The assumption that language is a communicational and representational medium which can adequately express anything we might think, feel, sense, say or write has been criticised by a number of key thinkers throughout history. In the early part of the 20th century, for example, Langer (1942) highlighted that the expression of ideas often is too subtle or too abstract for speech. She described non-discursive forms of thinking (i.e., art, music, dance, drama) as being particularly well suited to such forms of non-figurative communication.

In the arts, the predominant form of information processing often is through non-verbal domains. Such processing involves encoding still and moving images, sound/music, gesture, body language and movement in space (Eisner, 2001; Sweet, 1996; Wright, 2003a). Non-verbal encoding engages a special kind of thinking, feeling and understanding. Often such engagement is multimodal, integrating several forms of understanding—visual-spatial imagery, ideas, feelings and sensory modalities (Kendrick & McKay, 2004; Thompson, 1995; Wright, 2003b). Although young children regularly engage in multimodal expression through music, dance, drama and a range of other disciplines, the focus of this chapter is on children’s meaning making and meaning communication through drawing and storytelling.

Our participation in the arts involves meaning making and meaning interpretation using a wide range of representational texts. We form representations by working to a system of signs. Signs may be words, images, gestures, sounds, music, numbers or anything from which meaning may be generated, and in which multiple ways of knowing may occur. Sign systems form the basis for creative and critical thought processes (Eco, 1976), and each sign system offers a distinct form of meaning making (Eisner, 1994). Whether painting a picture, composing music, creating a dance, refining a dramatic enactment, or participating in other forms of artistic expression, representation involves: (1) turning actions into images and/or sounds; and (2) sequencing actions, images and/or sounds in relationships.

Cross-domain or multimodal understanding involves not only differentiating and consolidating the separate meanings of different forms of symbolising, but also seeing connections between them (Dyson, 1986, 1992). Children learn to move among sign systems in their meaning making. They choose the system that is most
effective for a particular form of communication, and select what and how they want to represent something in a particular context (Kendrick & McKay, 2004; Short, Kuffman, & Kahn, 2000). In the process, they invent connections, whereby the content of one sign system is mapped onto the expression plane of another, such as drawing, storytelling and the use of sound effects or gesture (Siegel, 1995).

In this way, children not only make representations, they also manipulate representations in abstract ways. They speak the discourse of art, music, dance or drama through sensory, tactile, aesthetic, expressive and imaginative forms of understanding (Wright, 2003a). As such, they become authors of a number of texts, using a range of symbol systems and voices of communication (Cope & Kalantzis, 2000; Eisner, 1994; New London Group, 1996; Kress, 2000b; Wright, 2003b). At a very young age, they are active participants in multimodal understanding, moving between a number of symbol systems to communicate and interpret meaning.

Children's Multimodal Depictions of Futures

This chapter reports a segment of the results from a large research project that surfaced the “voices” of over a hundred 5- to 8-year-old children in their depiction of the abstract concept, Futures—children’s drawings and associated stories of what they think the future may be like. A complete description of the research design is provided in Wright (2005). In brief, on a one-to-one basis (i.e., interviewer-child), each child drew a picture using white A3 paper and a set of coloured felt pens. They were encouraged to discuss their drawing while they worked, and also had the opportunity to tell a story at the completion of their drawing. The interviewer asked open-ended questions, seeking clarification and extension of the child’s images and stories. To elicit the key focus of the content, each child was asked to give his/her artwork a title.

The sessions were video-recorded to capture the children’s language, gestures, body language and facial expressions in relation to their unfolding drawings. The interviewer kept running records summarising what was said, making rough sketches of the child’s images, and numbering these to note the sequence in which they were drawn. Detailed transcriptions of parallel streams of images and verbal and non-verbal communication were then compiled to form the basis for analysis of the children’s representations.

These drawings-stories illustrated the young children’s multimodal worlds, which materialised through their graphic-narrative play and through the expressive enactments and vocalisations that accompanied their artwork-stories. Through open-ended meaning making, children’s rich, imaginative worlds were communicated using two, intimately connected modes, namely the:

- non-verbal (i.e., graphic depiction stemming from imagery and visual/spatial/motor memory: bodily kinaesthetic communication through “enaction” and expressive gesture); and
- verbal (i.e., story, expressive vocalisation and sound effects).

