Is it enough for children to be busy with hands without engaging their emotional and empathetic sensitivity together with other children and educators to research the deep relationships that connects matter and knowledge?

Aesthetics of learning with materials

The aesthetics of learning or the seeking out of beauty and loveliness, as Vecchi (2010) described it, has been embraced by the Reggio Emilia educational philosophy and can be seen in the ateliers, the spaces and rich environments of the schools, the presentation of children's learning processes through pedagogical documentation as well as in the materials offered to children on a daily basis to contemplate. On study visits to the schools you cannot fail to see the beauty in how they organise their spaces for children and educators to learn alongside of each other. Aesthetics in this context is a poly-sensorial approach to understanding each other and the world.

Dissanayake (2000), talks about aesthetics as a sensibility that defines how people intentionally show what they value, appreciate and care about. It is a playful way of being receptive to elaboration, exaggeration and emphasis and is about understanding and communicating the





In these early beginnings children were not just confronting the crumbled form of a leaf devoid of its mother tree but expressing their thinking regarding the aliveness of trees. Knowledge rather than something fixed was seen as fluid and provisional and worthy of elaboration and multiple perspectives in this interconnected way of understanding the relationships and living systems that exist in the world.

Aesthetics and expressivity offer an extraordinary educational path that embraces learning as a way of wondering, of seeking beauty, of looking for the complexities, of searching for connective and multiple networks and modes of understanding. It invites children to consider what they care about and offers others – other children, educators and families – opportunities to share, opportunities to share in their processes of learning and meaning-making. Aesthetics is a way of constructing knowledge that for many politicians and economists may seem unessential and irrelevant right now, but this myopic viewpoint denies children an expressive voice and a powerful and generative and relational context of and for learning.

New Materialisms and the agency of materials

A new and emerging debate is arising that is challenging the idea that materials such as clay, paper, charcoal, objects or sand, in fact anything that is matter or non-human, are passive or inactive and in waiting to be manipulated and used for self-expression by the hands, minds and bodies of children or adults. Rather the materials or matter are also considered as active and with participatory forces of their own. This opens up and creates new ways of thinking and learning with materials (Barad, 2007; Pacini-Ketchabaw et al, 2016; Penfold, 2019).

This new and emerging field of thinking challenges the idea that children as well as adults project ideas and expressive thoughts upon and onto inert matter. Instead, matter is conceived as something much more dynamic and vibrant, in that it works in a mutual or intra-active way in dialogue with human beings to transform and inform each other,

human condition. This implies that aesthetics can be related to the idea of relationships too in all their forms. Relationships between people, children, between objects, materials, environments and places.

Carroll (1999) considers the aesthetic experience as a way of encountering stimuli that involve attention, contemplation and thoughtful perusal that must involve being open and attentive. In this way, aesthetics is the capturing of attention and wonderment.

Aesthetics and expression are activators of learning (Vecchi, 2010). In a presentation to the International Summer School (2010) Vecchi gave the example of the yearly provocation of the exploration of thinking about autumnal leaves. The study of seasonal change through exploring the materials of autumn is of course something that is familiar to many of us. Vecchi pointed out that all too often dried, decaying leaf corpses are collected and displayed for children to discover. The inherent danger in this is that we might teach children that autumn is only about death and only about the singular colours of red, orange and

brown. Instead she suggested we should contemplate the whole pulsating life cycle of trees and not just the structure of a single part of that tree. We can instead find the aesthetic and expressive activators that provoke children and ourselves to see colours not as a single, named shade, but as a diverse palette of variations of shades and hues. We can invite children to consider the relationships between the now fallen and transformed leaf to explore such enquiries as “What is alive?”, and “How do we know?”

Children in Reggio Emilia were asked if they thought trees were alive (Vecchi 2010:7) Children’s responses included:

“I think trees are alive because they make apples, they make leaves, they make wind.” Marco aged 4.

“The roots are very, very important because they are the tree’s brain.” Giuseppe and Giulia aged 5-6.

“The [tree] seed already knows how it has to become.” Vittoria aged 5.

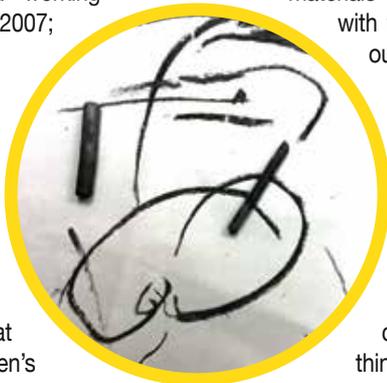


rather than as traditionally seen as in a simple cause and effect, binarised position. Intra-action, therefore, is the constant exchanges between human and non-human materials that are influencing and working inseparably (Barad, 2007; Penfold, 2016).

This recent New Materialist turn further emphasises materials' aesthetic qualities, their intelligences, their poly-sensorial affordances, their transdisciplinary and agentic properties that are all at play in children's expressive, sociable and playful meaning-making. In terms of evaluating children's engagement and learning with materials it requires us to shift from the dominant discourse in education systems of testing accumulated, individualised and separated bodies of knowledge to one that documents and critically reflects upon the intra-active processes at play in the complex living system of learning with, from and in relationship with matter and materials.

Professional understanding of materials

In understanding the complex world of materials in the early years environment we also have to think carefully about our own professional knowledge about materials that we present to children. Whether it is clay, play dough, light, paper, loose parts, glitter or leaves we have to be attentive to the possible



learning processes and intra-actions that might occur. Being attentive also means understanding for ourselves the complex world of materials. We need to engage with materials ourselves, spending time with them, playing and enabling ourselves to think with materials. In doing so, we can better attune our strategies of being with children and materials so that our actions are not in tension with those of the children. Importantly, it also enriches our own creative and imaginative thinking in curating and designing contexts and spaces that delight not just the eye, the body, or mind, but to anticipate the possible scenarios that the children themselves might experience with their encounters with materials.

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References

- Barad, K. (2007). Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning. Durham: Duke University Press.
- Carroll, N. (1999). Philosophy of Art: A Contemporary Introduction. Oxon:Routledge.
- Cuffaro, H.K. (1995). Experimenting with the world: John Dewey and the early childhood classroom. Teachers College Press
- Dissanayake, E. (2000). Art and Intimacy: How the Arts Began. Seattle: University of Washington Press.
- Giudicci, C. & Vecchi, V. (6th July 2010). Presentation: "Aesthetics of Learning". First International Summer School in Reggio Emilia, Italy.
- Pacini-Ketchabaw, V., Kind, S. & Kocher, L. (2016). Encounters with materials in early childhood education. New York: NY: Routledge.
- Penfold, L. (2019). "Material Matters" in Children's Creative Learning. Journal of Design and Science. Retrieved from <https://jods.mitpress.mit.edu/pub/bwp6cysy> on 29th September 2019.
- Vecchi, V. (2010). Art and Creativity in Reggio Emilia: Exploring the Role and Potential of Ateliers in Early Childhood Education. Oxon: Routledge.,.
- Pacini-Ketchabaw, V., Kind, S. & Kocher, L. (2016). Encounters with materials in early childhood education. New York: NY: Routledge.