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Sophie Rudolph
University of Melbourne

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Theorising through Visual and Verbal Metaphors: Challenging Narrow Depictions of Children and Learning

by Sophie Rudolph

Introduction

The current education climate typically casts subject areas into a hierarchy that fails to recognise connection and relationship. The examination of ways in which art and literacy practices are mutually supportive tools in understanding the thinking of young children is, therefore, an important endeavour. In this article I present and discuss a small part of a larger collaborative class project undertaken at an inner-city government primary school in Melbourne, Australia. This project, and the teachers and children participating in it, valued the interrelationship of arts and literacy practices and sought ways that these knowledges could deepen our understandings of the world and each other. The class was made up of children in their first year of primary school who came from a range of ethnic, linguistic, socioeconomic, and cultural backgrounds. A team of two teachers taught the class, and I was the students’ art teacher. Part of my time in this role was spent working within the regular classroom program to develop creative and artistic elements of the collaborative project.

The pedagogical approach employed in this class was inspired by the work of educators in the town of Reggio Emilia in northern Italy, where listening to children is highly valued (Rinaldi, 2006), and enacted through recording conversations with children and documenting their thinking processes. This practice contributes to the active cultivation of a democratic learning environment in which “diversity is prized, not seen as a problem” (Apple & Beane, 1999, p. 11). Children are encouraged to bring their diversity of life experience to their learning experiences and collaborations at school, and the teachers look for differences in children’s responses to their questions—a practice also in accord with that of educators in Reggio Emilia (Rinaldi, 2006). The teachers also see themselves as researchers and look particularly to the work of MacNaughton and Smith for guidance in this approach. MacNaughton and Smith advocate “reconceptualist action research,” which “offers a space in which practitioners can practice ethical teaching as they ‘re-meet’ their truths and take a conscious decision about how best to practice equitably and justly as teachers” (2001, p. 32). Teaching practices that include self-reflexivity, conversation and debate, reflection, and change are cultivated in this school.

In this article, I begin by exploring the notion of children as theory makers. In doing this, I examine some of the theoretical and conceptual framing offered by the work of educators in Reggio Emilia. I
then indicate how this understanding of children and learning sits within the contemporary education policy and school landscape in Australia. This discussion, although necessarily brief, explores the complex and often competing discourses that typically see children as either “active learners” or future contributors to the economy. Next, I present some pedagogical documentation, consisting of excerpts of a class conversation and black fineliner pen drawings that develop the theories proposed by the children in the conversation. These excerpts are used to illustrate the capacity children have to create and use metaphor both verbally and visually to enhance conceptual understandings, communicate meaning, and build theories. Finally, I examine the power of drawing to enable children to demonstrate a complexity of thinking they may not otherwise be able to express and, through this examination, I advocate the pedagogical use of art and literacy practices in relationship with one another as a democratic tool that supports multiple ways of participating. I argue that seeing art (and specifically, in this case, drawing) as a language enables children to use English literacy and art practices to explore deep ideas and communicate responses to complex questions about the world. This then allows teachers to gain a greater understanding of the ways in which children build knowledge together—the ways they negotiate, borrow, and manipulate ideas to construct theories and the ways they use metaphor verbally and visually to make meaning. This also contributes to generating understandings of both children and learning that challenge the narrow and restrictive views proliferated through standardised testing and neoliberal constructions of success.

**Children as Theory Makers**

The concept of children as theory makers used at this school is also inspired by the work of educators in Reggio Emilia. The system of early childhood education developed in Reggio Emilia following World War II has become world renowned, and the city and its schools host professional learning for hundreds of visiting teachers each year (Dahlberg, Moss & Pence, 2007; Edwards, Gandini & Forman, 1998). This schooling movement grew out of the socialist movement in northern Italy in the late 19th and early 20th centuries (Rinaldi, 2006). The growing women’s rights movement was also influential, with prominent Reggio educator Carlina Rinaldi observing that “an increasing awareness of the rights of women was also linked to an increasing awareness of the rights of children” (2006, p. 179). Thus, the schools and the pedagogical approaches that evolved there were formed by the community and reflected the values of collaboration, dialogue, interdependency, equality, and justice (Rinaldi, 2006, p. 178-189; for further historical context, see also Edwards, Gandini, & Forman, 1998; Millikan, 2003).