Particularly when presented with the concept of “what the future will be like”, children’s consciousness were liberated to roam through an extended present, and
to speculate on futures yet to come (Eckersley, 1999; Page, 1994). In the process, they created and re-created images, ideas and feelings using a rich amalgam of both fantasy and reality, both literally and metaphorically (Wright, 2001).

A developmental semiotics style of analysis was used to interpret the drawings-stories (Athey, 1990; Golomb, 2004; Kress, 1997; Matthews, 2001, 2004; Wright, in press). General classification of emergent codes began with a broad taxonomy that included:

- children’s concepts of living things, their environments and sociocultural patterns; and
- children’s forms of communication (image, story, gesture, expressive vocalisation).

Subsequent coding categories and subcategories emerged and became elaborated as additional examples surfaced new concepts. Results revealed that children’s depictions of Futures were virtually boundless, and the techniques and forms of communication they used to execute the topic were unique, involving cross-modal, embodied forms of communication.

**Multimodality: The Central Role of Embodiment in “Graphic-Narrative Play”**

Dyson’s (1986, 1992, 1997, 2003) writings on children’s symbolic and imaginative worlds has been seminal in foregrounding the cross-modal expression of young children. However, the orientation of her analyses is grounded in sociology and popular culture, and within a Literacy (i.e., capital “L”) construct that appears to privilege print text, supported by other modes of learning, such as drawing or Authors Theatre. Similarly, Kress’s (1997, 2000a, 200b) seminal research also has been predominantly through a Literacy-based lens, but it includes descriptions of how young children’s communications are more metaphoric and synesthetic than older children’s and adults’.

The construct of cross-modality has been described more predominantly from an artistic lens by Golomb (2004) and Matthews (2001, 2004). Golomb describes how children’s graphic expression discloses more than what a purely verbal account might, and can capture the excitement and pulse of child art. However, she provides very few examples which illustrate the richness of integration that occurs across the graphic, verbal and bodily kinaesthetic worlds of children, or captures the richness of children’s thought or emotional processes during symbol formation.

In contrast, Matthews’s focus on infants’ and toddlers’ mark-making foregrounds “action representations” and illustrates how the child’s physical movements, his/her trail of the brush on paper, and the movement of imaginary objects are all compressed into the visual-motor act of creating.

This construct of action representations does not appear to reside solely within the realm of the infant/toddler, but continues into children’s later development (Wright, in press). Five- to eight-year-old children engage in the transduction of meaning across domains through the integration of motion, vocalisation and mark making. This phenomenon was acknowledged by the Wilsons, who described the “visual narratives” of school-aged children as involving dramatic action, played out
on a seemingly impersonal plane of pictorial fantasy, in which superheroes and arch villains enact their struggles (Wilson, 1974; Wilson & Wilson, 1977, 1979).

As will be illustrated in this chapter, similar modes of communication took place as children engaged in creating intimate and interactive bridges between domains while drawing and describing their ideas about the future. Four key processes that were involved are described below:

1. **Integrating visual-spatial imagery and the body.** Increased attention is being given to the cognitive functions of imagery and the body as sources of order, which exceed that of language and logic (Best, 2000a, 2000b; Johnson, 1991; Ross, 2000; Walker, 2000). Images are similar to stopped-action frames, or visual impressions of actions. Children create and then re-create these images during the process of meaning making and meaning manipulation. Yet such imagery and symbolic representation are not always confined to the paper. Indeed, the boundary between the self and the artwork-story were often blurred, and there appeared to be a compelling need for children to dramatise or physically demonstrate their ideas, partly to clarify to the “outsider-observer” the actions of characters, or the movement or physical characteristics of objects. In addition, the role of the body also seemed to be deeply imbedded in the children’s act of meaning making itself, as they came to know or understand that which was being created.

