

4-H Expressive Arts and Brain-Based Learning Research

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Minnesota 4-H Expressive Arts programs have been an important part of 4-H youth development programming for more than two decades. Each year 20,000 to 30,000 young people, ages 8 to 19, are involved in programs offered through a variety of venues in every Minnesota county. Programs and activities include performance art, visual arts, technical theater, script development, writing, and clowning. New pedagogical approaches are continually developed to engage young people in informal, non-competitive learning experiences in the arts.

It helps to take a critical pedagogical approach when examining the teaching and learning contained within these expressive experiences. How does learning happen? Are these programs relevant to young people who will live as adults in a world much different than today? Why does participation in expressive arts programs continue to be significant, remembered experiences, long into adulthood? What

are key similarities and differences in practices that draw upon brain-based learning research?

Discussions about brain-based learning and its implications for art and the humanities in formal and infor-

mal educational settings have grown for several years. A critique of the pedagogy can be informed by the research in brain-based studies of Renate N. Caine, professor of education at San Bernadino State College, and Geoffrey Caine, learning consultant and author. Their theory is based on a holistic interpretation of brain research in which brain, mind, and body form a dynamic unity (1997a). Caine and Caine are currently testing their theories and research findings with particular focus on the ability of the arts to integrate cross-discipline teaching and learning.

Research by Caine and Caine shows that information is not only processed by the neo-cortex, but by the emotional portion and senses as well. The resulting physiological changes influence how that information is ultimately registered. Every event is processed in the brain as a complex experience. Filtering questions are always asked: Do I want to learn this? Do I like doing this? Do I like this place? Does this mean anything to me? Can I do this? Do I respect my teacher? Can I trust him or her? The learner's answers to these questions influences how the brain organizes itself and deals with the incoming information, and dictates whether the information is processed as meaningful or meaningless. Three pedagogical approaches used in the Expressive Arts learning experiences in Minnesota 4-H provide an opportunity to explore the application of Caine and Caine research to the existing curriculum.

Youth involved in expressive arts programs reshape their ideas and attitudes as they create art.



Metro 4-H Youth Art Force

Kids not only say the darndest things, they also create incredible things with their hands and their imaginations. The Metro 4-H Youth Art Force program was introduced three years ago by Bill Svendsgaard, Extension educator, Hennepin County, to nurture and support youth who don't get sufficient opportunity to be creative. More than 300 4-H artists (ages 6-18) and a core group of 70 parents are participating. Many families create together in all-day workshops or on overnight art retreats.

According to Svendsgaard, "the Metro 4-H Youth Art Force grew out of the recognition that youth need ongoing support to develop their artistry and adults need to rediscover their own child-like urges to create. Although youth are often exposed to new art forms, they need long-term opportunities to experiment and cultivate their visions. While one-time Art Force attendees produce beautiful products, those that return again and again not only produce, they also reshape their ideas and attitudes. They are sculpting themselves."

The Art Force Program is at the core of youth development; it changes how they perceive themselves and how they view the world. Participants choose, propose, explore, discover, create, share, and process their experiences and art creations. Each gathering begins with participants creating a piece for a group project. Then each goes deep into sensory learning and is confronted with enticing objects and sounds that contribute to making something from scratch. No teacher says, "Today we are going to make . . ." Before the day is over, a public art show, which incorporates all of their experiences, is held for everyone from grandparents and classmates to community leaders. The art

reveals originality and soul searching. It is an art force portrayed through sculpture, drawings and paintings, print processes, collages, pottery, mobiles, mosaics, and stories.

Art Force is driven by two tracks. The first track teaches techniques so participants have control over their materials. They develop skills to express their urges and to originate something. Eyes gleam and pride soars when they

I love Art Force. It's not like classes. I get to use my own ideas. It's everything I want to do.

—Brienna Prow, age 13

hold their original pieces. The second track teaches them how to transfer their artistic experiences into the social context of their lives. They can become more creative as leaders, students and classmates, and problem solvers. Parents can also become more creative.

