



lesley university college of art+design

CONFERENCE RECAP

DAY ONE

8:15 AM	Welcome Scott Bultman	¢
8:30	How Kindergarten Came to America Helge Wasmuth	
9:00	Elizabeth Peabody's Gifts and Occupations Barbara Beatty	
9:30	Kindergarten: The Lost World Norman Brosterman	
10:15	Froebel Gift Play (four 30-min. sessions) Bennett/Goesel/Reynolds	
1:00 рм	The Witness, Not the Judge: Inspiring Wonder in Child Observation Peg Oliv	eira
1:30	Rhoda Kellogg's Child As Designer Kristina Lamour Sansone	
2:00	Nature-Based Preschool Today Rachel Larimore	
2:45	Froebel Occupations (two 45-min. sessions) Topal/Gandini/Bennett/Goesel	
4:30	Garden of Children documentary series preview screening	

DAY TWO

8:30 am	Blocks = Prototyping: Tools for Young Designers Tucker Viemeister		
9:00	Froebel Gifts & Shape Grammars George Stiny		
9:30	Kindergarten for Freshmen: Adapting Froebel's Philosophy to the College Experience Jenna Frye		
10:15	Froebel Gift Play (four 30-min sessions) Bennett/Bultman/Goesel/Reynolds		
1:00 рм	Breakout sessions (biotensegrity, music, movement, unity Gift Play) Lowell/Rainville/Goesel		
3:15	Open forum for questions & feedback		
4:00	The Rights of Children Lella Gandini		

4:15 Closing remarks Scott Bultman



PRESENTER CONTACT AND RESOURCE INFO (WITH LINKS)

Barbara Beatty Professor of Education Emerita Wellesley College

☑ <u>bbeatty@wellesley.edu</u>

Preschool Education in America

Norman Brosterman Author of Inventing Kindergarten

Inventing Kindergarten (Amazon) or via redhentoys.

Scott Bultman Director, Froebel USA

@froebelusa

- f froebelusa
- froebelusa.org

Jenna Frye Assistant Department Chair of First Year Experience at the Maryland Institute College of Art ☐ jfrye@mica.edu

At MICA

Lella Gandini US Liaison for the Reggio Emilia approach, adjunct Prof. of Education at UMass Amherst, Visiting Scholar at Lesley University

☑ <u>lellagandini@gmail.com</u>

<u>Topal-Gandini books</u> (pdf)

Tiffeni Goesel Certified Waldorf grades teacher, BA in Education and MA in the History of Education

- ☑ <u>tiffeni@froebel.net</u>
- FroebelToday
- froebeltoday.com
- How Lina Learned to Write and Read

Kristina Lamour Sansone Professor of Design at Lesley Art + Design

designeducator.com

klamour@lesley.edu

Rachel Larimore Founder of the Nature Preschool at Chippewa Nature Center, Midland, MI

- ☑ rachellarimore@gmail.com
- Preschool Beyond Walls
- Establishing a Nature-Based Preschool

Susan Lowell Biotensegritist and author of Everything Moves: How Biotensegrity Informs Human Movement

Susanlowell@mac.com

- @1biotensegrity
- Intructional video
- Everything Moves (forthcoming)

Peg Oliveira Executive Director of the Gessell Institute ☐ peg@gesellinstitute.org

Anna Rainville Waldorf educator and author of Singing Games for Families, Schools, and Communities ☑ annarainville@aol.com

- annarainville.com/
- Singing Games for Families, Schools and Communitities

John Reynolds Professor of Architecture, Miami University reynoljm@miamioh.edu

- Miami Univ. design program video
- Miami Univ. bio
- Design DNA (pdf)

<u>George Stiny</u> Professor of Design and Computation, MIT School of Architecture

- <u>stiny@mit.edu</u>
- Garden of Children video featuring MIT
- Shape: Talking about Seeing and Doing (MIT Press)
- Kindergarten Grammars (pdf)

Cathy Topal Professor Emerita of Art Education Smith College Copal@smith.edu

- Thinking With a Line
- Beautiful Stuff from Nature (Amazon) or via Red Hen Toys
- Tucker Viemeister Award-winning industrial designer

Helge Wasmuth Professor of Education, Mercy College ☐ hwasmuth@mercy.edu

@helwasmuth

Garden of Children documentary series

- Role of the Teacher password: Wheelock
- New trailer password: BuckyFuller
- DEY Play



DAY ONE

Helge Wasmuth How Kindergarten Came to America

THE KINDERGARTEN TODAY in the United States does not have much in common with the institution that Friedrich Fröbel once envisioned. Narratives of the American kindergarten movement often describe the dilution of kindergarten pedagogy as starting with major revisions from 1890 to 1914. However, how much of Friedrich Fröbel's original pedagogy was actually introduced into the United States? When did the modifications start? What even is the core of Fröbel's kindergarten pedagogy, and what does it mean?