The pedagogical approaches developed (and constantly reviewed and debated) in Reggio Emilia draw on the work of a range of educational theorists, such as Piaget, Vygotsky, Dewey, and Bruner
Dahlberg & Moss, 2006; Rinaldi, 2006). These theoretical perspectives offer guidance but are never restrictive; they are used to construct perspectives specific to the Reggio Emilia context (Dahlberg & Moss, 2006). Theory then becomes visible and embodied in place (Dahlberg & Moss, 2006), which has enabled Reggio Emilia schools to offer authoritative contributions to debates about quality early childhood educational provision.

There are two related concepts developed by Reggio Emilia educators that I draw on in particular in this article. The first is that of children as theory makers. This is a belief that “theorising” is an important way of making meaning and of exploring and constructing knowledge. Rinaldi (2006) explains the way this concept is understood in Reggio Emilia:

For adults and children alike...understanding means elaborating an interpretation, what we call an “interpretive theory”, that is a theory that gives meaning to the things and events of the world, a theory in the sense of a satisfactory explanation. (p. 113)

Although a theory is seen as a “satisfactory explanation,” it is also seen as “provisional” (Rinaldi, 2006, p. 113) and thus always open to be tested, debated, and elaborated further.

Related to the concept of children as theory makers is the belief that children have “a hundred languages.” This concept is developed from a poem, “No way, the hundred is there,”1 written by Reggio Emilia educator Loris Malaguzzi. Rinaldi (2006) describes this “theory of the hundred languages of children” as “full of democracy” (p. 192) and relays how it grew out of a debate about the tendency to privilege two languages in schools, which assumed the power not only of particular knowledges but also of particular experiences and subjectivities. She notes, “I think that the number of a hundred was chosen to be very provocative, to claim for all these languages not only the same dignity, but the right to expression and to communicate with each other” (Rinaldi, 2006, p. 193). With these theoretical and conceptual frameworks in mind, pedagogical practices are designed to allow children to be theory makers and to express their theories in many different ways. In the sections that follow I will attempt to illustrate how my colleagues and I have been trying to adopt similar approaches in our Melbourne school.

It is important, however, to also briefly elaborate the particular cultural, political and policy context in which we are positioned in a city in Australia a long way from Reggio Emilia. Contemporary schooling in Australia has increasingly seen students as “active learners” in need of “real tasks” (Greene, 1995, p. 13). This has produced a movement toward inquiry learning and a resistance to transmission models.

of learning (Aulls, Shore, & Delcourt, 2008). The growing awareness of student diversity in schools has also sparked research into how different knowledges and experiences can be used, valued, and understood in schools (see, for example, Gonzalez, Moll, & Amanti, 2005; Zipin, 2009; Zipin, Sellar, & Hattam, 2012). However, the implementation of such approaches has also been complicated by an increasingly neoliberal policy climate, the marketisation of the schooling landscape, and a focus on schooling for the purposes of entry to the labour market (Lingard, 2010).

The introduction of the National Assessment Program - Literacy and Numeracy (NAPLAN) in Australia in 2008—which mirrors national standardised testing programs in Britain and the United States—has also influenced the delivery of the curriculum and impacted pedagogical approaches (Berliner, 2011; Milner, 2013). Many educational researchers have pointed to the ways in which these changes have caused a narrowing of curriculum and a growing distrust of teacher and student capacity (Dulfer, Polesel, & Rice, 2012; Lingard, 2010; Smeed, 2010). Yates (2013) observes that in Australia, “the current period takes a more centralized and managed approach, emphasising the data-driven comparisons between schools of ‘like’ demographics and sticks and carrots to engage in reform” (p. 40). The teaching of literacy and numeracy has, therefore, become an increasing priority due to particular pressures placed on schools to perform in these areas. As Rizvi pointed out in the mid-1990s, however, the placement of literacy and numeracy at the top of the hierarchy of subjects was also prominent then: “most primary school teachers view the arts as peripheral to what they see as their main responsibility—the teaching of literacy and numeracy” (Rizvi, 1995, p. 55).