Transferring artistic skills to a social setting promotes long-term use of newly formed ideas, and is a central theme of the program. The youth demonstrated its application by making plans to donate paintings, drawings, and sculptures to public auctions conducted by Operation Smile, a program that helps pay for reconstructive surgery for children born with deformed facial features. Art Force youth plan to establish a Metro Youth Art Gallery where they will publicly display their creations and sell their stories of leadership and public service. On weekends and during the summer, they would like to demonstrate their skills to the public and hold dialogs on how creative youth can contribute to their community.



Metro 4-H Youth Art Force projects encourage and support emerging young artists.

From top to bottom, works by Joseph Hammel, Washington County; John and Richard Gaichas (father and son), Ramsey County; and unknown artist.



The Art Force program concept was born at a county fair while Svendsgaard was judging 4-H Creative Arts. At the conclusion of conference judging, a nine-year-old boy told Svendsgaard, “I’ve waited a whole year to show you what I’ve made this year.” The previous year, Svendsgaard had judged the boy’s folk-like drawings of his life growing up on a farm. It occurred to Svendsgaard that the boy shouldn’t have to wait a whole year for another 10 minutes of excitement and sharing. 4-H youth development programming must be there for him all year. Too many creative kids are falling through the cracks or conforming to routine. They need creative time. The Art Force was established to fulfill this need.

Two components contributed to the development of Art Force. The Minnesota 4-H Foundation provided a grant to purchase non-consumable supplies such as glue guns, scissors, brushes, melting pots, and other tools. Event registrations paid for paper, paints, clay, and other consumables. Then 12 volunteer leaders were trained as Master 4-H Creative Arts teachers. They received instruction in art techniques, the creative stages of children, the principles of experiential learning, and establishing a creative learning environment. They have not only become teachers, but, in many cases, mentors.

Since Art Force began, numerous all-day Saturday art workshops have been conducted in various locations throughout the metro area. Overnight art retreats have been held in the art departments at Hamline University, Augsburg College, and the Minnesota Arts High School in Golden Valley. Throughout the year a project called Art Burst provides ongoing challenges by helping participants present their art as gifts or services, visit art museums and galleries, interview professional artists and write articles, photograph their works, and present art demonstrations.

The Goals of Metro 4-H Youth Art Force

Metro 4-H Youth Art Force’s two-track developmental program addresses the needs of participants as individual beings and as social beings with the goals of:

- Developing visions and dreams
- Permitting experimentation with new art forms
- Encouraging participation in group art projects
- Building new relationships
- Using creativity to provide a public service
- Creating opportunities to display their creative works in public settings
- Encouraging and supporting aspiring young artists

Plans to create an advisory board with representation of youth, parents, Extension faculty, professional artists, and community leaders are being developed. Relationships with professional artists are being cultivated, and a needs assessment and longitudinal program evaluation are planned for this year.

Caine and Caine (1997a) see young children as constant explorers on the edge of continuous discovery, a “state of a complex adaptive system, where adaptation and change are optimal—living on the edge of possibility.” For self-organization to be possible, it is critical that the child sustain or move into this excitement on his or her own. At that point, self-organization is inevitable. Looking at future demands of society, Caine and Caine (1997b) see “the edge of possibility learning” as a new way for young people to gain flexibility and resilience. The ability to sustain the excitement for learning and self-organizing is the new way of business in our society. If closely observed, business looks very much like children at play—the buzz of activity, experimentation, innovation,

reaction, and creativity. These same experiences are at the core of the Art Force program.

Maxine Green, author of *Releasing the Imagination* (1995), also emphasizes the need for broad exposure and engagement when learning about art. Young people must be engaged “authentically and adventurously with a range of artists, and a range of media—paint, pastels, clay and stone, dance, music, making shapes, exerting effort, articulating visions, and moving in space and time.” Seeing and understanding unity and interconnectedness, self-organizing young artists shift and change their reality of self and their world.