2. **Representing the world using symbols.** Enacting, imagery and symbolising (Bruner, 1996) are significant components of the visual arts, and symbols are used to made ideas and experiences a public, shared form of communication (Golomb, 2004; Kress, 1997; Matthews, 2001, 2004; Wright, 2003a, 2003b). Key processes include the integration of thought, emotion and action; turning action into representation; “reading” and “writing” using artistic symbols; and communicating via a unique “language” (i.e., text and artistic discourse).

3. **Meaning making within fluid structures and “rules”.** There is an intimate interplay between story, graphic symbolisation and expressive gesture/vocalisation in children’s depictions. Children’s feelings and identifications with characters and objects may shift throughout the representation, and the sequencing of events does not necessarily follow adult-defined linear structures (Wright, in press). Indeed, as in play, children often improvise and sometimes “deliberately violate expectations for certain words and acts just for the joy of it” (as cited in Haas-Dyson, 1997, p. 14).

4. **Authoring through “graphic-narrative play”.** Through drawing/storytelling, the child’s integration of imagery and body is similar to how socio-dramatic play unfolds—the child makes and manipulates representations in abstract ways. However, there is no child-to-child interaction in a social sense. Instead, **graphic-narrative play**, a term I will use to describe such play encounters, is a personal fantasy-based experience depicted on paper. It involves layers of visual action, character development, plot scheme, scenery and running narrative working in harmony, simultaneously (Dyson, 2003; Wilson, 1974; Wilson & Wilson, 1977, 1979; Wright, in press).
In social play, children often have to negotiate to take certain roles, to shape the direction and flow of the content, and to work around other socially mandated situational constraints. However, in graphic-narrative play, the child becomes a “cast of one”, taking on multiple roles—author, artist, director, scripter, performer, narrator. The child can become all the characters, change the plot, layer the action and alter the scenery at will, and select when and how to play with all the available voices offered through the multimodal media (drawing, story, dramatisation, movement). Through decision making, the author infuses personal meaning and makes wilful choices about the objects and events within the symbolic depiction of what Bruner (1986) calls “possible worlds”.

Many of the children’s drawings-storytellings were embodied experiences—children did not separate their thoughts and feelings from the physical elements of their communication. However, it should be clarified that embodied participation in graphic-narrative play was on a different plane from general “while-in-thought” gesturing, such as a child closing his/her eyes while thinking, putting fingers in the mouth, drumming fingers on the desk, or chewing the fingernails while contemplating the next component of the artwork-story. Rather, embodied representation was characterised by the amalgamation of spatial, visual, oral and bodily kinaesthetic dimensions in such a way that the combination of authorial devises became more than just the sum of their parts.

The eight key themes that emerged from the data, which illustrate embodiment during graphic-narrative play, and the number and gender of the children who represented these themes are presented in Table 1. Of particular interest are the shaded components of the table, which indicate that a large proportion of the 8-year-old boys depicted physical forces and sequences of events in their drawings-stories, compared to girls of the same age. This and other gender-related issues will be discussed in greater detail in subsequent papers.

### Table 1. Embodiment themes of preschool, Primary 1 and 3 boys’ and girls’ drawings-stories of Futures

<table>
<thead>
<tr>
<th>Boys</th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>1</td>
<td>3</td>
<td>T</td>
</tr>
<tr>
<td>1. Body Position and Enaction</td>
<td>4</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>2. Animating the Static</td>
<td>3</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>3. Graphic Devices/Movement</td>
<td>2</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>4. Sensory Connections</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. Depicting Physical Forces</td>
<td>1</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>6. Leaving Traces-of-Movement</td>
<td>3</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>7. Depicting Sequences of Events</td>
<td>2</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>8. Metonymic Enactment</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
<td><strong>20</strong></td>
<td><strong>38</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Girls</th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>1</td>
<td>3</td>
<td>T</td>
</tr>
<tr>
<td>1. Body Position and Enaction</td>
<td>4</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>2. Animating the Static</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3. Graphic Devices/Movement</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>4. Sensory Connections</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>5. Depicting Physical Forces</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>6. Leaving Traces-of-Movement</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>7. Depicting Sequences of Events</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8. Metonymic Enactment</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7</strong></td>
<td><strong>17</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>

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Examples from Depicting Physical Forces and Depicting Sequences of Events will be discussed in greater detail in the next section to illustrate an example of one Grade 3 boy’s embodiment during his graphic-narrative play. Although this boy’s artwork-story-enactment was one of about a dozen “star” examples within the total sample, because it was particularly imaginative and included several subcomponents of the Embodiment themes, there were numerous examples of children’s embodiment during their graphic-narrative play.

