

# Applied Research in Child Development

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In this issue

## Arts Integration

The proper role of arts in the classroom has long been a contentious issue for educators. While most agree that education in the arts can be a valuable part of the elementary curriculum, there is a broad range of opinion on how arts can be most effectively used in teaching, and for what purpose. Should arts be taught simply for their own sake, or do they have a direct, measurable effect on performance in other subjects? If so, how and why does this effect occur? Is arts integration more or less effective than other methods of teaching? An approach to these questions that joins theory, curriculum design, and evaluation could lead to improvements in both the theory and practice of arts integration.

FROM THE DEAN → 2

ARTS INTEGRATION AND THE REGGIO APPROACH AT CHICAGO COMMONS → 11

Q &amp; A: A CONVERSATION WITH DAN SCHEINFELD → 14

RESEARCH NEWS → 17

## Arts integration in the classroom: *Reflections on theory and application*

BY DANIEL R. SCHEINFELD

Karla Kelly's second-grade class is gathered around her as she prepares to read to them.<sup>1</sup> The story, "The Pudding Like a Night on the Sea," (Cameron, 1981) will evoke vivid sensory images in the children and associated feelings of delight, fear, and happiness. But Kelly is about to do much more than simply read to her class. As a participating teacher in Erikson Institute's Arts Project, she is engaging them in the first steps of an arts-integrated activity that will help them achieve a deeper level of understanding and retention of the story. The activity will contribute to the development of reading comprehension skills that will help the students to derive meaning from their reading for the rest of their lives.

That's the purpose of arts integration: to enhance learning outcomes for children by making artistic activity an integral part of the learning process in traditional academic subjects, such as reading, writing, math, science, and social studies. Arts inte-

gration is distinctly different from arts transference, which says that young learners can apply the skills they develop in purely artistic endeavors to enhance their learning in other disciplines without explicitly connecting the arts to learning in the other subject.

Back to the class for a moment. Before she starts to read, Kelly asks her students to "listen carefully with your eyes closed. See the pictures that come into your mind as you hear the story. What movements do you see and feel? What sounds do you hear? What do you smell and taste? Think about the feelings that the characters have in the story and how *you* feel about what's happening in the story."

Kelly asks her children to raise their hands whenever they experience a major inner image of what is happening in the story. As the children report their images, she writes them on the board for everyone to see. For example: "Making the pudding," "Wanting to taste the pudding," "Tasting the pudding," "Boys scared under the bed," "Their dad pulls them out." When the story is finished, they will choose the four or five images that they feel are most important to remembering the story and together they will create a *sensory web* of each of the images → [continued on page 4](#)

1. This example took place during Karla Kelly's work as an early primary teacher at Farren Elementary School, serving the Robert Taylor Homes in Chicago, September 1993 to June 2001. In fall 2001, Kelly (now Karla Kelly Daye) became a faculty member at the Chicago Academy, a teacher training school within Chicago Public Schools.

## From the dean



Frances Stott, Ph.D.

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Few subject areas are as controversial as art, particularly when it comes to the classroom. On the one hand, we evaluate entire cultures on the basis of their art forms and believe the arts provide children with important forms of expression. On the other, we belong to a technological society that values literacy, math, and science above all—they are, after all, what will get the job done. The role of the arts, therefore, is seen as relatively unimportant. And when cuts are necessary, they are the first to go.

The “big three”—language, mathematics, and science—certainly hold pride of place in our educational pantheon, but some have challenged their supremacy and suggested their limitations. There is a branch of psychology and education, for example, that has long suggested that language does not—cannot—represent all of the qualities of experience. For example, Werner and Kaplan (1963) suggest that language grabs hold of only a piece of all that makes up experience—that many feelings, sensations, and perceptions cannot be captured by the written or spoken word. Daniel Stern (1985) offers a dramatic example:

**Suppose we are considering a child’s perspective of a patch of yellow sunlight on the wall. The infant will experience the intensity, warmth, shape, brightness, pleasure, and other amodal aspects of the patch. The fact that it is yellow light is not of primary or, for that matter, of any importance. While looking at the patch and feeling-perceiving it (a la Werner), the child is engaged in a global experience resonant with a mix of all the amodal properties, the primary perceptual qualities, of the patch of light—its intensity, warmth, and so on . . . . Someone will enter the room and say, “Oh, look at the yellow sunlight!” Words in this case separate out precisely those properties that anchor the experience to a single modality of sensation. By binding it to words, they isolate the experience from the amodal flux in which it was originally experienced. Language can thus fracture amodal global experience. A discontinuity in experience is introduced. (p. 176)**

Some of those who believe that language is not the only way of knowing and representing experience have developed educational initiatives to help children discover meaning through different representational systems. One such example is the Reggio Emilia approach (see article, page 11), which seeks to help children represent and express their ideas and emotions through a range of symbol systems such as drawing, sculpting, and movement as well as verbal language. The very power of the approach lies in the integration of symbol systems.

While many accept the notion that the arts can be a valuable aid to learning, we know little about exactly how to use them most effectively—and to what end. There seem to be three positions on the role of the arts in school:

Arts ought to be taught for their own sake. The argument is that providing children with the tools, skills, and knowledge of many symbol systems maximizes their opportunities to make sense of and find meaning in their lives. The arts offer ways of thinking—of learning, knowing, and expressing—and are inherently valuable. So, just like history and physical education, they deserve a place in the curriculum.

Arts strengthen skills in “valued” areas. Called “arts transference,” this rationale suggests that children can apply the skills they develop in purely artistic endeavors to enhance their learning in other domains. The claim is that this transference of skills happens without explicitly connecting the arts to learning of other subjects. For example, the arts can create and invite a passion for learning that brings greater motivation to learning in school, or listening to music can improve spatial-temporal thinking. The arts transference argument is popular among arts educators, who hope to keep the arts in schools by linking them with progress in other domains.

Arts are an integral part of the learning process in traditional subjects such as reading, writing, math, science, and social studies. “Arts integration” makes explicit connections between carefully designed arts activities and traditional subject matter to enhance learning outcomes in both spheres. For example, a scientific concept can be expressed through dance, thereby enhancing learning in both science and the art of choreography.

To better understand the role of the arts in education, we need to consider both the value we place on art for art’s sake *and* the possible links between art education and academic achievement. While links have been demonstrated between good art programs and academic achievement, little is known about why. In this issue, Dan Scheinfeld, a longtime Erikson senior research associate, takes on this issue and describes his theory-building work in arts integration. As he suggests, it is critical to understand *how* and *why* arts integration activities can result in a deepening of thought processes. In his article, he provides a theoretical lens to help us better understand how the arts can strengthen thinking in academic subjects. He then offers an example of how the theory can be applied to arts integration lessons. These lessons, in turn, can be evaluated for their effectiveness, and the results can be used to modify theory. From theory to practice and back again—the essence of applied research.