Fröbel as an educational thinker is not easy to understand. His complicated writing style, the non-systematic nature of his writings, the fragmentary character, the foreign and literary-inspired terminology, and a certain ambiguity makes it difficult to understand key concepts. His kindergarten pedagogy is best expressed in his letters, although many of these essential documents have never been translated into English or made accessible.

Translating Fröbel, in general, is complicated. It is already difficult to understand him in German, and it gets even more complicated to translate his work. For example, Fröbel did not use certain terms in their conventional meaning, which poses a challenge. For this reason, translations need to be done carefully or meaning can be lost easily–which is exactly what has happened too often and continues today. Fröbel can be easily misunderstood or over-simplified. This talk will address the challenges outlined above; challenges that the early American kindergarten movement also faced. What understanding of Fröbel did they have, and thus introduced in the United States? We will explore what needs to be considered if one wants to approach Fröbel's unwieldy kindergarten pedagogy in a meaningful way today.



Barbara Beatty American Kindergartners and the "American Kindergarten": **Early Tensions between Play and Academics**

LOOKING BACK OVER MY BOOK Preschool Education in America. I realized that I should have said more about tensions between play and academics. I'm going to focus on the critical fight over the soul of the kindergarten that erupted when Froebelianism began being interpreted and re-interpreted by American kindergarten advocates, often with little knowledge of Froebel. When Elizabeth Peabody started the first English-speaking kindergarten in the United States, in Boston 1860, she included literacy and numeracy instruction. She revised her ideas when she met Emma Marwedel in Germany in 1867. Marwedel told her that reading and arithmetic teaching did not belong in the Froebelian kindergarten. Peabody became a champion of play. She rewrote her kindergarten guide and declared that a kindergarten was "commonwealth or republic of children," not a school.

Some American kindergartners [the teachers] disagreed. At the Centennial Exposition in Philadelphia in 1876, Anna Coe, founder of what she called the "American Kindergarten," challenged Peabody. Coe argued that American parents wanted academic instruction



questions about what early American kindergartners [the teachers]

for their young children and marketed kindergarten methods that she said improved on Froebel.

Of course, play and academic learning are not a dichotomy. They are perceived so, however, and often were presented as opposites in the kindergarten movement, and still are. Some modern research suggests that kindergartens have become the new First Grade. I want to raise

thought about play and academics, to help inform the play wars that continue to rage today.

Norman Brosterman Kindergarten: The Lost World

AN ART DEGREE AND LIFE-LONG FASCINATION with nature led to enrollment in the Landscape Architecture program of New York's City College, and then into the architecture program. The lecture on Frank Lloyd Wright included mention of the mysterious "Froebel blocks" that supposedly influenced Wright's mature architectural designs.

The economy crashed shortly after I graduated and I became a "picker," shopping at flea markets from Pennsylvania to Maine in search of folk art, architectural drawings, Japanese antiques, and much more. While traveling these markets I began to collect antique construction sets – pieces and plans in boxes – ultimately acquiring around three-hundred beautiful old toys of wood, stone, metal, and paper. I wondered if I'd find Froebel blocks and later discovered I had, but they were labelled as "Occupation Material for the Kindergarten." Those construction toys were acquired by the Canadian Centre for Architecture in 1989.

On a trip to central New York State a clever book dealer showed me seven albums of gorgeous patterns in woven, folded, and cut, paper. I bought them and set them up like Japanese screens in my motel room and fell in love. But, what could these possibly be? A great dealer friend who died too young showed up soon after with a book filled with similar patterns titled, "The Paradise of Childhood by Edward Wiebé, published in 1869 by Milton Bradley, and asked me, "you need this?"

I ultimately collected about one thousand teacher's design albums, texts, photographs, Froebel gifts, kindergarten furniture, and related pattern-making toys. My book about these objects, Inventing Kindergarten was first published in 1997. I had inadvertently discovered a lost world of women's and children's creativity, Friedrich Froebel's "Garden of Children."