Figure 1, which Joshua titled “The Future”, depicts a semi-trailer taxi that carries cars.

“And when you need a rest, you just can go to sleep, and that [semi-trailer] travels wherever you want it to go. It’s like a taxi carrying lots of cars.” [The cars suspended from the ceiling of the taxi have ‘zzz’ word balloons above them to show that the drivers are ‘having a snooze’].

Joshua’s futuristic story-drawing includes many references to safety issues and surveillance methods to protect people. “This is dirt, and the...in [the] dirt they have sort of like...er...um...underground cameras, so the underground cameras are all along... And the other cars that are coming toward don’t know there’s cameras.”

Figure 1. Joshua’s “Sky Patrol”. 
"In case like, one of the car drivers thinks they might take over driving...like, sort of like murder the person [driver] that's trying to take them where they want, because it [taxi] like, can't go that fast. So if any criminal or that he doesn't know, that he probably thinks um, if he tries to bash him up, the cameras will just beep real real loud, and they'll just give a signal to the Sky Patrol [top right-hand section]. So that the Sky Patrol can sort of hear them."

Well there's certainly a lot of controls on people, isn't there?

Yeah. 'Cause they don't want any crimes in the city or on the roads.

Right. So all of this is in an effort...

Yeah, from the council...or whoever made it.

Does it seem to work?

Well...well it has worked the most times they've used it but, it might have a fault in it.... So if there's a fault in it, the criminals could just get away, get away with it.

Mmm hum.

Here's a...there's a sort of like camera just in the corner of the back [of the semi-taxi]...to detect all the cars...that there's no sort of like guns in there.

Mmm hum. And what would they do with them then, when they got....

Oh, they probably just take them back to the Sky Patrol. Sort of like...Sky Patrol station.

Mmm hum...and what would they do to them?

Oh, probably give them a fine, or take them in jail or court.

Mmm hum.

The Sky Patrol also serves an ambulance role:

"Sometimes like...in case there's a crash, or something like that...um, a car crash or something...they just land, somewhere near it. And they get out, if any injured people they just get out their stretcher, and take them back to the hospital. So they're a bit of like...a bit of on-the-ground police, and off-the-ground police."

There are a number of action lines in the drawing that show movement, such as the hover lines below the double-direction helicopter, the "ramming" lines in front of the plane as it rams into the back of the double helicopter, flames at the back of the Sky Patrol and exhaust "puffs" from the back, front or top of the various ground vehicles. Numerous zigzag lines are drawn (e.g., from the brown aerial up to the helicopter, from the sun to the front of the semi-trailer taxi, and from the top of the taxi to the Sky Patrol). These zigzag lines depict a number of concepts
linked to physical forces, such as radar, temperature control, heat detection and crime detection, which are described in Table 2.

