Studies indicate that arts education improves math learning in early elementary years, promotes significant cognitive gains, supports discovery, and builds knowledge. This conference paper indicates the importance of the arts in early education curriculum and provides an innovative way for teachers to bring constructivism into the classroom. It describes a constructivist early childhood arts-based program at the Kaleidoscope Early Childhood School, a Head Start site in South Philadelphia, Pennsylvania. The program's purpose is to reach poor children and serve the community by bringing together teachers, artists, and children in small groups in the areas of music, dance or creative movement, and visual art. The music program teaches children math, language arts, science, culture and socialization through the investigation of sound and how sound is made. Children in the visual arts program work in seven areas of choice and learn to explore, test, and repeat manipulation of materials. In the dance program children build knowledge of speed, depth perception, balance, direction, size, and movement combinations. The arts-based curriculum also allows for multicultural and therapeutic expression. The paper concludes that arts-based programming is cumulative, promotes risk taking, and is effective especially for at-risk children, and that teachers must move from interpreting and teaching art to the constructivist notion of supporting children's discovery of the arts. Contains 15 references. (SD)
Constructivism and Arts Based Programs
A Presentation at the National Association of Early Childhood Educators' Conference "CONSTRUCTIVIST EARLY CHILDHOOD TEACHER EDUCATION: CENTENNIAL CELEBRATION OF PIAGET'S LIFE"
June 5, 1996
Minneapolis, Minnesota

Constructivism and Arts Based Programs

Arts teaching is central to early learning. Arts
intensive early education programming is an efficient and
innovative way for teachers to bring constructivism into
early childhood classrooms. Traditional public perception of
the arts seems to find them important but peripheral to the
educational process. (NCES) Several recent studies indicate
that arts enriched curriculum is associated with improved
math learning for early elementary years and with cognitive
processing gains during the preschool years. (Gardiner,
Luftig, Coakley) Yet early learning programs continue to
interpret "art" as what children "make to take home". Music
and creative movement or dance are often focussed on
"performances", seen as language arts "boosters", or
"articulation therapy".

The ability and opportunity to teach children
consistently in a way that supports discovery and knowledge
building converge in many NAEYC accredited programs. Within
these and many non-accredited programs, teachers must leave
behind their own "non-constructivist" learning history. At
the same time, they must struggle with minimal resources,
and the preconceptions of families about what and how
children should be taught - "numbers and letters" versus
"socialization" debate. For directors of early childhood
programs the "outcome" of early childhood teacher preparation (hiring a "fresh" graduate) often means reliance on "cut-out", "paper, glue, scissors" curriculum publications. Why are teachers, both new and experienced, so hungry for content based workshops in science, music, art, creative movement, and literacy? Why is the "quality" issue for early childhood programs still so persistent within NAEYC and other national and local early childhood organizations? Teaching and learning involve deepening knowledge propelled by interest, often a passionate one. (DeVries and Kohlberg, Gary) Can the arts provide a broad base for evoking interest and creating knowledge within teachers and students in the early years of childhood?

The arts engage children, parents and teachers in the creative process. An early learning arts-based curriculum allows preschool children, teachers and families to observe and comprehend the application of constructivist principles. Why does arts-based programming fit constructivist practice in terms of conditions and materials, curriculum, assessment, constructing physical and social knowledge. Does it work as constructivist for pre and post teacher preparation as well as for children? At Settlement Music School, the Teacher Training Institute in the Arts and the Kaleidoscope Early Childhood Program provide the basis for the following description of how arts-based early learning fulfills the constructivist approach and informs teacher preparation.

A Constructivist Early Childhood Arts Based Program

The Kaleidoscope Early Childhood Program was founded six years ago by Settlement Music School and in 1994 became a Head Start site. As a model early learning program in the arts, corporate and foundation sponsors have supplemented the program's Head Start funding. Kaleidoscope is located at the Mary Louise Curtis Branch of Settlement Music School in South Philadelphia. The Kaleidoscope program was designed to reach poor children who lived across the street from one of the oldest community cultural institutions in the city but
whose families had little or no contact with it. Could an arts intensive program serve this "at risk" community of children many of whom show developmental delays?