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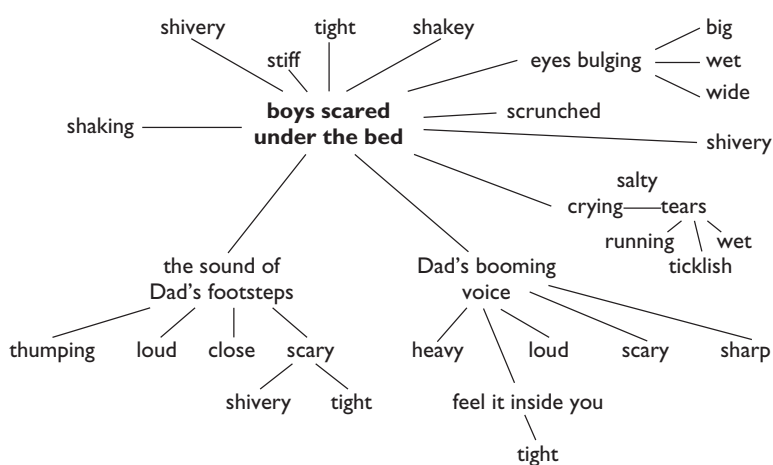
Werner, H., & Kaplan, B. (1963). *Symbol formation: An organismic-developmental approach to language and expression of thought*. New York: Wiley.

## Arts Integration continued from page 1

(see Figure 1). The web will help the students build a bridge to artistic activity by articulating the sensory and emotional qualities of the images they experience. Often, as in the sensory web shown here, the children's external view of the setting and the characters' behaviors, as well as an inner view of the characters' perceptions and emotions, is reflected in the web. Both of these perspectives are aided by the students' emotional identification with the characters.

Figure 1

### Sensory web of "Boys Scared Under the Bed"



After making the sensory web, Kelly's students will arrange their images into a sequential order and discuss the cause-and-effect relationships among them.

Students will divide into small groups, and each group will use their sensory web to create a short dance that expresses the image. Finally, each group will perform their dance in the order in which it appears in the story.

In this example of an arts-integrated activity, students have the opportunity to direct their learning far beyond simple story comprehension. They are asked to draw upon their own inner sensory images and emotions as they relate to the experience of the characters in the story. They are asked to sequence their images and to consider cause and effect. They then express those images through rhythm and movement in the order that they occur in the story sequence. The result is a much deeper understanding of the story and a

development of imaging skills and habits that will carry into their future reading.

Arts integration activities seem promising for several reasons. First, artistic activity is enjoyable for most children, and motivates them to engage more fully with the subject matter at hand. Second, by combining several modes of learning, arts integration increases the probability that learning will occur. Not only do the different modes of learning complement and reinforce each other within each student, but a wider range of students is reached, owing to differences in learning styles and types of intelligences. Third, arts integration requires students to reflect more deeply about the details and relationships within the text. And finally, artistic activity encourages and strengthens students' inner sensory imaging of the text and their emotional engagement with the text, both of which contribute to greater retention and understanding.

### Does it work?

Intuitively, we would conclude that arts integration activities should result in significant academic development. But does the research bear this out?

Several meta-analyses show that drama integration tends to have strong positive effects on student achievement. Podlozny's (2000) meta-analysis showed that drama-integrated activities had a greater effect on measures of reading achievement, writing, and oral language than did non-drama activities carried out with control groups. Results tended to be strongest when the drama activity involved dramatizing a plot sequence, in contrast to other types of drama activities. Previous meta-analyses by Kardash and Wright (1987) and Wagner (1998) also show significant relationships between drama integration and various areas of reading and language development.

We also see some significant effects of arts integration activities on academic learning in an evaluation of the Chicago Arts Partnership in Education (CAPE), whose arts integration repertoire included visual arts, drama, dance, and music. The CAPE evaluation, designed and administered by an outside evaluator, matched 52 CAPE schools with 52 non-CAPE schools. The CAPE schools outperformed the non-CAPE

schools in academic testing. Further, the test results gap between the two sets of schools widened during the six years of the program evaluation, from 1992 to 1998 (Catterall & Waldorf, 2000).

In contrast, Harvard researchers Ellen Winner and Monica Cooper conducted a meta-analysis of 19 studies that dealt with the effects of arts integration on reading achievement as measured by standardized tests (2000). They concluded that arts integration seems to have no greater or lesser effect on standardized reading test scores than other methods of teaching. They arrived at similar results with a set of 12 studies that dealt with the impact of arts integration on math scores as measured by standardized tests.

The Harvard analysis, however, tells us nothing of the specific content of the arts integration activities, nor anything about the learning theory on which the activity designs were based. These limitations suggest an important point. Without a specific set of parameters to define high-quality arts-integration activities—parameters that are firmly grounded in one or more theories of arts integration—we cannot draw conclusions about the efficacy of arts integration.

### Toward a theory of arts integration

To better understand how arts integration activities can affect classroom learning, it may be useful to step back and frame the discussion by examining arts integration theory as it relates to the development of reading comprehension skills. Most current theories of reading

comprehension start with the proposition that readers construct *mental models* of a text in their minds as they read and after they have read. These inner mental models are derived from a combination of variables: the reader's engagement with the text as given; the reader's purpose and mode of engagement with the text; the personal meanings that the reader brings to interpreting the text; and the ways that the reader habitually organizes meanings in his or her mind. Hence, the end result is each reader's relatively unique mental model of the text, rather than a one-to-one replication of what is written. This widely accepted theory is known as the constructivist perspective on reading comprehension.

Within the constructivist perspective, two lines of theory have strongly influenced our work in arts integration—imaging and causal network.

**Imaging theory:** In the recent book *Imagery and Text* (Sadoski & Paivio, 2001) the authors describe “dual coding theory” (Paivio, 1971, 1986) as it applies to reading. The theory states that we code the language of a text through two separate systems: the verbal system and the imagery system. As we decode and interpret words on a page, we experience meaning in the form of language, or associated language, and in the form of inner sensory images, such as mental pictures, sound images, tactile sensations, imagined smells, tastes, temperature, weight, and inner experiences of movement. We also frequently experience emotions associated with language and with images.

As a result of coding the meanings of the text in our verbal system and our imaging system, we organize our mental model (memory) of the text around sensory/emotional nodes, each of which is made up of images, associated emotions, words, phrases, and the meanings attached to all of the above. Thus, according to imaging theory, our mental model of a text is made up of these sensory/emotional nodes and the relationships among them.