Reaching Out Theatre

Today’s youth are bombarded with challenges and choices. To move ahead in life, youth need to address these challenges and make wise choices. Pressured to drink, smoke, and to do drugs, many kids fall victim to peer pressure. They do not know how to say, “No, I don’t want to do that.” That is why the

Reaching Out Theatre troupe began under the direction of Mary Duncomb, Extension educator, Dakota County. The University of Minnesota Extension Service and Dakota County 4-H Youth Teaching Youth teen teachers wanted to provide the opportunity to address youth and family issues using a different medium. The Reaching Out Theatre troupe was formed to show teenagers and adults the dangers facing youth, including drinking and driving; tobacco use; physical, emotional, and sexual abuse; stealing and lying; and HIV infection.

Reaching Out Theatre operates on the assumption that information may not influence behavior unless it is actively processed and related to attitudes, values, self-esteem, and peer

and family influences. Youth and Extension educators collaborate to create supportive environments affirming diversity and encouraging youth and community development.

Reaching Out is a group of youth from Dakota County who, through involvement in the theater, have become empowered with knowledge and confidence. The youth serve as actors, directors, writers, and technical staff. Many members come to the theatre with little or no acting experience and limited awareness of the problems facing youth.

Through their participation in Reaching Out, they learn about these issues and about how youth, their families, and their friends can address them. They also learn how to present themselves and work cooperatively. Participants benefit from the responsibility of serving as role models. No matter how they are feeling or if there is a conflict, they must settle their differences and focus on the performance. Reaching Out participants also benefit from the opportunity to examine their own stereotypes. Through acting out, members can express their feelings while developing self-awareness. After each performance the actors answer questions and welcome input from the audience. This interaction has provided script ideas.

For four years, Reaching Out performances have reached teens and younger youth with powerful messages. Two new troupes will soon be starting and they too will be writing scripts and learning how to bring their scripts to life. Reaching Out troupes can be school or community based. Some performers are members of 4-H clubs while others are only involved in 4-H through Reaching Out.



Extension educators focused on eight key elements or needs which Konopka (1973) and Pittman (1991) described as essential for the healthy development of young people. The Reaching Out Theatre experience offers youth an opportunity to feel a sense of safety and structure; experience active participation, group membership, and belonging; develop self-worth through meaningful contribution; experiment to discover self, gain independence and control over one's life; develop significant relationships with peers and adults; discuss conflicting values and formulate their own; experience the pride and accountability that come with mastery; and expand the capacity to enjoy life and know that success is possible.

Reaching Out performances are aimed at middle school students; however, adults and high school youth who have seen the performances have had positive responses. Recently, the troupe performed for the Dakota County Youth Summit and received a standing ovation. Since that performance, the troupe has been asked to perform for many groups in and around Dakota County. One evaluation read: "Finally! Someone recognizes our problems and doesn't put us down or belittle us. Two thumbs up!! I think this program should be shown to every teen there is. You taught things teens wonder about."

In 4-H youth development, "a teachable moment" has always been part of the pedagogy of expressive arts programming. The ability of educators and learners to capitalize on unanticipated deviations from planned learning is critical. "Thinkers are capable of tremendous possibility in the moment," (Caine & Caine, 1997a). Possibility, creativity, and inventiveness combine for

dynamic teaching and learning. Dynamic informal learning doesn't happen in a measured sequence or a linear time line, but in a process where there is always more to see, understand, and explore. This requires us to offer more opportunities to young people to understand the relationships among their subjects and skills in the arts and other domains. As the depth and breadth of these opportunities increase, young people will be better able make sense of their lives. John Barrows, scientist and author of *The Artful Universe* (1995) explains that anthropologists and social scientists have traditionally stressed the diversity of human artistic and social activity, but have largely ignored the common features of existence. The combined discipline of art and science may be the answer to how our young people will understand new theories and new ways of understanding the world. Barrows sees "that art and science are two things most uniquely human. They witness to a desire to see beyond the seen."