This focus on (English) literacy and numeracy indicates the ways other subject areas can become relegated to the margins in what is often referred to as a “crowded curriculum,” a term that has gained ubiquitous use in debates across media and educational spheres. Art tends to be one of the subject areas that becomes less valued the further children progress through their schooling (McArdle & Wright, 2013) and now, with the first NAPLAN test being administered when children are eight or nine years old, the pressure to focus predominantly on these limited learning areas has increased. The place and purpose of art in the curriculum in early childhood education, however, has been subject to its own debates. Wright (1991) summarises these “philosophical disputes in arts education” (p. 3) as follows: creativity versus artistry, natural unfolding versus guided learning, and segregation versus integration. While these don’t have to be either/or debates (Wright, 1991), they are often used to justify particular approaches to arts education. Over the last decade, these debates have evolved to include the investigation of ideas of multimodal meaning-making and ways in which children might have greater agency in their participation in arts learning (Binder, 2011; Bokhorst-Heng, Osborne, & Lee, 2006;
Narey, 2008; Simon, 2011). These approaches attempt to discount the view of children as tabulae rasae and instead work with and honour what children already know and can do.

In designing learning opportunities for children that are based on an understanding of their theory-making capacities, the teachers I was working with were not only joining the resistance to a deficit view of young children but also creating opportunities for knowing our students better. To see students as theory makers, we needed to be open to many possibilities, we needed to give students opportunities to build theories using a range of knowledge and skills, and we needed to value a diversity of knowledge and responses. This approach, therefore, attempts to genuinely work with difference, and in doing so, to disrupt some of the ways schools and curriculum continue to be both quietly and overtly ethnocentric and exclusionary.

The questions that guided the pedagogy and teaching practices that led to the documentation presented in the following sections are: How do English literacy learning and arts learning interrelate and support each other? How do arts practices enable children to demonstrate complex engagement with meaning-making processes? How does seeing children as theory makers enable us to better understand the ways children think and how they build both English and art skills and knowledge?

Children Theorise Using Metaphor and Graphic Art Practices

The excerpts analysed in this section were part of a whole-class collaborative project, a feature of the pedagogical approach at this school. These projects encompass the state-mandated curriculum, and reporting is done according to curriculum and assessment standards. There has been a choice made, however, to refuse to be confined by what is mandated. Although teachers plan classes with clear goals in mind, those goals encompass an openness to learning opportunities that evolve unexpectedly as well as a commitment to ongoing reflection and adaptation of planning.

The project in this instance centered around the concept of connections. The overarching question presented to the children as a beginning point was: What is a connection? The teachers predicted that this discussion could lead in many different directions, including exploration of material connections, physical connections, electrical connections, and social connections.

The conversation segment presented below emerged out of the convergence of investigations into electrical connections and connections in the body. The children had become curious about whether the body has electricity in it, and the following question was posed to the whole class: How do messages travel from the brain to other parts of our body? The subsequent conversation explored issues of signal and sign and raised questions about whether the signals passed through the body are
actually electricity or just signals like electricity. Owen² had been central in provoking thinking in this area, and we enter the conversation here as he builds on a point made earlier.

**Owen:** Your brain sends signals through your body and signals go through your brains too.

**Lily:** I’ve seen a brain in the museum, what it looks like and it’s little circles twisting around each other in different places.

**Wilhelmina:** Your brains are like phones and the veins in you are like the wires, up there, out there, those wires, and it sends electricity to the people who are trying to talk to their friends on the phone.

**Sophie:** And so how is that like your body?

**Owen:** Because your brain sends signals like the telephone wires.

This segment of conversation demonstrates the ways in which the children are hypothesising and theorising. It also highlights the ways children build on their experiences to explain their thinking, reasoning, and arguments. Here we see Lily draw on an experience of going to the museum, bringing that knowledge to share in the discussion and to support an assertion that the brain is configured in a particular way. We also see Wilhelmina refer to the telephone wires that are visible from the classroom where we were sitting in a circle to have this conversation, as she conjures up a simile to illustrate her theory.

During the conversation, we were also struck by the way in which the children used metaphor and simile to illustrate their thinking and to communicate their theories, some of which are presented below:

Hoses are like electricity wires…because it’s like a wire for water instead of electricity. Owen

The brain has little pieces of paper and it writes the word and it puts it in a little bubble and then it goes out from your brain and then...to your mouth. Aryan

I think that when you talk the brain sends little letters down to your mouth and others are going down to tell your mouth how to move. Augusta

² Some names have been changed to protect the privacy of students.
There’s a little box inside your body, it’s like a little radio box, but it’s different, and it sends out the words. Wilhelmina

It’s a bit like a train travelling along the train tracks. Laszlo

After the conversation, the children were given paper and a black felt-tip pen and asked to draw their theories for how the messages travel through the body. We encouraged them to think about the metaphors they had shared and collected during the conversation and to build on or develop those in their drawings if they felt inclined (see Figure 1 to Figure 5).