Significant evidence to support imaging theory is found in studies of induced imagery and studies of reported imagery and emotion while reading. For example, in studies carried out at the 3rd, 4th, 5th, and 6th grade levels by a number of researchers, students who

#### Arts integration activities

Arts integration activities can take many forms. These are just a few examples:

- Sketching images of characters, settings, and events as they arise in one's mind while reading
- Painting a mural of the conflict and resolution of a story
- Dramatizing the dynamics of an atom, including speculations about how the protons feel about their relationship with the neutrons, and why
- Drawing an insect in its setting, from several angles
- Creating music to express major events of an era; e.g., the 1960s

were instructed to image the text as they read scored better on retention and understanding than did control groups who were not instructed to image the text (Gambrell, 1982; Gambrell & Bales, 1986; Kulhavy & Swenson, 1975; Pressley, 1976). In other studies, reported imagery and reported emotion experienced while reading correlate significantly with each other, and both, in turn, correlate with literary understanding (Goetz & Sadoski, 1996; Sadoski & Paivio, 2000).

Through her work with remedial readers, Nanci Bell (1991a, 1991b) concluded that her students' greatest deficit was their relative inability to form a "Gestalt image" (imaged whole) in their minds while reading. She writes, "The gestalt is the entity from which the interpretive skills of identifying the main idea, inferring, concluding, predicting, extending, and evaluating can be processed" (1991b, p. 14). Bell developed a system of instruction in which students start by imaging words, then sentences, then paragraphs, and finally entire pages. She reports significant advances in the reading comprehension ability of remedial readers who utilize the imaging system (1991a).

**Causal network theory:** The second theory of reading comprehension posits that, when reading narrative texts, readers tend to retain the story events that they causally connect to other events. Further, the events in the text that have the most causal connections to other events are the ones that readers are most likely to retain (Trabasso & Van den Broek, 1985; Fletcher & Bloom, 1988). These are also the events that the reader is likely to rate as important (Trabasso & Sperry, 1985) and the events that are retrieved most quickly in the mind of the reader (O'Brien & Myers, 1987). Most causal connections that enter the reader's mind are inferred while reading (Graesser, Singer & Trabasso, 1994). The reader may construct causal relations among clauses that are adjacent in the text, or among statements that occur in quite different places in the text.

If we compare imaging theory to causal network theory, we see that both involve mental nodes and relationships among them. In imaging theory, the reader's resultant mental model is made up of sensory/emotional nodes and the relationships among them, which could be causal, thematic, or something else. In causal network

theory, the mental model is made up of events and the causal connections among them.

Both theories are plausible and are supported by research. Further, the two theories connect with each other to a significant degree. It is reasonable to assume that the construction of cause-and-effect relationships in the mind of the reader frequently involves imaging. The imaging may take the form of visualizing, viscerally experiencing movement and transformation, hearing sounds associated with cause and/or effect, etc. Bell (1991b) concludes that "individuals who cannot grasp or create gestalts (images) from language generally have difficulty with the concept of 'cause and effect.'"

Perception of cause-and-effect relationships is also likely to evoke emotional responses in the reader. This can happen for a number of reasons:

1. Visceral experiences of movement are frequently experienced emotionally. Both experiences occur in the same region of the body.
2. Many cause-and-effect relationships involve an impact on a character's emotions, which, in turn, engages the emotions of the reader through identification with the character.
3. Cause-and-effect relationships often involve outcomes that the reader either desires or dislikes.
4. As Dewey (1934) points out, emotion infuses and unifies the experience of relationship between action and consequence.

If imaging and emotion are frequently involved in the process of constructing cause-and-effect relationships in the reader's mind, it is likely that image and emotion remain as part of the memory of the cause-effect relationship.

There are also significant points of nonconvergence between imaging theory and causal network theory. Causal network researcher Van den Broek reports that causally connected events, while very important in memory and recall, account for only 50 percent of the statements remembered from the narrative text in his study. The other 50 percent of the recalled statements are of three types: events that have "an emotional or graphic impact" on the reader, "setting statements," and "statements that refer to the overall theme of the



text” (Van den Broek, Rohleder & Narvaez, 1996, pp. 185-186). The first two of these (events that have an emotional or graphic impact, and setting statements) fall in the realm of inner sensory imaging and/or emotional response. Building on Van den Broek’s analysis, noncausal nodes are as important as causal nodes in story recall, and many of those noncausal nodes seem to involve imaging and emotional associations. These are important concepts when considering the design of arts integration activities.

### The artistic process

So, how do we join the artistic process with the reading process? Research has shown that imaging and emotional associations play an important role in reading comprehension and recall. We find that imaging and emotional associations are equally important in the artistic process. The arts are, above all, expressions of our feeling life—our sensory images and our emotions. In Susanne Langer’s terms, “The function of a work of art is to symbolize experience, that is, to formalize and convey ideas of sentience and emotion” (1957, p. 179).

The artistic process involves a spiraling interaction among four modes of action:

1. Playfully engaging and responding to stimuli through one’s senses and emotions
2. Transforming and organizing these responses into rich, multisensory inner imagery
3. Expressing the imagery through external representations such as a painting, poem, dance, or dramatic enactment
4. Evaluating and re-formulating the artistic expression throughout (Scheinfeld and Steele, 1995)

The process is, above all, exploratory and reflexive. The artist continually moves back and forth among the four facets of the process.

### Summation of theory

It seems useful, then, to join imaging theory and causal network theory with each other and with a view of the artistic process. Sensory imaging, emotional response, and perception of cause-and-effect relationships all contribute to text construction and recall. Imaging the-

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## Working memory and long-term memory

In both imaging theory and causal network theory, the reader, in recalling a story, is subject to major limitations dictated by the nature of our working memory (Baddeley, 1999; Fletcher & Bloom, 1988; and Trabasso & Suh, 1993). Working memory is the part of our memory system within which we can consciously activate some information, reflect upon it, manipulate it, or verbally express it. Basically, the capacity of our working memory is limited to something about the size of an image, clause, or sentence.

### Try a thought experiment to test

**this assumption:** Recall a simple story like the Three Little Pigs. You will find that you only bring into your memory one segment of the story at a time; for example, the wolf blowing down the first little pig’s

house. To bring another image, sentence, or idea into consciousness, you need to move the first chunk of information out of your working memory and move in the next one by recalling it from your long-term memory. The whole set of images and/or events that you constructed from the story is in your long-term memory, but only a small fraction of that set can be considered in your working memory at any one time.

How, then, can we ever bring to mind a whole story sequence? The answer appears to be that one chunk of information, when brought into the working memory, activates (stimulates us to remember) another chunk of information. The content of each chunk of information that we bring into our working memory must, then, contain attributes that suggest other chunks that are in our long-term memory. The more

associations we have established in our long-term memory between chunks of information, the more readily one chunk is likely to activate another chunk. The associations might be causal, thematic, or something else. This limitation set by our working memory is very awkward, but apparently that is the way it works.