FROEBEL GIFT PLAY ACTIVITIES

ATTENDEES EXPERIENCE PLAY ACTIVITIES IN FOUR 25-MINUTE SESSIONS



GIFT 1: JULIE BENNETT





GIFT 3: SCOTT BULTMAN

Julie Bennett Gift 1

JULIE INTRODUCED THE SPHERE and spoke of its relevance to Froebel and the importance of the basic shape in human growth and development. With her leading, the groups created various ways to demonstrate geometric and mathematical properties. They produced sound, music and tempo with the movement of the wooden and woven balls. Color, warmth, and emotion were also emphasized as the groups worked with the variations of the Froebel spheres.



GIFT 4: JOHN M. REYNOLDS

Tiffeni Goesel Gift 2

THE CHILD'S DELIGHT. Tiffeni began each workshop with an overview of Gift Two (solid wooden sphere, cube & cylinder) and what each shape and Froebel's Law of Opposites and its Connection.

Focus: Froebel Solid Occupation: Clay in a Form of Beauty. A ball of clay was introduced and participants used their hands to transform it from a sphere, to cylinder to cube. Then by using the solid Gift Two pieces as tools the clay was rolled out and mandalas were pressed into the clay with the surfaces, edges/lines & points of each Gift to create a Form of Beauty. These were then shared.

Scott Bultman Gift 3

SCOTT DEMONSTRATED GIFT 3, including a Form of Life ("what do you think about when you think of Boston") and a silent two-person Form of Beauty exercise learned from Mr. Kwon of Korea-Froebel. Teachers from Winnetka Public Schools also demonstrated a memory exercise by stacking the blocks in a particular order and challenging the student to repeat the action in the same order. We also discussed the fractal aspect of Gift 3 and the reasoning behind the wholeness of the presentation and the use of the box in Gift play.

John M. Reynolds Gift 4

DRAW AND PROJECT. Spatial compositional sequence explored using large print drawing surfaces and "soft" art stix/charcoal media to discover its experiential possibilities.

Peg Oliveira The Witness, Not the Judge: Inspiring Wonder in Child Observation

TO BE A CHILD IS, BY NATURE, to be unpredictable, complex and often a mystery. Child development pioneer, Dr. Arnold Gesell, challenged us to hold onto a sense of wonder when studying the enigma that is childhood. To understand children, Dr. Gesell taught, it is essential to observe with compassionate eyes, an informed mind and an open heart.

We will explore the skills and knowledge necessary to succeed in being wonder-filled and impartial observers of children, as inspired by Dr. Gesell.

To accomplish this goal:

- We will remind ourselves of the "awe" of childhood, revisiting the foundations of child development including developmental milestones as well as typical behaviors that, while potentially challenging, are nonetheless, expected.
- We will discuss the purpose of observation and how to best use this information to inform instruction, rather than to evaluate children, including knowing what to look for, without judgment.
- We will practice reframing child behaviors as messages, or data, to be deciphered rather than problems to be solved.
- We will engage in practices that will encourage us to adopt a lens of wonder and awe; to become interested and non-judgmental observers of the weird and wild ways of children.



Kristina Lamour Sansone Rhoda Kellogg's Child as Designer

RHODA KELLOGG (1898-1987) oversaw, systematically collected, and published an archive of over 8000 children's drawings from around the world. Her work shows through visual evidence that all children draw the same things at the same ages independent of where they live in the world, their socio-economic status or ability. This presentation will share who Rhoda Kellogg was, how she organized her study and discuss implications for valuing design education in learning from early childhood to adulthood.

Kellogg's practice centered in San Francisco as Director of the Phoebe Hearst Preschool Learning Center in San Francisco, California. The learning center was part of the Golden Gate Kindergarten Association founded by Kindergarten pioneer Sarah B. Cooper in 1884. Kellogg served as the Director of the Association from 1945 to 1981. The Preschool operated upstairs with her research center and archive below on shelves she designed. She maintained a library including art education theorists, Froebel's gifts and writings. In the school, she employed intentional arrangements for the tables and chairs and even designed the chairs at different heights by age, which allowed children to draw freely. Kellogg conducted her research by asking teachers to provide open space for children ages 2-5 to make marks using white paper and dark writing and painting instruments so she could record



their designs. The teachers marked each drawing in the lower right corner by age in months as well as type (scribbles, dots, lines, circles, and crosses) within Kellogg's classification system