These two examples both pick up on metaphors and similes that were offered during the conversation. Nikita, in particular, seems to have built upon both Aryan’s and Augusta’s metaphors of the brain, which suggested that “little letters” are sent in a “little bubble” to different parts of the body. Nikita’s depiction of letters travelling through “tubes” inside the body gives clarity to this theory. Lily also seems to pick up on these metaphors but combines them with both the knowledge of what the brain looks like (which she gained from a visit to the museum) and with Wilhelmina’s suggestion that there is a “little box” that “sends out the words.” Here, Lily has turned the idea of a signal box into a “little dot” that “makes the message” to be sent to other parts of the body.

In both Wilhelmina’s and Dorothy’s drawings (see Figure 3 and Figure 4), the difference between the inside and the outside of the body is contrasted. Wilhelmina builds on the simile she shared in the conversation, showing how the brain sends messages from a “box inside me” to help her to talk and sing, while Dorothy’s illustration picks up on the idea of brain “waves” that help us to “think.” It is interesting that Dorothy, not usually a contributor verbally, has used this opportunity to draw a theory to propose another metaphorical explanation for how messages move through the body: as waves.

In Elouan’s response above (see Figure 5), we can see him combining a number of different understandings of the body that he is developing through this study. He picks up on Lily’s description of the brain as “little circles twisting around each other in different places” and describes his drawing of them as “little swirls.” His drawing also seems to illustrate quite intricately the journey of a “message” from his brain through his body and along his left arm.
In this selection of visual responses to the question, “How do messages travel from the brain to other parts of our body?” the children demonstrate a powerful use of symbol to communicate ideas, an ability that various theorists (for example, Dewey, in Art as Experience, as discussed in Wright, 2010) recognise as a sophisticated mode of thought. Drawing is also seen as a language children communicate with competently because drawing and mark-making are the first processes children use in developing symbol systems (Brooks, 2009). Many researchers have examined the importance of an understanding of abstractions and symbol systems for building school-based literacies such as mathematics, reading, and writing (Brooks, 2009). Others, however, consider that images created by children can be read and interpreted in their own right, both as a powerful form of expression and as a way for educators to better understand their students (Binder, 2011). This connects with the Reggio Emilia notion of a hundred languages—the view that the “language” of the “image” is a valuable and useful form of communication that should not be placed in a hierarchy with other forms of knowing, but instead seen as being in dialogue equally with other “languages” (Millikan, 2003). The examples from the case I present above show the ways that the verbal and visual languages these children engage with converse with each other and interrelate as the children theorise and create meaning. This illustrates not only the necessity of seeing these different literacies in relationship with one another, but also of recognising the role of imagination and power in making this relationship possible. Greene suggests that “to think in relation to what we are doing is to be conscious of ourselves struggling to make meanings, to make critical sense of what authoritative others are offering as objectively, authoritatively ‘real’” (1995, p. 126).
In the material presented in this section, relational thinking, the struggle to make meanings, and critical engagement with objectivity, authority, and reality were all being enacted on a number of levels: through the literacy and artistic practices the children used to construct theories, through the pedagogical approaches employed by the teachers, and through the reflection about and analysis of these ways of working. This illustrates both how powerfully children’s work with visual and verbal metaphor demonstrates their strong capacities as thinkers, theory makers, questioners, and collaborators, and what great opportunities that work affords teachers in learning about how children construct and communicate meaning.

The Visual as a Catalyst for Understanding Thinking Processes and Resisting Deficit-Based Approaches to Learning

In this section, I focus on one child’s drawing and on an interview conducted with her about it. The drawing was completed during an art class in which the children were asked to imagine what the brain might look like in various emotional states. In my discussion of this child’s response to this proposal, I argue that creation of visual representations of theories can provide rich insight into complex thinking processes in young children. This becomes even more important when working with children who might typically be viewed as having a deficit because they do not meet some of the demands of a school system that recognises particular skills as those that children need to be “successful” students. Below is a drawing completed by six-year-old Erica, whose first language is Vietnamese (see Figure 6). In some settings, Erica’s lack of English literacy would be what defines her. However, as she demonstrates here, when she is not restricted by what she is seen to be “lacking,” she is able to express her depth of thinking and make rich contributions to the collective construction of knowledge in her class.