<table>
<thead>
<tr>
<th>Radar and heat detection</th>
<th>“Voluming” the temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Draws dark green rectangular shape with a “V” cut into it at the top back of the semi-trailer taxi. Green zigzag line going from this to the back section of the sky patrol plane.)</td>
<td>(Draws multiple-coloured rays at the bottom of the multi-coloured sun, top left-hand corner.)</td>
</tr>
<tr>
<td>“I made a little radar on the semi-trailer. It’s a sort of square with a sort of like, cake piece out of it...that detects like all hot things, like fire and the sun.” (Gestures with pen in hand to indicate these features.)</td>
<td>“It’s not really just yellow that’s shining from the sun, it’s like... pink...and green...and the sun is sort of like different colours. The sun itself... is blue and yellow, and different, lots of different colours.”</td>
</tr>
<tr>
<td>Mmmm.</td>
<td>(Draws a purple zigzag line coming up from the steering wheel of the semi-trailer, up to the sun, with “splash” type lines at each end to show contact.)</td>
</tr>
<tr>
<td>“And like all the engines, it detects the engines. And sometimes when it hits the engines, the sky planes could go down... because... It looks like a satellite dish, doesn’t it... and it detects all sorts of things.”</td>
<td>“It’s volumed by someone, um, it’s volumed by the person in the truck, semi-trailer... how hot it goes and how cold it goes.”</td>
</tr>
<tr>
<td>“Mmmm.”</td>
<td>Mmmm, so, what? That person can control the sun, can they?</td>
</tr>
<tr>
<td>(Adds a brown, zigzag aerial at the top front of the semi-trailer taxi, with a horizontal line at the top, and two small upward lines from the tips of this line.)</td>
<td>“Yeah.”</td>
</tr>
<tr>
<td>What’s that?</td>
<td>How do they do that?</td>
</tr>
<tr>
<td>“An aerial.”</td>
<td>“Well, a special sort of like remote control.”</td>
</tr>
<tr>
<td>And what does that connect to? What can they sort of contact?</td>
<td>(Draws a pink zigzag line coming down from the sun, parallel to the purple one going up to the sun, with “splash” lines where it contacts the cab of the semi trailer.)</td>
</tr>
<tr>
<td>“They can, um, oh they can listen to the radio, and they can contact, um, the helicopter and that rocket.”</td>
<td>Oh... So they can control the heat?</td>
</tr>
<tr>
<td>(Connects a red zigzag line from the brown aerial to the red section of the double helicopter. Adds alternating long and short lines underneath the red section of the double helicopter.)</td>
<td>“Yeah, and the coldness”.</td>
</tr>
<tr>
<td>(Draws several, parallel pink, blue, black and brown zigzag lines in the section under the cab, taking on the contours of that area.)</td>
<td>“So... there’s light blue and dark blue in there. And, um, they can take out the... sort</td>
</tr>
</tbody>
</table>
In addition to depicting the many sophisticated concepts of council surveillance, heat detectors, and a "volumed sun", Joshua's graphic-narrative play includes several other sequences of events. These sequences involve other action-based ideas, such as "hooking" (e.g., cars hooking up to the ceiling of the semi-trailer taxi so the drivers can rest, and cars "unhooking" to exit the back of the taxi when they want to resume driving). In addition, the Sky Patrol can hook (and "suck") on to the back of an offending aircraft if it is, for instance, trying to ram the back of a double helicopter. Table 3 illustrates three hooking action-events, which appear to serve as a unifying device throughout the drawing-story, lending a plot thread to the graphic-narrative play in a similar way to how the zigzag energy lines provide physical forces and cause-and-effect connections (i.e., driver-to-pilot communication and temperature control).

Table 3. Depicting sequences of events: Hooking

<table>
<thead>
<tr>
<th>Cars to top of semi taxi</th>
<th>Sky Patrol to back of aircraft</th>
<th>Cars out of semi taxi</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Draws a ramp off the back of the semi, with two black cars moving up the ramp into the truck, with movement lines behind them.)</td>
<td>&quot;If any plane's like...tryin' to land other aircrafts, that Sky Patrol can just come along and just hook'em with a hook...I'm just going to draw a sort of like a, funny type of plane trying to ram a helicopter.&quot; So there's a Sky Patrol... &quot;Yeah, and he's on duty, because someone's trying to ram that helicopter.&quot;...</td>
<td>&quot;Oh yeah, you can easily just get off because, um, like there's another wheel there, and there's a tunnel through, between the wheels just there, and just...the hooks just lower you down, and then you just drive beside it, like overtaking it.&quot; (Small pink car with a long pink hook lowering the car to a tunnel area just behind the front wheel of the semi-trailer.)</td>
</tr>
<tr>
<td>&quot;Yeah. You just drive up, and then you get hooked up...onto it, and then it drives wherever you want...&quot;</td>
<td>&quot;So what's this other plane? This is the naughty one is it, that's going to ram the, oh...looks like he has rammed him. Mmmm. &quot;...or you could just drive backwards, through the tunnel.&quot;</td>
<td></td>
</tr>
</tbody>
</table>
"Yeah."