I had the fortune to work in Kellogg's archive in the mid-1990s after discovering her work as part of my studies in graphic design. This led to a lifelong quest to understand the value of design in learning. My hypothesis is that Kellogg's understandings led her to recognize a child's innate ability to discover their voice and confidence in their abilities to create, moving from scribbles to uncover shapes within these networks of seemingly random lines including letter forms leading to a complex visual written and spatial language. She referred to this ability as 'the child as designer." As a design educator working with adults, I use a set of habits of mind channeling Kellogg's systems to show how to access and use this language later in life, both personally and professionally:

- Design can reveal the essential.
- Design choices should reflect one's intentions.
- Visual hierarchies help to reveal relationships and meaning.
- Over-emphasis on style can distract.

This leads me to wonder, "Can design education serve as the basis for a written visual and graphic language that could be cultivated in schools at every level without interruption?

Rachel Larimore Nature-Based Preschools Today

IN RECENT YEARS it seems everywhere one turns there is talk of children and nature including major media outlets like *The New York Times*, The Atlantic, and PBS NewsHour. Much of this push is credited to the publication of Richard Louv's 2005 book *Last Child in the Woods*, which raised awareness of the need to re-connect young children with nature. Of course, the idea of nature as an integral part of learning is not a new concept. In fact, it was one that Froebel fully embraced. In the last several years there has been a return to the integration of nature in formal early childhood education throughout the U.S and beyond. This presentation will

look at this approach which has come to be known as naturebased early childhood education (NbECE).

Rachel Larimore, author of *Establishing a Nature-Based Preschool* and *Preschool Beyond Walls: Blending Early Childhood Education and Nature-based Learning*, will discuss the history and current landscape of the NbECE movement in the United States in particular. She brings to this session her unique perspective as a former nature-based preschool director, a community partner in establishing nature-based kindergarten/first-grade programs, and doctoral candidate in nature-based pedagogy. Through her



business Samara Early Learning, Rachel speaks and consultants extensively with early childhood educators wanting to make shifts in practice toward a more nature-based approach.

Drawing on this expertise, during this presentation she will also explore the core principles underpinning the nature-based approach. In other words, with prolific talk of nature, what makes a program "nature-based"? How is this approach different from "going outside"? The answers to these questions will not only help participants identify the connections to Froebel's work, but also how nature can be reimagined and re-invigorated in education today in both PreK and K-3 settings.



FROEBEL OCCUPATION ACTIVITIES



DIVIDED CYLINDER GIFT + OCCUPATION: JULIE BENNETT



GIFT 5: TIFFENI GOESEL



WEISMAN TOPAL/GANDINI: BEAUTIFUL STUFF FROM NATURE: MORE LEARNING WITH FOUND MATERIALS

Julie Bennett Combining the Divided Cylinder Gift with a paper-cutting Occupation Activity

DIVIDED CYLINDER: Julie opened the class by facilitating discussion on the properties and characteristics of a cylinder and divided cylinder. She guided participants through exercises that led them to creating their own designs. These designs incorporated various colors of 2" circles cut and positioned in various ways. Sharing time by the participants enhanced the learning and engagement.

Tiffeni Goesel Gift 5

DIVIDED SOLIDS. An overall review of Gift Five and its traits were shared with the participants. Then how to properly take the Gift

out of the box so it appeared as a whole was taught. The three layers of Gift Five were separated and the pieces were divided into two sets revealing a surprise. Discussion followed.

Another group used Gift Five to create Forms of Life, followed by a Guided Story.

Focus: Froebel Surface Occupation: Drawing Gift Five Form of Beauty. Participants used Gift Five to lay a Form of Beauty onto gridded paper and traced both the positive & negative spaces. When the blocks were removed it showed a Form of Beauty. This was then colored with markers. Discussion: how this Line & Surface Occupation could be transformed into other Occupations.

Cathy Weisman Topal / Lella Gandini Occupation Activity session using stones in a Form of Beauty observation.

IN THIS HOUR-LONG WORKSHOP participants engaged with stones, trying out out strategies for collaboratively observing, exploring, and creating with the materials.