Erica: Yesterday I make the brain is surprised and the brain got blood and some colour. And then when it people birthday some people bring surprise and there’s some surprise on the brain and some blood and… some people when it’s birthday they got surprised brain.
Sophie: And what are all the colours?

Erica: Some rainbow colours.

Sophie: Why rainbow colours?

Erica: Because there tiny pink and big pink and there some more colour on our brain.

Sophie: Is a surprised brain colourful?

Erica: Um, um, when there birthday, some people hide from their...close the light, when the people come inside then people open the light, then they put lots of colour up and then all the colour go down.

Sophie: Mmm, and that’s what it looks like in the brain?

Erica: [nods]

In this conversation and illustration, we can see how Erica is using some of her prior knowledge to hypothesise about what the brain might look like in a surprised state. Although English is not her first language, and she is still learning to construct English sentences correctly, this excerpt demonstrates that through her use of both visual and verbal languages she is able to communicate a theory about how the brain might look when a person is surprised. Erica’s depiction of almost streamer-like coloured lines dancing across the brain mirrors what she knows to be a “surprising” scenario: the activities carried out during a surprise birthday party. In this construction of a theory, we can also see Erica’s understanding of the power of imagination, of the brain’s capacity to conjure up imagery through memory, and of the exploration of changes in the brain caused by emotional experiences.

In a school system that is founded on Eurocentric understandings of learning, teaching, communicating, and expressing oneself, the valuing of diversity can be particularly challenging, often resulting in tokenistic acknowledgment of “other” cultures (Rizvi, 1995). Rizvi goes on to argue that “within the framework of this set of assumptions, the issues of difference are treated more as a fact to be taken into account rather than as constitutive of curricular and pedagogic relations” (1995, pp. 59–60). The approaches illustrated above attempt to move away from what Rizvi describes as an “add on”
approach and toward the valuing of difference in a supportive and generative way. Again, we receive some guidance from Reggio Emilia educators here, as they advocate practices that “try to understand differences rather than wanting to cancel them...being open to doubt and giving value to negotiation as a strategy of the possible” (Rinaldi, 2006, p. 140). Erica’s “difference,” therefore, is not seen as being in need of “correction,” and her developing English language skills are not seen as holding her back. Instead, as in the material presented in the previous section, an openness to a range of responses and possibilities was encouraged, thus allowing her to draw on her diverse experiences and subjectivities.

**Conclusion**

In this article I have used a selection of drawings and conversations by five- and six-year-old children to explore the teaching and learning possibilities of using literacy and art practices in relationship with each other. I have demonstrated the way in which metaphor and simile are deployed by these children both verbally and visually to construct theories about how the brain works.

The diversity of responses that the children came up with during this study also encourages them to think about knowledge as socially constructed, flexible, and contested; as Greene points out, this is important in developing critical thinkers who are prepared to engage in dialogue, and through such interaction, navigate difference:

There is always a flux in the things and ideas of this world, and there is always the need to catch that flux in networks of meaning. Whatever the networks, the focus should be one that dislodges fixities, resists one-dimensionality, and allows multiple personal voices to become articulate in a more and more vital dialogue. (1995, p. 183)

If we believe that children can encounter the complexity of “networks of meaning,” then we need to ensure that we provide them with opportunities to do so. This requires meeting such complexity with opportunities to engage in diverse and multidimensional ways of exploring and making meaning. The theories children in this Melbourne school developed about how messages travel from the brain through the body and what a brain may look like in various emotional states illustrate how an engagement with interrelated literacy and art practices can support this endeavour. Such projects are also an attempt to allow children who come from diverse cultural backgrounds to enter what postcolonial theorist Homi Bhabha describes as the “third space” where the “emergence of new discursive positions” is permitted (Rizvi, 1995, p. 63).

These approaches clearly offer us important ways of seeing and working with young children. However, in the spirit of Macnaughton and Smith’s (2001) reconceptualist action research approach, we
are also left with questions that help us to continue to navigate the complex terrain of contemporary education, including: How do we support children to deepen their theories? How do we support children to test their theories and build knowledge from numerous perspectives? What cultural resources do children bring to school that we continue to miss or misunderstand? What assumptions about cultural “norms” do we carry that continue to obstruct our relationships with our students or exclude particular ways of being and knowing? These questions recognise the continually evolving nature of the art of learning and teaching and remind us of the importance of continuing to challenge and negotiate the narrowing forces of a neoliberal education climate in order to honour the important diversity of understandings children bring to their learning.

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**References**