Kaleidoscope teachers, practicing artists, work with children in small groups for up to four hours per week in music, dance or creative movement, and visual art. The children spend the remainder of their day in tradition but very small early childhood classrooms. At Kaleidoscope teacher collaboration is the key to implementing a multi-arts based curriculum. The early childhood "home room" teachers plan weekly with artist teachers exchanging ideas, problem solving, collaborating, to keep the curriculum "child centered". The curriculum grows out of the artist - early childhood collaboration, parent input, and feedback from children. The Kaleidoscope curriculum is generated from a framework of information processing strategies. It is articulated through planning, feedback from children and parent input. Integration of the arts based curriculum gives children a chance to revisit the same or modified problems within a different context and environment.

The Teacher Training Institute in the Arts uses as a core faculty, Kaleidoscope Early Childhood Program artist teachers in visual art, dance and music. The courses serve a mix of arts educators, artists who want to teach, early childhood teachers, and elementary school teachers. This unique mix of students provides a rich cross fertilization for students and faculty in disciplines and training.

**Arts Based Programming - Visual Art, Music, Dance**

An arts based program provides optimal conditions and materials for preschool constructivist teaching. In the Kaleidoscope visual arts studio, children may choose to work in one of seven areas of choice, with plenty of time to explore, test, and repeat manipulation of materials. These are concrete, everyday pieces of "beautiful junk", from a child's indoor and outdoor environments. Fabric, buttons, evergreen branches, fish, construction site tape and fencing, playdoh, clay, paint, pencil, crayon, colored


marker, paper, (many varieties), scissors, glue, and an array of collage "accessories", (i.e. glitter, beads, sequins) possess limitless possibilities for creation. Children will spend many hours with these materials and need only occasional help in using them. Choices are clear and tasks are self assigned. Visual art is a field where teachers often enjoy the creative process as much as children do, though teachers may have had little or no instruction in visual arts themselves.

The need to share space, materials and equipment, wait for teacher assistance when necessary, and communicate with teacher or peers assure opportunity for social learning. The formation of self selected groups (older-younger, peer, active cooperation, passive observation) guarantees a blend of developmental ages. The visual art studio also acts as a young child's math and science lab. Children construct basic mathematical knowledge using arts materials singly and in combination, in sequence, in varying quantity, to produce specific or consistent results. In the Kaleidoscope program the visual art studio does not compete with dramatic play or manipulatives for sustained attention. The extended opportunity to experiment in clay, three dimensional collage, wood, two dimensional activities, clean-up, how to "care" for clay so that it can used over and over, support problem solving, math and science learning. (Kammi)

Music, like visual art, teaches children math, language arts, science, culture and socialization. Music in the Kaleidoscope Program is an investigation of sound and how sound is made. Children are inherently musical, but teaching children music must involve more than singing along with pre-recorded songs. Listening, singing, actively finding and creating musical sound with instruments is the heart of a constructivist approach.

The materials available to children for making music are limitless. Sound is dependent upon what sound makers are made of and how the sound makers are used. Kaleidoscope children use metal, plastic, wood, or glass objects, (toys,
bowls, kitchen implements), pour water, and rattle beads in yogurt cups, to make musical sounds. Movement is a vital part of making music. Oral acuity, rhythmic and tonal development, learning the "colors" of sound (timbre), games which teach sensitivity to sound, using instruments, voice and "body percussion" should be the basis for music curriculum. Unfortunately many early childhood programs rely on records, and the limited musical instrument collections found in the standard school supply mail order catalogs. Time dedicated to music making, a rich choice of materials and a teacher interested in how to use them are the key for a constructivist early childhood music program.

Rule making for "solo playing or singing time",形成 groups or partnerships and playing music together under a teacher's guidance makes social learning a critical part of music. As children engage in increasingly more complicated group games taking turns, singing different parts they face progressively greater social challenges in the music curriculum. (Kammi and DeVries)

Music can be described as a series of ordered, repeated relationships in tone, rhythm, and beat. Logico-mathematical knowledge formation in young children includes learning the basic elements of music making, rhythmic development, how to recognize and control loudness, the repeated pattern of relationships involved in singing and movement games. Musical training and mathematics learning appear to be connected well beyond early childhood. (Gardiner, Luftig, Rayl)