Both Friedrich Froebel and Loris Malaguzzi asked us to start from the children in our attempt to reformulate the roles of teacher and learner in the educational process. *Beautiful Stuff from Nature*, a companion volume to *Beautiful Stuff: Learning with Found Materials* (Davis, 1999), illustrates how children and teachers across North America have explored their unique outdoor spaces and environments, and how teachers have followed the children's interests to develop projects and curriculum. We began with the premise that young children — especially city children — often see in Nature something new and surprising. We asked our colleagues in North America to capture a moment of discovery in Nature with images, words and personal reflections and to follow and document that interest to see where it might lead.

We found that children can view themselves as naturalists, investigating the natural world, noticing qualities of materials, observing plants and small habitats, practicing scientific observation, and finding connections between plants and animals. They may find letter forms in Nature, develop number sense by counting and sorting their discoveries, and become aware of the many life cycles of plants, animals, and the environment. The possibilities are many, and the goal of this workshop is to start the process.

PREVIEW SCREENING Garden of Children Documentary Series

THIS 9-EPISODE SERIES explores where we are today, the 200-year struggle to control Froebel's "garden of children," and its significant impact on our economy. More than simply a report card on the state of education, we show those schools and teachers who are making a difference and how we can support them. Our

goal is to help parents, educators and other stakeholders understand the historical context of the current educational environment (standardized testing, homeschooling, Common Core), the decisions that led here and shine a light on areas still holding us back.



A documentary series from Match Frame Creative: www.gardenofchildren.org

DAY TWO

Tucker Viemeister Blocks = Prototyping: Tools for Young Designers

THREE- YEAR-OLDS PLAYING with blocks are performing essentially the same activity that professional designers use to design things like OXO GoodGrips. They prototype with blocks the way we use foamcore and hot glue. Learning by doing is the same as the design process: start with thinking and sketching, then testing and revising. There is a direct connection between Froebel and Industrial design. The line starts with Enlightenment and scientific experimentation, to the Gifts and learning by doing to design thinking and prototyping—learning by making. How to build what we imagine?

But today those kids are learning the skills of tomorrow — they will be better prepared to face to the dramatically changing environment.

There's more!

Thinking and tinkering in the round puts our ideas into the environment in a tangible form, to share with everyone. Block play helps us learn to collaborate, both with gravity and with people. Could it be that when we make models with blocks or clay or Maya, it opens our transdisciplinary abilities too?



George Stiny Kindergarten Grammars – Designing with Froebel's Building Gifts

FREDERICK FROEBEL'S KINDERGARTEN SYSTEM, including the building gifts and the categories (forms of life, forms of beauty, and forms of knowledge), provides a stunning repertoire for art and design. It can be elaborated in a number of ways in terms of spatial relations and rules in shape grammars, to use the symmetries of individual pieces in the building gifts. This adds to the categories for hands-on calculating in art and design.

There are twin problems arranging the pieces in the building gifts to make designs—it's hard to decide what to do next when you can't see any way to combine pieces, or if you can see too many ways of doing so. Both Froebel's categories, and my spatial relations and rules show how to get around this—intuitively by eye and hand, without the anxiety of thinking too much.

There's a little children's poem in the kindergarten system that works equally for the categories, and for spatial relations and rules to add and subtract pieces in the building gifts. Spatial relations and rules together with the thumb-and-forefinger formulas in the poem define a surprising array of wonderful designs. I'll make a few—eye and hand only—and show you how to make your own designs as you please.

Designs in the building gifts are 3-dimensional in space, but 0-dimensional for calculating. This dimension can be greater than zero to allow for IMAGINATION in exactly the way the poet S. T. Coleridge described it 200 years ago in his *Biographia Literaria*, to extend the sweep of the kindergarten system. Froebel's ideas go beyond FANCY and what computers do, to new possibilities in shape grammars.





Jenna Frye Kindergarten for Freshmen: Adapting Froebel's Philosophy to the College Experience

WHEN I FIRST LEARNED ABOUT the Froebel Kindergarten, it was impossible not to see the direct curricular relationship to the art and design content I've been teaching for years at the college level. In fact, if shapes, solids and frameworks are interpreted as 2d, 3d and 4d respectively, that is essentially the core curriculum (often called the foundation year) of nearly every college art and design program in the country.

Much as the rest of contemporary education, Foundation programs often find themselves struggling to cement their positions as the building block of future creative endeavors and to connect, authentically, to student's changing needs. Foundation programs can be needlessly rigid and rote, focused entirely on building what may as well be arbitrary skills and often disenfranchising students along the way.