The maximum amount we seem to be able to keep in our working memory is seven items of information (Miller, 1956). We can get around this limitation to some extent by chunking. For example, a telephone number reduces 10 digits (items of information) to three chunks. Images would seem to be an efficient way to chunk information; i.e., an image can contain more information than can be expressed through seven words.

ory and causal network theory overlap in that the reader's perception of cause-and-effect relationships is also likely to be attended by imaging and emotional response. Similarly, there is a vital connection between the artistic process and imaging theory. The artistic process, since it pivots on imaging and emotional response, has major potential for bringing out and strengthening the reader's imaging and emotional response propensities. This, in turn, contributes to the reader's long-term ability to construct texts.

### A theory-based intervention

From 1991 to 2000, the Erikson Arts Project worked collaboratively with K-8 teachers in Chicago inner-city schools to explore a variety of forms that arts integration might take in the curriculum.<sup>2</sup> The main focus of this work was strengthening the development of reading comprehension skills through the integration of visual arts, drama, dance, and music into reading instruction. Building on the theoretical propositions above, the arts-integrated activities were based on the interaction of the following components:

1. Inner sensory imaging by the reader, especially multisensory imaging
2. Emotional responses of the reader
3. Reflection on cause-and-effect relationships
4. Reflection on global sequential relationships (sequencing the whole of the text)
5. Language from the text expressed in written and verbal forms
6. Oral and written language that comments on the text
7. Artistic expression

The integration of these seven parameters characterizes an overall learning process in which artistic activity plays a prominent role.

One of the arts integration activities we employed, for example, is called The Emotional Journey of a

Character. It is typically done in grades 3-8, and in a modified form in the early primary grades. After having read and discussed a book together, the class is divided into groups of four. Members of each group decide on the four strongest emotions experienced by a main character in the story. As part of this process, they return to the text and revisit the passages from which they had inferred the emotions.

Each student in the group then selects one of the four emotions as his or her special focus and internally recreates (activates) that emotion by recalling its occurrence in the text, by recalling the events that led to it, and by connecting the character's emotion to similar emotional experiences in his or her own life. While sustaining their selected emotions within themselves, the students create abstract lines to represent the emotion, trying to match their inner experience of the emotion with one of the lines that they are making on the scratch pad. As they experience the emotion in their body, they try to let it flow out through their hand, into the pencil and onto the page.

When a student succeeds in making a line on the scratch pad that feels like it resonates with her inner experience of the emotion, she redraws the line in a larger size on an 8 x 11 sheet of paper, using colors that she associates with the emotion. Next, the student inwardly images the event in the story that triggered the character's emotion, explores her own feelings about the event, and, on a second sheet of 8 x 11 paper, makes a drawing of the triggering event. When the drawings are completed, the students in the group mount the four abstract emotion drawings on the upper half of a large sheet of butcher paper from left to right, in the order in which the various emotions occurred in the story. Below each abstract emotion drawing, they mount the drawing of the event in the story that triggered the emotion. The students then write the name of the book and character at the top of the butcher paper, the names of the emotions underneath the emotion drawings, and descriptions of the triggering events underneath the event drawings. Finally, each group gives a presentation to the class in which they explain their character's emotional journey and discuss why the particular events triggered the par-

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2. The Erikson Arts Project is generously funded by the Chicago Annenberg Challenge, John D. and Catharine T. MacArthur Foundation, Prince Charitable Trusts, Chicago Community Trust, Lloyd A. Frye Foundation, Chicago Arts Partnerships in Education, Hasbro Children's Foundation, Field Foundation of Illinois, Inc., Marshall Field's, and participating schools.



ticular emotions. They also discuss how closely they think their sequence of character emotions comes to portraying the plot of the story.

In constructing *The Emotional Journey of a Character*, students are engaged in a wide range of learning processes. They are empathically projecting themselves into the characters' emotions with the help of their personal connections. They are inwardly imagining the emotions and the triggering events. They are reflecting on cause and effect and sequencing events. Finally, they are communicating their ideas through drawing, color, writing, and verbal discourse. They also are analyzing the relationship of the emotion sequence to their model of the story plot. The activity includes six of the seven design parameters for arts integration. Element number 5, though not part of the original activity, could be added by including verbatim quotes from the text that describe the triggering events.

Some arts-integration activities place an emphasis on developing skills around the local constructions of the text, such as the cause of a character action or emotion, immediate physical cause, etc. Other arts integration activities place the emphasis on global relationships; e.g., plot, conflict and resolution, patterns in the text, or message of the story. Some involve both, as in the case of the emotional journey activity.

The distinction between local and global, while useful for planning skill-building activities, may only be a matter of emphasis. Local interpretations are often far-reaching in previous parts of the text; for example, bringing to bear a character's goal (inferred from recurrent indicators in the text) to explain a specific action. Conversely, most global constructions are built upon local constructions.

Complex arts-integration activities, such as the ones described above, are most successful when they are preceded by focused lessons in the arts skills that are utilized. In the case of the emotional journey activity, the students had previously learned how to represent a character's emotions abstractly through line and color. In the case of the dance activity in Karla Kelly's second-grade class, the students had received lessons in imaging and in interpreting sensory and emotional qualities through movement.

### Demonstrated benefits

From May 1997 through May 1999, the three elementary schools participating in the Erikson Arts Project's arts integration network showed significant increases in ITBS reading comprehension scores. At these three schools, the percentage of children reading at or above grade level increased by an average of 11.8 percentage points. The average gain for Chicago Public Schools elementary schools as a whole during the same period was 5.3 percentage points. In other words, the average gain for the Erikson Arts Project schools was more than twice the average gain for elementary schools across the system.

While such gains are important, perhaps the most important contribution of the Erikson Arts Project—as well as of the meta-analyses cited in this paper—is to stimulate reflection on future research regarding the effects of arts integration on academic development. If we want to use arts integration research to guide educational policy, we should bring more precision and differentiation into the process of evaluation. Specifically, researchers should:

1. Articulate and develop arts integration theory in depth and breadth; for example, incorporate a range of perspectives such as imaging theory, causal network theory, concepts of the artistic process, and others.
2. Design and implement arts integration activities that are thoroughly grounded in the theory. Both the theory and design of activities should be shaped to fit the strengths and limitations of each art form. They should be directed explicitly to different types of texts (e.g., narrative vs. expository). And they should take into account the developmental levels of the student participants.
3. Carefully evaluate the outcomes, using a variety of measures and asking the same tough questions as those posed by researchers such as Winner and Cooper (2000) and Podlozny (2000)—not whether arts integration has an impact, but whether arts integration has a *greater* impact on students' improvements in reading and language than other methods of teaching.

A systematic approach that joins theory, design, and evaluation is likely to lead to major advances in arts-integrated practice and to the refinement of theory. Such an approach could tell us with considerable precision which arts integration methods result in greater academic growth than traditional teaching methods. It also is likely to result in our learning more about how to promote students' artistic development in the context of arts-integrated learning.