The Kaleidoscope program as part of Settlement Music School has two music studios especially equipped for young children with a variety of percussion instruments and tone blocks. Music is filled with "choice" in musical expression, song, instruments, games, chants, all with or without movement. The Kaleidoscope music curriculum is the Children's Music Workshop created for young children at Settlement Music School and is based on the theories of Orff, Kodaly, and Dalcroze.
Children are in constant motion. Moving to music is natural for them. The Kaleidoscope children engage in "free dancing", group discussion, teacher guided activities and games. The dance or creative movement curriculum teaches young children a "vocabulary" of increasingly complex movement forms. Preschoolers will experiment with an endless variety of movement combinations and practice those they find pleasing. Each child "invents" on her/his time schedule but can still work effectively with others at different skill levels. Dance and creative movement become an alternative language for expressing feelings, telling a story, reinventing oneself.

Warm-up exercises make children recognize the "feeling" of muscle and bone at work. The presence of full length mirrors give children the benefit of "instant feedback" as they experiment with pose and locomotion. Given time to practice and to observe themselves, children become absorbed in mirror images, reflections of themselves, their classmates, and their teachers.

In the Kaleidoscope dance program children build knowledge of speed, depth perception, balance, direction, and size. To avoid collisions or falling down, they must respect each other's "space and pace" while moving singly, and cooperate while in pairs or groups. They must share teacher attention, may need to share props, and wait for a turn to dance or for preferred music. Literacy, science, math, culture and socialization are the core of the Kaleidoscope early childhood dance program as in music and visual art. Exercise, fitness, and physical development of large muscles is a generally neglected area in early childhood education. (DeVries and Kohlberg)

Multicultural and Therapeutic Implications of Arts Based Programming

Children can give voice to inner feelings during a "free dance", through a painting, or as they beat the drums. Non-verbal expression through arts activities can tell a teacher a great deal about a child whose language or other
development may be delayed. "Arts play" has become part of play therapy, a technique for helping very young children release the anger and despair of traumatic stress syndrome.

The arts are the world's universal communicators across cultures and history. Dance and music with worldwide roots surround children today. Traditional percussion instruments from all cultures while varied in form and size fall into the four categories. "Na, na na na, na, na , sung and heard almost everywhere in this country, as a childhood taunt, or a mother calling a child to the main meal of the day is a "descending third" derived from the western musical scale.

Aesthetics become a natural part of visual arts curriculum as children look at and talk about paintings and sculpture from other eras and other cultures. Percussion instruments from Africa, Indonesia, India, or the West Indies simple in design are often extremely beautiful objects. Through visiting artists in dance or through the use of videos children can watch, discuss and mimic "great performances" by "great performers" in dance.

**Arts Based Curriculum Assessment**

Curriculum in visual art, music, and dance is sequential. Children constantly add elements to their work in art, music and dance. Children progress in stages in figure drawing, clay work and painting. In music young children develop the ability to find pitch and the steady beat. They master position, movement, and speed in dance. Representational writing, painting, or sculpture, sorting by sound quality, mirroring, are all steps in the development of non-verbal symbolic systems. For "on time" development to proceed in the arts, a studio or center rich in texture, color, and mixed media material, must be accessible, consistently and heavily used. (Lowenfeld)

Arts activities (including samples) provide a picture of a child's strengths, growth and emergent learning style. The Kaleidoscope Program has created checklists for use in the arts disciplines reflecting sequential development in visual art, music, and dance. The checklists include common
social, emotional, and language development questions so that the observations of artist teachers and early childhood teachers can be compared within environments of varying stimulation.

In summary, arts based programming promotes risk taking. It is child and teacher interest driven, characterized by action, not skill driven tasks or exercises. Arts engagement give children time and support for making and correcting errors in judgement or thinking. With the help of a teacher children will have many opportunities to observe the results of their actions, discuss them, note differences in results from those anticipated, to take knowledge gained in one arts studio and apply it to another.