Freshmen come to college as young adults, and much like kindergartners, encroaching on a new chapter of consciousness and in need of cognitive, social, artistic and physical development in order to make the transition not from home to school but from school to life. Students need room to discover their calling, to take creative risks and make a bunch of mistakes; this is how we teach them to visualize and take command of their futures.

The foundation year should be a time for students to make and harness meaning, cementing lasting connections to an education that empowers them to be lifelong learners. Froebel knew the best way to do this was to honor and facilitate play, and I spend a great deal of energy helping students remember what educational play looks and feels like.

Kindergarten for Freshmen adapts Froebel pedagogy for the college level and imagines the foundation year not as a static force that all students must contend with, but as a first year experience that teaches students how to understand their role as creative beings in the world.

FROEBEL GIFT PLAY ACTIVITIES



JOHN M. REYNOLDS: GIFT 6



JULIE BENNETT: SURFACE GIFT





John M. Reynolds Gift 6

JOHN REYNOLDS AND GUEST FACILITATOR, architect Mary Shoufan, expanded on the Saturday Gift 4 workshop. Attendees continued their spatial exploration using musical prompts from classic jazz to rock and roll, expressing their responses with Gift 6 blocks and charcoal media on large paper.

Julie Bennett Surface Gift™

AS PARTICIPANTS WERE BEGIN SEATED, they had the opportunity to choose various circular, triangular, and square shapes in different colors. Even though each were given a 6×6" board, they were encouraged to create "outside the box" as they designed Forms of Beauty, Forms of Life or Forms of Knowledge. Participants were encouraged to create a design and be prepared to share their story that explains the design. There was opportunity to move



TIFFENI GOESEL: POINT GIFT

around the space so that each participant could see and experience each of the creative designs.

George Stiny Gift 4

SPECIAL IMPROMPTU PRESENTER George Stiny led attendees through aspects of Shape Grammars using Froebel Gift 4.

Tiffeni Goesel Point Gift™

TRANSFORMATION NOT DESTRUCTION. Discussion of the Point Gift and how it develops from each of the Gifts yet reflects Gift One Knitted Balls. Establishing the history of the Point Gift and what Froebel actually used and the work of Milton Bradley and Eudora Hailmann was shared.

Focus: The Point Gift and Forms of Knowledge: Geography of Place. An overview of Sense of Place or Place-Based Education and how Froebel taught it was introduced. Then an individual design prompt was given to create either a Form of Life, Beauty or Knowledge that reflected your home or something that stood out to you while in Boston. These were then shared. Later pairs of participants repeated the exercise. But they had to transform the previous person's creation, not destroy it — a very important aspect of Froebel's philosophy. "To climb a new tree means to the [child] the discovery of a new world. The outlook from above shows everything so different from the ordinary cramped and distorted sideview. How clear and distinct everything lies beneath [him/ her]. Not by walking and standing alone, do we learn to walk and stand. Not by walking and standing, sitting and crawling, do we learn to keep from falling; the survey of our surroundings, too, is needed. And how different does the commonest thing look when viewed from above!" — Friedrich Froebel

FROEBELIAN PLAY ACTIVITIES



BENNETT/GOESEL COMBINING THE GIFTS



SUSAN LOWELL: TENSEGRITY

Julie Bennett + Tiffeni Goesel Combining the Gifts

ALL OF FROEBEL'S Solid Gifts and the Surface, Straight Line, Curved Line, Point Gifts. A "salad bar" of Froebel Gifts was set up and all the tables were connected into one large work space. An overview of the Gifts and their transformation from soft solids to

Academic Daily · Behavior	REYEL
Auditory Visual - Attention Language - Spatial - Centor Skills Aerception Functions Fue - Ocular - Postural Conditation Control - Adjustment	Ego Thought
bady Reflex Ability to eme Maturity screen Sngut	Word Hearing Warmth
y Visual Auditory · Gustatory	Vision Taste Smell Balance
Vestibular · Proprioception	Novement Lite

ANNA RAINVILLE: MUSIC & MOVEMENT

the opposite of wooden solids, to divided solids, surfaces, curved lines, straight lines and points was shared.

Focus: Come, To The Froebel Table a Creative Design Exercise on Unity. Each participant gathered Froebel materials from the "salad bar" and filled their "plates" or hands and went to the community table. They were encouraged to return to the "salad bar" as often as they wished with no judgements. The design prompt was given: "Create with your Froebel materials something that represents Unity to you." Then, those who wanted to share with the group did. At the end we all came together in one big circle as Froebel began each day and ended each day in a circle of wholeness & Unity.