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## In Practice

# Arts Integration and the Reggio Approach at Chicago Commons

BY BARBRA ARMAROLI

The visitor's first impression of the Nia Center on Chicago's West Side is how unlike any other child development center this is.

From the moment you walk through the door, you realize that you're not just entering a building. You are experiencing an environment—an environment carefully planned to engage, to encourage exploration and discovery. The halls include plenty of light and plants and fish. The walls are a pleasant backdrop for the many welcoming photos and self-portraits of students, parents, and staff. You are soothed by gentle music and invited to take a moment's rest at one of the many benches in the common space. In the "cowboy" corner, inspired by the children's own interest in horses and riding, you can imagine yourself astride a child-sized rustic horse, decked out in the cowboy regalia kept right inside the front door. Your sense of rhythm is engaged by the musical instruments that look like uninteresting bits of metal fastened onto a chunk of wood until you tweak one to make a wonderful sound. You are even invited to interact with residents of this warm, friendly environment by leaving a message for the fish on the message board.

This is no ordinary center.

The Nia Center is one of five community centers that comprise Chicago Commons, a social service organization that serves some 35,000 individuals and families in Chicago neighborhoods where opportunities are fewest. Chicago Commons strives to achieve four key outcomes—to create more financially self-sufficient families, better-educated and more knowledgeable communities, healthier families, and stronger advocate voices in the community. Child development is one of the largest efforts in Chicago Commons' full spectrum of life services.

"Central to our child development philosophy is the firm belief in an asset-based model," says Karen Haigh, M.Ed. '85, director of programs for Chicago Commons. "Most educational approaches in the United States are deficit-based. They look at what children can't do and try to teach them. We look at what children can do. We recognize that children are born with a drive to relate and to learn and absorb what's going on in the world around them. Through observation, documentation, and exploration, we guide and challenge them to extend their learning."

## The Reggio approach

Child development programs at all five Chicago Commons locations rely heavily on the principles of the Reggio Emilia approach, an educational philosophy based on the relationships and interdependence of children, teachers, and parents. From its beginning in the municipal school system of Reggio Emilia in northern Italy, the Reggio approach has risen to international prominence for its effectiveness, especially in early childhood development.

Since 1993, the Chicago Commons Child Development Program has explored several aspects of the Reggio approach, including:

- An image of the child as capable, ready to learn, and wanting to socialize;
- Use of the visual arts or graphic languages as a means to express and represent experiences and understanding;
- An environment that provokes and supports a sense of wonder, experimentation, thinking, socialization, and connections with nature and culture;
- Use of documentation to see, reflect, and revisit ideas, feelings, experiences, and the learning process of children and adults.

### Incorporating the arts

“I don’t think of our program as arts integration per se,” says Haigh, “but we certainly do make use of a variety of materials and incorporate the visual arts, music, movement, and drama wherever feasible. Children and adults speak in many languages. We help construct understanding when we ask a child to articulate ideas in a different language.”

Examples are everywhere, displayed for children, teachers, parents, and visitors to see and appreciate.

One display, “Our Thoughts on War,” shows drawings

made by 7- and 8-year-olds, mounted with personal quotes from the children. While the drawings show violence, fighting, and shooting, their words demonstrate the fears and worries these children have about war. “The combination of visual and verbal gives us another layer of understanding and perception,” says Haigh.

Another display

shows how toddlers learn about their world through exploration. The display, complete with real dirt and a shovel, shows photos and quotations of children exploring the neighborhood, touching a tree, dropping rocks through openings in a sewer cover, and listening for the splash below. These observations were documented by the teacher and formed the basis for construction of an exploration box that now stands in a preschool classroom. The box has slots to drop things in, doorknobs to turn, even a compartment with a mirror inside, to the delight of one young boy who was especially taken with mirrors.

For the visual arts, the Nia Center has a studio for the use of the 200 children it serves. Like many schools that adopt Reggio principles, Chicago

Commons has chosen to create a dedicated space at Nia for the exploration of materials. “We go way beyond crayons and markers here,” says Haigh. “We may spend a month on paper. We use charcoal, wax pencils, clay, paint, wood, wire, and more. Once the children become comfortable with a variety of materials, they are better able to make connections. Even a child who cannot yet draw representationally can begin to understand how marks on a page can communicate an idea to a friend.”

The materials then become an integral part of learning. And the learning can take many an unforeseen turn when directed by the children’s interests. One study of wire, for example, became a collaborative effort between the older children and the younger children at Nia. The school-age children created a display showing what the toddlers did with wire, concluding that “looping, chewing, and dragging” were the three most popular ways that young children work with wire. From there, the wire study took a new turn. The older children wrapped themselves with wire. Photos show them immobilized, wriggling on the floor “like a snake.” This led to a study of snakes, which included drawings and paintings of the mysterious reptiles. “This was not ‘Repeat three facts on snakes.’ This was an opportunity to *become* a snake and learn so much more about what that means,” says Haigh.

### Environment as teacher

Another of the Reggio principles, attention to the environment, is highly regarded at Chicago Commons, especially for the opportunity it presents to value the many languages of children. One wall in the administrative area at Nia is covered by a mural created by 3- to 5-year-olds. Each child was given an area and a palette of colors of their own choosing, then asked to create a self-portrait. The children insisted that their teachers also be included in the project, so they created self-portraits on the mural as well.

“Many schools or centers just feel institutional,” says Haigh. “They may be lacking in the resources needed to create a warm, inviting environment. But this is really more about thought than about money.

“We make use of a variety of materials and incorporate the visual arts, music, movement, and drama wherever feasible. Children and adults speak in many languages. We help construct understanding when we ask a child to articulate ideas in a different language.”

If you think creatively about how to use the entire environment for learning and exploration, it can be done economically.”

Chicago Commons uses every inch of the environment. You see a mirror mounted at floor level on a landing between flights of stairs. You see chunks of plastic mounted along a wall in a hallway at various heights inviting children to measure who’s tallest. You see huge plants in every classroom to evoke a sense of connection with the outdoors, windows and glass block between classes, even a fish tank so children can see into two worlds at once: the other classroom and the fish. One classroom features a real patio furniture set, complete with market umbrella overhead. Another creates a tiny nook just outside the door with an awning made of tree branches suspended over a wood bench just big enough for two small children. “Learning can take place anywhere,” says Haigh.

### Documenting the learning process

There are photos everywhere. Photos of children and parents working together to build a replica of a house; photos of teachers when they were young; photos of older students spending a day at the nearby Garfield Park Conservatory during their study of color; photos of children at work exploring. Each photo display features quotations from the children, documenting what they said and how they felt during their explorations.

“We use tape and video recording, photography, slides, copies of students’ work, all as tools to help understand where the students are in their learning and what motivates them,” says Haigh.