If an arts based curriculum is effective why isn't it more widespread? Early childhood has not become a prominent part of arts teacher education, and arts training has been largely absent from early childhood teacher education. The importance and need for the creative process to be the basis for early childhood curriculum has been recognized. (Edwards) But "project planning" within a thematic curriculum even though it goes beyond the "cookbook" style, is not an arts based program. Early childhood teachers often fall into the product (no matter how pleasing!) over process trap, as dance teachers fall into the "performance trap". Many early childhood teachers feel that they must "play an instrument" or "sing" in order to "do music with children". Many music, art and dance education teachers have been taught to work with older school age children and are uncomfortable with young children. In many states, certification in dance education if it exists is part of physical education. Creative movement and dance for young children is being explored largely outside traditional academic institutions.

Does arts programming work for children? Can an arts intensive curriculum serve "at risk" children many of whom show developmental delays? An empirical study conducted using Kaleidoscope and a neighborhood traditional child care
program as a control group indicates that intensive arts does work for preschool. (Coakley) The Kaleidoscope program has the support of parents who "see the results in their children every day" according to a survey conducted by an independent evaluative team in 1994.

Does arts programming work for teachers? Philadelphia. School District and Head Start teachers say that they find the Teacher Training Institute in the Arts courses to be "life changing". An ongoing relationship with the Christina Arts Center of Wilmington, Del. has enabled many of the artist teaching staff there to expand class offerings to include preschool and kindergarten children.

**Constructivist Teacher Training in an Arts Based Program**

This is the story of an experienced artist teacher in visual art from the TTIA staff, and the Kaleidoscope Early Childhood Program as she worked with an intern from the Christina Arts Center. Tina was assigned an intern student from the Christina Arts Center. Malik had attended other TTIA courses a charming, bright, not terribly motivated student who preferred "doing" to writing. Tina was very worried about how to structure the internship, and what to demand of her intern. Malik taught classes throughout the day at Christina and frequently failed to respond to Tina’s telephone calls.

I encouraged Tina to help Malik structure the internship in a way that he controlled the outcome. His job was to decide what the internship would do for him, to set goals. Her job was to help him get there, to lead him through the process. At this point Tina shed "responsibility" for the "success" of the internship and became a constructivist teacher. She was able to do much of the initial work over the telephone. Deadlines for written material were still difficult for Malik and Tina literally wrote down what he told her as they fleshed out the internship proposal.
After a few weeks of observing, Malik assisted Tina in her visual art class preparation and taught while Tina observed. Malik at first was concerned that the children were allowed to roam about the studio choosing activities. The children did not seem to be getting much instruction, the place really just seemed to be a mess. Tina worried that she and Malik were too far apart in their approach to teaching art to continue the internship. Malik returned the next week. Tina asked if he wanted to talk about why the "busy, messy" studio, he said that after watching the children he understood the reason for offering choices, that the children were teaching each other, that "the teacher is actually the studio assistant for the kids!"

Part of the time, Malik observed by video taping. When I asked why Tina wasn't video taping Malik as he taught, Tina said that she wanted Malik to use the videotaping as a way of selecting and recording what he considered valuable to him in completing his goals. Videotaping had become a way of selecting data, note taking, not a means of criticizing Malik's performance as a teacher.

More deadlines came and went. The process seemed to be drifting again. Tina intervened with attempts to break down the problem into manageable pieces attached to dates. She helped Malik organize his material in 4 different formats. Malik showed increased interest as Tina began working on aesthetic learning with two four year old classes who were preparing to visit the Philadelphia Art Museum. Malik was also working on a curriculum writing project involving the entire Christina Arts Center staff. He began to merge this work with his internship. Tina felt strongly that the video taping of what he chose to include and use in "his work" had wedded interest and action. The video taping had thrust forward the creative process for teacher and student. Malik turned in a polished, outstanding work, a visual art curriculum focused on African and Latino culture for young children with an annotated bibliography.

If the arts and spirituality define us as human beings, that is to say that our uniqueness as a species resides in
the search for self knowledge and the certain knowledge that we are mortal, what and how we teach might be profoundly informed by returning to the arts as a basis for modern learning and knowledge building. Umberto Eco at a lecture I recently attended posed the question of why Stendahl had seemed so passionately important to him at the age of twenty, had faded into the background, and now in his older middle age had returned to interest for him. On my way home from this lecture I heard a jazz pianist talk about a song that she performed regularly for about 10 years, had "put it away" for ten more and had recently begun playing it. In the case of both author/intellectual and pianist/musician it is not the "material", or subject for study that has changed, of course, just the "reader".


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