Susan Lowell Tensegrity as a STEAM activity: Biotensegrity & the Experience of Tensegrity

IN THE LAST CENTURY, a new kind of structure was discovered. In all of human history, it is only the second way ever devised to build. It is known as tensegrity, and the history of its development is deeply linked to Froebelian kindergartens.

In 1975, orthopedic surgeon Stephen M. Levin, frustrated with the machine-model analysis of human biomechanics in his medical school textbooks, began regularly visiting the dinosaur wing of the Smithsonian Natural History Museum in search of a better explanation: perhaps these much larger skeletons would reveal the mysteries of human movement? Ultimately, Levin found his answer on the opposite side of the Washington, DC National Mall, at the Hirshhorn Museum. Needle Tower, a 60 ft. tensegrity tower by Kenneth Snelson, revealed the secret Levin was looking for, and the science of tensegrity architecture in biology, biotensegrity, was born. Some time after, Yale biology student Donald Ingber, who is today founding director of the Wyss Institute for Biologically Inspired Engineering at Harvard University, had a similar insight.

Snelson, interested in working with former Bauhaus artists, attended the Black Mountain College summer program in 1948 and 1949 on the GI bill. He was assigned to assist "design scientist" R. Buckminster Fuller. Fuller's mother was an ardent Frobelian, and saw to it that her son attended a Frobel Kindergarten. As an adult, Fuller well-remembered his engagement with Froebel's Peas Work. Nearly blind at the time of his enrollment and as yet without glasses, he had no notion of the fuzzy buildings he saw around him being built with 90° angles. So, when he started to build using the peas and sticks, he had to feel his way through the process, and self-discovered the stability of triangles, information he later used to build his geodesic domes. Frobel's influence, flowing through both Fuller and the Bauhaus, led Snelson to build his first tensegrity. In the last decade, Dr. Vytas Sunspiral, a NASA scientist inspired by Levin's work, helped establish NASA's tensegrity robotics division. The International Mathematical Union chose a new logo whose design relates strongly to the tensegrity icosahedron. In March of 2018 the Wyss Institute confirmed that their research indicates "tensegrity is a fundamental determinant of living systems at all size scales," and at Texas A&M today, researchers are designing tensegrity-based habitats for long-term space travel.

In this Breakout session, we explored tensegrity as a STEAM activity. Participants built their own tensegrity structures, and together explored their balance and movement, reviewed their unusual geometry, and experienced the many structural principles that keep biologists, engineers, mathematicians and biomimicrists returning to tensegrity for insight, innovation and discovery. (Materials provided for both a 3-strut and a 6-strut tensegrity).

Anna Rainville Music & Movement

FROEBEL WROTE EXTENSIVELY on the value of rhythmic education and created original songs and movement for this purpose. Since his pioneering accomplishments, others have discovered why the natural desire to simultaneously sing and dance together increases a sense of wellbeing. Neurological research in the development of young children supports Froebel's idea that movement is an essential gateway to learning.

The simple dances of childhood serve as a strong foundation for healthy physical development, coordination, concentration, and cooperation. They build confidence in proprioceptive and vestibular capacities as well as inviting social and emotional awareness.

Froebel's games were composed and intentionally choreographed. Similar gems, known as singing games, are a part of every culture and generation.

In this workshop, participants experienced singing games and dances that complement the innovative approach of Froebel's kindergarten. These seasonal singing games address laterality, spatial orientation, and sensory integration while lifting spirits and building community.

Lella Gandini The Rights of Children

LELLA GANDINI, United States Liason for Dissemination of the Reggio Emilia approach and a Visiting Scholar at Lesley University, gave an eloquent speech on how closely aligned the work of Friedrich Froebel and Loris Malaguzzi are, from the roles of teacher and learner to the women's movements that spread their methods. With vivid examples, Lella clearly outlined the ways we must champion the rights of children and families to have a voice in education. These include the right to be observed and listened to, the right to a quality space and good food, and the freedom to communicate about and explore their world. She also advocated for the right of teachers to to be valued and trusted. It was a brief but inspiring way to remind us that the experiences we shared have a broader mission.







Participants (l to r) Mary Mindess, Barbara Beatty, Lella Gandini



Eleanor Duckworth