Documentation is critical to collaboration, which is another important aspect of Chicago Commons’ application of Reggio principles. The program encourages collaboration among students and among adults, both teachers and parents. Students learn from each other by working in small groups. Teachers learn new instructional ideas from each other; teachers and parents share their perspectives on their students’ progress and concerns. “We spend a lot of time with documentation,” says Haigh. “It gives teachers a means of tracking student progress. It gives parents

the chance to see their children in action. It gives students a sense of pride and accomplishment to know their work is valued.”

### A model program

Chicago Commons is one of a handful of child development organizations in the United States recognized for its use of principles of the Reggio approach. Last November, Commons hosted some 250 visitors from all over the world at a daylong seminar on how it applies Reggio principles in a multi-site, inner-city agency.

“The challenges are significant,” says Haigh, who cites low salaries, high turnover, and constant change, not only among staff, but in public service regulations, as greatest among many challenges. “But when you see what these kids can do, it’s worth it. They are learning about life. And it makes sense to learn about life in the place where you live.”



## A conversation with Dan Scheinfeld

**D**aniel R. Scheinfeld, Ph.D., Erikson senior research associate, is director of the Erikson Arts and Literature Circle Programs, multiyear efforts designed to help strengthen academic performance of at-risk K–8 students in the Chicago Public Schools system. Scheinfeld works directly with teachers in the classroom at Seward Communication Arts Academy and Brentano Math and Science Academy



in Chicago to implement Literature Circles. These small, student-led and student-driven discussion groups are being tested for their efficacy in helping students improve oral academic English, reading comprehension, reasoning, arts communication, and dialogue skills. Arts integration is an important part of the students' end-of-book presentations, in which they join communication of higher-order thinking with artistic expression. Scheinfeld also directs the Erikson Reggio Emilia Study, to document the exploration of the

Reggio Emilia approach to early childhood education at Chicago Commons. Scheinfeld, Chicago Commons early childhood director Karen Haigh, M.Ed. '85, and Erikson research associate Sandra Scheinfeld are currently completing a book on the Chicago Commons Reggio program. Arts integration activities play a significant role in the Reggio approach.

Dan Scheinfeld's work in arts integration spans a decade, beginning with a paper he presented at the NAEYC Annual Conference in 1991 entitled "Young Children, the Arts and School Improvement: Developmental Paradigms." From 1991 to 2000, his arts integration outreach program, staffed by artists and graduate students, conducted professional development with the teaching staffs of four inner-city Chicago public schools.

Scheinfeld earned his Ph.D. in anthropology from the University of Chicago, his M.A. in social anthropology from the London School of Economics, and his B.A. in political science from Yale University.

### What forms of arts integration activities show the greatest results in student achievement?

We know from the meta-studies (see "Arts Integration in the Classroom," page 1) that drama integration activities have been shown to result in language and reading comprehension gains that are significantly greater than those produced by non-arts-integrated methods of teaching. That isn't surprising. Drama is about narrative, so it provides the closest match between the art form and the text; in this case, stories. In addition, drama uses more sensory dimensions than the other art forms: it includes voice, body movement, facial expression, gesture, and visual arts in the form of props and scenic backdrops. Drama also deals with the entire plot. Drama generally involves small-group collaboration and group thinking, so students benefit from other minds contributing other perspectives to their understanding and subsequent performance. Last, drama often deals with cause and effect, which has been shown by theorists to be a key to reading comprehension.

### How do other forms of arts integration activities compare?

In general, the meta-studies suggest that the academic results of other types of arts integration (music, dance, and visual arts) are simply on a par with those achieved through non-arts-integrated methods of teaching. In some specific cases, there are exceptions. Dance, for example, is producing strong results in some areas. The Reading in Motion organization in Chicago (formerly known as Whirlwind) has shown promise in combining early phonics and alphabet learning with dance. Their program is carefully designed, is firmly grounded in theory, and, like drama, involves small



group collaboration among students. Visual arts activities are probably the most common application of arts integration.

#### **Do you think we could see greater improvement in reading comprehension with visual arts integration activities?**

I do. As it is usually applied, however, visual arts integration is less powerful than it could be. The average teacher, who will have had little or no training in either visual arts or arts integration, is likely to tell students simply to “draw a picture to go with the story” or to “draw your favorite scene in the story.” These activities are likely to have only a limited impact on academic outcomes. There are two problems with these activities. First, they do not anchor the students’ activities in systematic thinking about the text or subject matter. We know that thinking in terms of cause-and-effect connections, along with internal imaging and experiencing of feelings about the text, is the road to retention. Second, in order for arts integration to be most effective, children have to be systematically taught to use an art form to express literary ideas. An example in visual art would be learning how to use line and color to convey character emotion. Most teachers don’t have training in the visual arts or in the principles of visual arts integration, and their own ability to join higher-order thinking with visual arts expression is severely limited. The same is true regarding teacher training in drama, music, and dance. Drama integration, for example, can be strengthened by giving students upfront training in dramatic expression, although the necessity may not be as great as with the other art forms because of drama’s one-to-one relationship with narrative text, along with the other facets of drama that I have mentioned.

#### **How did you work with teachers to develop their ability to do arts integration?**

The Erikson Arts Project did its major teacher training in arts integration from 1991 to 2000. The arts integration lessons were organized around literary elements, such as character traits, character emotions, relationships, story sequence, problem and solution, and mood, and around thinking skills, such as cause and effect, inference, and prediction. The principal training and support method was to establish a collaborative relationship between teachers and artists in drama, dance, music, and visual arts. In the first year of the artist-teacher relationship, the artist typically did a series of demonstrations in the classroom, first teaching students some basics of the art form and then teaching them how to utilize those basics to articulate their ideas about stories. The teacher often taught the purely academic portions of the lesson. In the second year of training, the artist and teacher cotaught the arts integration lessons, with the teacher as much involved in the artistic aspects of the lessons as was the artist. In the third year, the teacher taught the entire set of arts integration lessons by herself, with the artist observing, coaching, and giving feedback. In all three years, artist and teacher met before and after each classroom visit to plan and debrief.

The collaborative work in the classrooms was augmented by weeklong summer workshops. With some notable exceptions, all of this did not bring the average teacher to the point where she or he had developed the kind of artistic sensibilities needed to effectively teach the basics of the art form that need to be taught to make arts integration most effective. To see real benefit from arts integration activities, I think we need to make arts integration instruction a part of teacher education in college.

#### **What kind of curriculum design lends itself most to arts integration?**

Without question, we see the greatest impact from arts integration activities when teachers are using an *academically* integrated curriculum organized around a theme. For example, if the theme is reciprocity, the concept applies to family, community, culture, economics, and math. Students are encouraged to make connections between different disciplines. When teachers use themes that cross disciplinary lines, students tend to think more abstractly. In the context of an academically integrated curriculum, arts integration can play a pivotal role in bringing together the various subjects, and hence, play a particularly vital part in the overall curriculum.