Creating the conditions that support brain-based teaching and learning requires a low threat, high-challenge environment. A high degree of "orchestrated immersion and active processing" is necessary. Instead of "controlling structures which create non-productive environments," (Kohn, 1993) educators must look to open-ended outcomes, intrinsic motivation, tasks with open-ended or appropriate time lines, and support for working in groups or alone. Caine and Caine (1994) challenge us to think about using more of our brain, and to examine how we tend to think in terms of compartmentalizing life or learning. We must think and act in broader terms, and expand, change, and examine our pedagogical beliefs and practices in light of new demands of society now and in the future. "Information, cognition, and critical thinking do not operate in some sort of abstract vacuum. Our feelings, emotions, and values are

Finally! Someone recognizes our problems and doesn't put us down or belittle us. Two thumbs up!!

—Reaching Out audience member

always engaged.” The ability to “genuinely change our minds” is a core component of higher order intelligence when faced with new evidence and possibilities.

The Minnesota State Arts-In

For several weeks each August, the 4-H Arts-In transforms the Minnesota State Fair 4-H building into a dramatic setting for serious, playful, hard, unexpected, meaningful, and satisfactory work. Approximately 80 to 90 teens from across the state spend seven days learning and working in technical theater—including costuming, performing, music, interactive art, and communication “majors.” The intense learning experience satisfies the desire of teens to be part of a performing group and creates a unique environment to explore, learn, test, and transform oneself. Participants work with theater and art professionals, experience the arts community in the metro area, and discuss what it means to have a career in the arts with professional artists. As a group they participate in a variety of activities that incorporate all aspects of the Arts-In.

The three key educational elements critical to the success of Arts-In learning are group learning, daily recognition and reflection of learning (individually and by groups), and autonomous decision-making within and by each learning group based on understood boundaries. According to the House Path-Goal theory of organization, participants of each major understands its connection to other majors and their accountability for Arts-In outcomes and success. The community function of Arts-In underlies the need for individual responsibility to the whole. The concept becomes reality as the combined outcomes of each group become public to friends, family, and the general public in the form of a 30-minute stage performance and a two-hour teen-led interactive art program for children. Teens respond to the

desire and passion that brought them to the program through a planned but flexible curriculum and educator/coaches who help them move beyond their originally perceived limits. By the second day of Arts-In, each individual realizes the importance of personal support within their group. This results in strong friendships and respect for learning and peer teaching.

The Arts-In context for learning is based on attention to all the senses. In an intense, time-limited, outcome-focused program, it is essential that participants are immersed in an experience that includes the “whole person.” The emotional, physical, intellectual, and spiritual aspects of learning are noted, named, and recognized through evening “campfires” with the entire group and within each major. The educators/coaches listen to participants articulate their experience, and are quick to recognize dissonance and/or disconnection. The educators are essential for continuous evaluation and communication throughout the event. The value of

The Minnesota State Fair Arts-In creates opportunities for youth to transform themselves.



reflection during this event cannot be emphasized enough. It fosters trust, allows meaningful perceptual shifts, and is a powerful experience for individuals and the group. The Arts-In event ends with public presentations at an open house and participants return to their homes for a week.

The second phase of learning comes as participants assume their role as the Arts-In group for nine days during the State Fair. During that time there will be three or four 30-minute performances, two two-hour teen-teaching sessions with children, and a technical crew that expands its duties to support the needs of 4-H activities throughout the building each day. It is important to adapt the learning context for the Arts-In teens to this changing environment while continuing to build on the previous learning experiences. The physical, mental, and emotional demands on participants are high. Group reflection is a priority throughout the fair. Group affiliation, support, and trust need to be renewed for the success of the groups and their accountability to reach individual and group goals.

Each day of the fair, individual growth in skills is visible, and with that growth comes confidence and experimentation. As they are recognized for their responsible work, accomplishments, and contributions to the public perception of 4-H, teens are able to see themselves through the appreciation of others. Each one of the participants sees him- or herself in a new way. The exploration of questions, the internal repositioning of self in relation to the external, and the powerful re-conceptualization is retained much longer than the dance routine,



the placement of lights, or the teaching of puppet making. At the end of the State Fair experience, it would be difficult to find one teen or educator who has not changed in some way. For the majority of teens, the opportunity for life-changing growth is eagerly embraced. For a few it is a painful and difficult journey. The challenge for educators is to take what we have heard, what we know, what we need to learn, and respond to what the teens want and need from this unique learning opportunity.