*And so then what ha... what does the Sky Patrol do?*

"Oh, he has..."

*Sends out a hook or something, does he?*

"Yeah, I’m just going to draw one."

(Yellow line below the sky patrol, with a black hook at the end.)

"It sort of like... it stops them from going any further... And they have a little, sort of like sucking thing that, like sucks on to the back of their engine so they can’t move any further."

(Orange lines connecting ramming plane to sky patrol.)

*Mmm. So it’s a suction thing as well as a hook.*

"Yeah. The hook is on the front one, but the suction thing is on the back."

(Adds a black curve at the bottom of the hook at the front of the Sky Patrol... Adds a longer black line to the orange suction line at the back of the Sky Patrol and a large black backwards-C shape. Fills in the C with orange, and small red “suction” lines.)

Joshua’s sequencing of the story and/or picturing of events and objects evolved through an interactive relationship between words, images and gestures. Yet these did not unfold as a linear sequence of events, nor did they conform to adult-defined sequence structures. Rather, Joshua’s ideas and depictions shifted in and out of the overall framework, where the complete structure of the graphic-narrative play evolved in bits and pieces. He frequently was one step ahead of the interviewer, explaining the meaning of what he had just drawn while simultaneously drawing a new concept. In addition, he returned to previous images frequently to elaborate his
ideas with visual detail, and extended the storyline in relation to these new concepts. This revisiting of concepts provided the plot thread that is essential to any good storyline, and allowed the graphic-narrative play to feature other story qualities, such as:

- **tension**, such as the Sky Patrol hooking/sucking on to the delinquent aircraft; and
- the interplay between **good and evil**, such as the on-the-ground and off-the-ground Sky Patrol police-ambulance, with affiliated camera surveillance to catch people with guns and take them to jail or court.

In many ways, there was an intimate interplay between the narration and the graphic depiction of objects, events and feelings. This interplay was clarified and accentuated through:

- **graphic narration**, such as “I’m just going to draw one [Sky Patrol hook] now” [to illustrate what he was just talking about];
- **graphic conceptual links**, such as adding a black ray from the sun’s rays, followed by small black dots on top of the car antennae, to extend the explicit connection between the large aerial on top of the semi-trailer taxi and his comment, “they can listen to the radio, and they can contact, um, the helicopter and that rocket”;
- **pointing and gesturing** while describing content, such as “you can easily just get off [the semi-trailer taxi] because, um, like there’s another wheel there, and there’s a tunnel through, between the wheels just there”;
- **graphic devices** to symbolise movement, sound and physical forces, such as helicopter hover lines, jet fumes, ground vehicle exhaust puffs, back-of-semi door-raising lines, car-entering actions lines, ramming lines, zigzag radar lines, “splash” lines on the sun and the cab of the semi-trailer, air-conditioning flow lines inside the cab, zzz “snooze” bubbles from the car drivers, and sun energy lines; and
- **metaphors** to express ideas in such a way that a concept from one domain is mapped on to another, such as the sun being “powered” by the semi-trailer taxi driver, who could parcel out either hot or cold colours to heat or cool the temperature in the cab and the back of the truck.

Although Joshua’s highly imaginative graphic-narrative story was exceptional in that it included many of the elements described above, many children in the study used similar techniques on a less grand scale. In particular, gestures helped many children in the study to clarify their content and enhance aspects of their artwork that might not be depicted easily in a still, two-dimensional format (Wright, 2001, 2003c, in press). This included:

- pointing to the location of content being described;
- gesturing beyond the piece of paper to refer to objects or events not included in the drawing (e.g., “my house is over the mountain”);
- gesturing in the air to describe the physical characteristics of an object (e.g., showing the shape of a fast sports car);
- standing up to demonstrate an action being depicted (e.g., fishing);
- pointing to their own body parts to show similarities to the characters drawn;
using hand movements to show how the person in the picture works a remote control to monitor the movements of cars;

- using hand and arm gestures to illustrate how fuel tanks in space float around and "break off" from the master ship;

- linking repetitive words to illustrate concepts, such as using fingers to walk up drawn steps while saying, "See! Step, step, step", or pushing a thumb into the paper to illustrate how a backhoe shifts the earth, while saying, "It's gotta go dig...dig...dig...dig...dig'; and

- using both hands to lift the piece of paper off the table to demonstrate how the objects and people inside a spaceship all "have balancing stuff", and everything has to be "balanced".