#### **Does arts integration play a role in nonfiction reading comprehension?**

Yes. It is clear to me that we can and should expand our theoretical models to accommodate expository text. We know that imaging is profoundly helpful in understanding relationships in nature, in understanding peoples and cultures, and especially in understanding biography and history. Look at physics. It is said that Einstein was given to strong visual and kinesthetic imaging. For example, he imagined himself riding on a beam of light. The bulk of the research in arts integration has applied to narrative rather than expository texts. I think arts integration can be important in both.

#### **Where should we be going with arts integration?**

For arts integration as a field of study, I think we need more work in the systematic investigation of activities that are grounded in theory. We need to understand how arts integration activities can result in a

deepening of thought processes by first understanding how higher-order thinking can be joined with artistic expression. And we need more experimental variation, such as using arts integration with and without student collaborative thinking, or with a whole text as opposed to portions of a text. By experimenting with different elements, we can learn which combinations produce the best results. We also need a global approach to the study of the effects of arts integration, perhaps in three stages. The first stage would involve artists and exceptionally qualified teachers conducting arts integration lessons in carefully controlled studies to isolate various types of applications and evaluate their impact. A second stage would involve testing the first stage outcomes in a larger number and wider variety of classrooms, with the help of exceptional teachers. A third stage would involve the systematic training of the average teacher.

As part of this third stage, we can do a number of other things to advance the impact of arts integration: train teachers at the *preservice* level, as they work toward their B.A. or M.A. degrees; include school administrators, area resource people, and parents in the training at the school level; connect arts integration activities to every facet of the core curriculum, ideally in the context of an academically integrated curriculum, as mentioned above; build in teacher research, so that teachers will reflect on and document the benefits of arts integration activities; encourage teachers to collaborate with colleagues, so that teachers support one another in critically and creatively applying arts integration in the classroom.

To be most effective, arts integration also needs to be made part of the school culture, for instance in setting up arts integration displays, creating arts integration murals, and featuring arts-integrative presentations in drama, dance, and music at school assemblies.

I think arts integration has enormous potential. But much work remains to be done in refining both its theory and practice and in strengthening the process of teachers' professional development in the arts, as well as in arts integration per se.

#### **Why did you shift your teacher training efforts from arts integration to Literature Circles?**

There are several reasons. First, I wanted to move more deeply into the core of the reading curriculum. I felt that arts integration was treated by most teachers as a special enrichment that one would do with students when time permitted. On the other hand, the Literature Circle, a small student-led discussion group, meets regularly twice a week and requires students' weekly preparation for the discussions. Second, the schools in which I work, serving Latino communities, have a high proportion of students with low English language proficiency. Teachers view this as the students' Achilles heel with regard to long-term academic success. I felt it would be wise to introduce something into the curriculum that radically increased the average student's talk time in academic English, much more talk time than they get in typical whole class lessons. Literature Circles provide that much-needed practice in the use of oral language. Third, the shift of primary emphasis to Literature Circles did not mean

abandoning arts integration. The Literature Circle groups incorporate arts integration in their end-of-book presentations to the class and often into their end-of-discussion activities on any particular day. Finally, at a very personal level, I am fascinated by the idea of students running their own book discussions, energized by their own questions, connections, and ideas. It's a thrill every time I walk into a classroom and see six or seven student discussion groups operating on their own. It's a great affirmation of the students' sense of agency and powers of the mind. If one can combine that with arts integration, what more could a person want? Well, actually, there is more. We're now beginning to work with teachers on how to introduce the ideals of collaborative reasoning that characterize Literature Circles into whole class discussions. We are hypothesizing that this ongoing modeling of reflective interaction in the whole class context will provide an extra boost to the quality of discussion in the small groups.

In connection with all of this, I am continually on the lookout for new ways to bring arts integration into the group reasoning process. The ultimate aim in learning is to thoroughly join our feeling lives with language, thought, and discourse.

# News from the Herr Research Center

## Erikson at NAEYC

The 2003 NAEYC conference in Chicago included a number of presentations by Erikson faculty and researchers.



Samuel J. Meisels

President **Samuel J. Meisels** moderated a panel, “Honoring Chicago’s Contributions to Early Childhood Education,” that recognized the life-long work of professor **Barbara Bowman**.

**Samuel J. Meisels**, a leading expert on early childhood assessment, gave two presentations on this topic:

“Developmental Assessment for Infants and Toddlers: The Ounce Scale,” with Dorothea Marsden and Margo Dichtelmiller, and “Adapting Work Sampling for Statewide Assessment of Young Children,” with Betty Cooke, Rolf Grafwallner, Katherine Kamiya, and Shelby King.



Barbara Bowman

**Barbara Bowman** presented “Equal from the Start: Promoting Educational Opportunities for All Preschool Children; Learning from the French Experience,” with Shanny Peer and Michelle J. Neuman; and “Lessons from Erikson Institute’s Schools Project for University-School Partnership,” with associate professor **Jie-Qi Chen**, research associate **Suzanne Wagner**, and adjunct faculty member **Patty Horsch, Ph.D. ‘99**, who heads Erikson’s collaboration with Williams School.



Linda Gilkerson

Professor **Linda Gilkerson**, who founded Erikson’s Fussy Baby Network, addressed “Caring for Fussy Babies: How to Calm Infants (And Stay Calm) in Group Care” with adjunct faculty members **Marsha Hawley** and **Jennifer Rosinia**, doctoral student Jeanine Klaus, Karen Benson, and Larry Gray. Gilkerson also presented “Developmental

**Meisels to lecture at Yale** President Samuel J. Meisels was appointed Weisswasser Visiting Professor in the Yale University department of pediatrics for spring 2004. The Weisswasser Professorship is an annual lectureship that highlights behavioral and developmental aspects of pediatrics. Meisels will give two major talks, one at the Yale Child Study Center, and one in the department of pediatrics.

Screening in Infant/Toddler Child Care Programs: Challenges and Effective Practices,” with Ann Culter and Cynthia Lashley.

Associate professor **Aisha Ray**, with Vivian Gadsden and Lois Rakov, presented “Engaging Fathers: Developing Early Childhood Programs that Support Children and Families.”

Associate professor **Jon Korfmacher** presented “Montessori and Early Head Start: Forging a Relationship with Materials and Methods,” with Terry Hudgens and Melissa Wilhelm.

Professor **Gillian McNamee** and associate professor **Jie-Qi Chen**, who developed Bridging, an assessment system for early childhood classrooms, both gave presentations on assessment practices. Chen, with doctoral students **Ann Masur** and **Jennifer McCray**, addressed “Assessing How Children Learn: Bridging Assessment to Teaching Practice in Early Childhood Classrooms.” McNamee, with adjunct faculty member **Luisiana Meléndez, ‘95**, presented “Assessing What Children Know and Planning What to Do Next: Bridging Assessment to Teaching Practice in Early Childhood Classrooms.”