Reflection is integral and critical to the learning process in the Arts-In experience. Caine and Caine (1997b) regard Donald Schon's work (1983) as a primary source for current notions on reflective practice. It is described as a "feedback loop," allowing learners the opportunity to change and adapt. The ability to change depends on one's self-reference—"one's capacity to reflect on action, reflect in action, and engage in

reflective intelligence." As Schon describes, reflection on action involves feedback (usually external), that the learner can use to self-monitor and improve. Reflection in action calls on a person's capacity to observe his performance while it is going on, assess what is happening, and make changes on the spot.

Reflective intelligence is the ability to gain a sense of how one functions and one's attributes and characteristics. Perkins (1992) says it is coming to know your way around decision making, problem solving, learning with understanding, and other important kinds of thinking, including factual knowledge, mental images, values, feelings, and flexible composition of all of these into new patterns of action to suit the occasion. It is a learned process.

A brain-based instructional approach is learner centered, with genuine learner interest at the core (Caine & Caine, 1997b). Elements of self-organization as learners, the gathering of individuals or groups around ideas, meaningful questions and purposeful projects, making the learning “highly organic with educational experiences that approach the complexities of real life” are included. M. Greene (1995) speaks of “the promise of art experiences to open perspectives and move the young to look and listen, to overcome the taken-for-granted and the routine.” She also links imagination to possibilities, to our ability to respond to other human beings, and most critical of all, to the making of community and reaching toward an imagined mutuality in the world view.

Caine and Caine (1997a) question how the brain works and see the need to rethink why we educate. They believe human beings are pur-

poseful, adaptive, dynamical, and learners. They challenge educators to develop opportunities and processes in the arts that will help children and youth move into a higher order of thinking through dynamic learning. Dynamic learning happens when an awareness of possibility is combined with creativity and inventiveness. According to Greene (1995), the use of materials, events, everyday tools, or anything else to bring variety, novelty, surprise, and insight to life in the learning environment is the zest and magic of teaching and learning.

In Piagetian terms, creativity is a “transformative” experience. We are creative, and in that creativity, we can reinvent our own lives. When we see how young people transform themselves through their experiences in 4-H Expressive Arts programs we are reminded of the potential and possibilities in everyone.

Bibliography

- Barrow, J. D. (1995). *The artful universe: The cosmic source of human creativity*. Boston: Little, Brown & Company.
- Caine, R. N., and Caine, G. (1994) *Making connections: Teaching and the human brain* (rev. ed.). Menlo Park, CA: Addison-Wesley Publishing Co.
- Caine, R. N., and Caine, G. (1997a). *Unleashing the power of perceptual change: The potential of brain-based teaching*. Virginia: Association for Supervision and Curriculum Development.
- Caine, R. N., and Caine G. (1997b). *Education on the edge of possibility*. Virginia: Association for Supervision & Curriculum Development.
- Greene, M. (1995). *Essays on education, the arts, and social change*. San Francisco: Jossey-Bass.
- Helgeson, M. (1998). A magnetic personality. *Minnesota Magazine*, University of Minnesota Alumni Association, Vol. 97, Number 4. March/April.
- Hellriegel, S., Slocum, J. W., and Woodman, R. (1983). *Organizational behavior*. St. Paul: West Publishing Co.
- Kohn, A. (1993). *Punished by rewards*. New York: Houghton Mifflin Co.
- Konopka, G. (1973). Requirements for healthy development of adolescent youth. *Adolescence* 8 (31), 2-25.
- Perkins, D. (1995) *Smart schools: From training memories to educating minds*. New York: The Free Press.
- Pittman, K. (1991). *Promoting youth development: Strengthening the role of youth serving and community organizations*. Washington D.C.: Academy for Educational Development.
- Rayala, M. (1995) *A guide to curriculum planning in art education*. Madison: Wisconsin Department of Public Instruction.
- Schon, D. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Stenberg, R. J. (ed.) (1988). The nature of creativity: Contemporary psychological perspectives. Chapter 4 by C. W. Taylor (1964). *Various approaches to and definitions of creativity*. Cambridge: Cambridge University Press.