Like Joshua, many of the children in the study also used fantasy and futuristic concepts in their depictions of the future (e.g., see Wright, in press, for examples of a drawing-story of a 6-year-old girl, entitled Magic Story). Most of the children's descriptions of these ideas were expressed positively, such as being able to clone your favourite pet or plant if it dies. However, many also expressed concerns about issues such as global warming, overpopulation, and careless or selfish destruction of the oceans, air and forests (e.g., an 8-year-old boy's concerns for the survival of the planet, which he entitled Pollution, in Wright, in press).

Through such multimodal meaning making, the children in the study—like most artists—invected their worlds in other-worldly ways. These worlds are rich with integrated graphic, narrative and bodily kinaesthetic forms of symbolic expression. Artistic meaning-making integrates the visual, spatial, aural and physical modes, and includes the worlds of still (and moving) images, sounds, textures, gestures, and many other forms of symbolising. Through the arts, children have opportunities to engage in unique forms of meaning making, knowing and communicating, through the use of discourses and a range of texts that connect the body, thought and emotion.

Yet such graphic-narrative play often can be suppressed in institutionalised education, largely due to the social and cultural dominance of literal language and written modes of expression (Kress, 2000a, 2000b; Wright, 2003a). In schools and society in general, communication and understanding have traditionally been seen to take place predominantly through language, and words have been considered to be the primary, if not only, means for doing intellectual work. Consequently, the curriculum often is word-bound, and oral discourse is considered to be the key method for children to make meaning (e.g., children are often expected to demonstrate their understanding by being asked to "say it in your own words"). Such curriculum practices may be related to the underlying assumptions of a "speech logic" viewpoint—that is, if something is not expressed through language, it is considered to be outside rational thought, outside articulate feeling.

Yet, a multimodal approach to education should encompass a full range of expressive and communicative avenues, including gesture, graphic representation, play, music, mime and dance, where children can use a variety of representative forms of expression, and where all modes of meaning making are treated with an equal level of dignity and importance (Goodman, 1984; Eisner, 1994; Luke &
Learning in and through the arts cultivates cognitive abilities that integrate feeling and thinking in ways that make them inseparable. As Dewey described it, while science states meaning, the arts express meaning. We appeal to expressive form to say what literal language can never say, as explained by Eisner (2002):

We build shrines to express our gratitude to the heroes of 9/11 because somehow we find our words inadequate. We appeal to poetry when we bury and when we marry. We situate our most profound religious practices within compositions we have choreographed. What does our need for such practices say to us about the sources of our understanding and what do they mean for how we educate? (p. 8)

Education should provide a central role for making artistic links between expressive form and content. This is because such experiences often move us and reach the deepest part of our interior world. The surge of emotion we feel when touched by the arts is what should be nurtured in students. Eisner (2002) appealed to us for the creation of a new culture of school, where together, teachers and students explore ideas, engage in critical inquiry and stimulate an appetite for learning. He described education as having “as much to do with the cultivation of dispositions as with the acquisitions of skills” (p. 11).

We cannot leave artistic symbol systems and semiotic modes of learning outside the realm of meaning making and communication without our schools. Otherwise, the arts become relegated to minor roles in the curriculum, and the social construction of learning continues to privilege the disciplines of literacy and numeracy (Wright, 2005).

As described in this chapter, children’s meaning making occurs in multimodal ways, through the integration of visual-spatial imagery and the body, by representing the world using symbols, and by working within fluid structures and “rules”. Making room for children’s voices, through authorial means such as graphic-narrative play, is one step in the direction of what Eisner described as a “new vision of what education might become and what schools are for” (p. 11).

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