With Valerie Price and senior research advisor **Charles Chang**, **Jie-Qi Chen** also presented “Preparing Early

Childhood Teachers for 21st-century Classrooms: Chicago Public Schools and Erikson Institute’s Computer Training Program.”

**Gillian McNamee**, with Karen V. Capo, Patricia Cooper, Connie Floyd, Bernie Mathes, Vivian Paley, and Judy Rolke, addressed “Children Telling and Acting Their Own Stories in the Early Childhood Classroom: Vivian Paley’s Holistic Approach for Social, Emotional, and Literacy Development.”

## Research update

**Samuel J. Meisels** has been active in the national debate over Head Start and early childhood assessment. He coauthored “The Head Start National Reporting System: A Critique,” in the journal *Young Children*. During the fall and winter of 2003, he spoke at Head Start regional conferences in Chicago and Long Beach, California, and at the National Head Start Annual Transition Conference in Arlington, Virginia. Meisels also spoke on assessment at the University of Illinois at Chicago and at the National Grantmaker’s Forum in Detroit, and gave the keynote address at the annual meeting of the Infant Welfare Society of Chicago.

Associate professor **Jie-Qi Chen** was awarded a Fulbright Senior Specialists grant in education at the Hong Kong Baptist University Center for Child Development. She will travel to Hong Kong and mainland China in summer 2004 to teach, speak, and share her research with her overseas colleagues.



Jie-Qi Chen

**Jie-Qi Chen** published “Theory of Multiple Intelligences: Is It a Scientific Theory?” in *Teachers College Record* 106(1). She also contributed to two recently published books, coauthoring “The Project Spectrum Approach to Early Education” in *Approaches to Early Childhood Education*, fourth edition (Merrill/Prentice Hall, 2004). With Howard Gardner, a leading expert on multiple intelligences, Chen published “Assessment Based on Multiple Intelligences Theory,” in *Beyond Traditional Intellectual Assessment: Contemporary and Emerging Theories, Tests, and Issues*, second edition (Guilford, 2004).

Professor **Gillian McNamee** and **Jie-Qi Chen** gave two presentations at the annual conference of the American Educational Research Association, held in Seattle in April. With adjunct faculty member **Jennifer McCray**, McNamee and Chen presented “Identification and Nurturance of Diverse Cognitive Profiles in Young Children.” Drawing on their work with Bridging, an assessment system for young children, Chen and McNamee also addressed “Building Multidirectional Bridges through Classroom Assessment,” with adjunct faculty member **Luisiana Meléndez**.

Professor **Robert Halpern** has been working with mayor Michael Bloomberg’s After-School Task Force to help devise an improved after-school system for New York City. He has also consulted with national grantees of the Pritzker Early Childhood Foundation about evaluation issues.

Associate professor **Aisha Ray** published “Understanding Multicultural and Anti-bias Education,” in *Teaching 4- to 8-year-olds: Literacy, Math, Multiculturalism, and Classroom Community* (Paul H. Brookes, 2003). She coauthored “Fathering Indicators for Practice and Evaluation: The Fathering Indicators Framework,” in *Conceptualizing and Measuring Father Involvement* (Lawrence Erlbaum, 2004).

Professor **Barbara Bowman** published “Family Engagement and Support,” in *Early Childhood Education and Care in the USA* (Paul H. Brookes, 2003). The chapter provided an overview of how programs concerned with the development and education of young children have involved parents.

Adjunct faculty member **Marsha Hawley** gave a field presentation on the Infant Toddler Mentoring Project at the eighth annual Birth to Three Institute in Baltimore, Maryland in February. The institute, which this year focused on comprehensive services for infants and families, brought together Early Head Start staff, childcare professionals and experts, and policy makers. Hawley, who directs the Infant Toddler Mentoring Project at Erikson, described the project’s work and the services it offers to childcare centers.

Research associate **Kathleen Kostelny, Ph.D. ’93**, an expert on the effects of violence on children, gave two recent presentations on the subject. She delivered “Healing the Wounds of Sexual Violence: The Situation of Young Girls Abducted by Fighting Forces in Sierra Leone,” at the Psychologists for Social Responsibility conference in Washington, D.C., in October 2003. At the Cornell Law School Symposium in February, she gave a talk on the reintegration of child soldiers. Kostelny also coauthored “Internally Displaced East Timorese: Challenges and Lessons of Large-scale Emergency Assistance,” in *From Clinic to Community: Ecological Approaches to Refugee Mental Health* (Lawrence Erlbaum, 2004).

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## Herr Research Center at Erikson Institute

The Herr Research Center, established in 1997 with a gift from the Herr family, is the hub of research activities at Erikson Institute. Its mission is the development of knowledge from applied research that contributes to a significant improvement in the quality, effectiveness, and equity of education and services for children and families. The center provides technical assistance and funding for the development and implementation of a wide variety of research projects, promotes the dissemination of research findings, and sponsors conferences and seminars.

Dedicated to addressing the interests and needs of an increasingly diverse society, center-supported research initiatives work with populations that vary in age, race, and ethnicity, with a primary focus on programs and populations in disadvantaged communities. The center is committed to providing a sound and useful base of information to guide the understanding of complex social issues such as changing family and societal needs and families in stress as well as the nature and efficacy of services for children and families.

### Current research projects

Caregiving Consensus Groups with Latina Mothers  
Children and Violence Project  
Computer Training for Early Childhood Teachers Project  
Doula Support for Young Mothers Project (in collaboration with the Department of Psychology at the University of Chicago)  
Erikson Arts Project  
Faculty Development on the Brain Project  
Fathers and Families  
Fussy Baby Network  
The Helping Relationship in Early Childhood Interventions Project  
Bridging: A Diagnostic Assessment for Teaching and Learning in Early Childhood Classrooms  
Project Match  
Reggio Emilia Project  
Schools Project  
Teacher Attitudes About Play  
The Unmet Needs Project

### Publications available from the Herr Research Center

Applied Research in Child Development  
Number 1, After School Programs  
Applied Research in Child Development  
Number 2, Father Care  
Applied Research in Child Development  
Number 3, Welfare Reform  
Applied Research in Child Development  
Number 4, Assessment  
“Lessons from Beyond the Service World,”  
Judith S. Musick, Ph.D.  
“Harder Than You Think: Determining  
What Works, for Whom, and Why  
in Early Childhood Interventions,”  
Jon Korfmacher, Ph.D.  
“Child Assessment at the Preprimary  
Level: Expert Opinion and State Trends,”  
Carol Horton, Ph.D., and Barbara T.  
Bowman, M.A.  
“‘Does not.’ ‘Does too.’ Thinking About Play  
in the Early Childhood Classroom,”  
Joan Brooks McLane, Ph.D.

### Faculty

Samuel J. Meisels, Ed.D., President, Erikson  
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