Playing with Intent: An Ecoliteracy, Urban Agriculture and Sustainable Urban Land Use Immersion Learning Program for First 5 Resource Centers in Santa Clara County

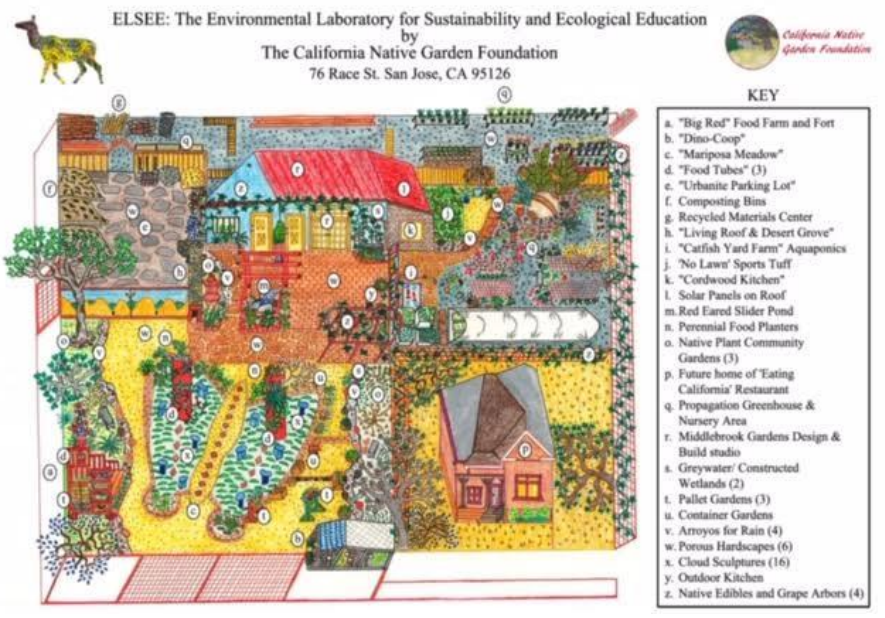
Our proposal is to create a version of ELSEE (Environmental Lab for Sustainability and Ecological Education) for existing First 5 Resource Centers in Santa Clara County. Our Flagship ELSEE lab is located at CNGF (The California Native Garden Foundation) Headquarters, 76 Race Street in San Jose.

In 2009, Alrie Middlebrook, CNGF founding member and president, created ELSEE, a model for California schoolyards. It is a creative garden resource to teach ecoliteracy, environmental education, sustainable urban agriculture (ROA), and urban land use that also reduces the carbon footprint for every child and family who uses the garden and farm.

ELSEE is certified by The United States Green Building Council and the Sustainable Sites Initiative. To achieve this designation, its design includes 200 benchmarks for sustainable urban land use.

To accompany ELSEE, CNGF has designed a comprehensive sensual engagement learning program for First 5 mothers, children and families that will help prepare them - intellectually, physically, emotionally and socially - for living a healthy sustainable lifestyle on our planet. At the same time, they will be making a personal reduction in their carbon footprint to mitigate the effects of climate change.

Here are our objectives:



Part 1: Design and Build

- (1) Transform the outdoor play areas at First 5 Resource Centers to nature-centered active, large and small motor learning areas. Within this reimagined garden lab, preschoolers will experience firsthand the native ecosystems of our region. Adjacent to the native plant community gardens, there will be a small regenerative organic agriculture (ROA) plot. Both garden areas will be fenced. Unsupervised play is discouraged. However, in the garden lab there are adults and children sharing, overseeing, observing, learning and playing together.
- (2) In addition to creating two new program areas, CNGF will reimagine the existing outdoor garden areas and coordinate them with the new outdoor education areas so that all programs are optimally utilized to create active, nature-centered, healthy eating and active living opportunities on a daily basis.
- (3) List of components in the new ELSEE “Playing with Intent” project and cost of each element.
- Operational Plan: First Year: We will be creating an ELSEE prototype at Northside Resource Center as a pilot project. For the first year, families, students, teachers and staff will participate in the building and planning of the ELSEE model at Northside. They will also help develop the symbols representing a nature sign language. We will create symbols for each of the plant communities, plants, microbes, insects, amphibians, birds and mammal’s requirements that will one day make up the entire sign language lexicon for this program.

Part 2: Teachers and Lessons

- Lesson plans present project-based learning activities outdoors. Our activities are focused on engaging as many of the senses as possible with each project. Classes and activities will be held outdoors year-round. Part of our design will include nature-centered places or solutions where children are protected from sun, intense heat, rain and wind.
- Our lessons will be presented by teaching specialists with the goals that, by engaging multiple senses outdoors, children will have a higher rate of ecoliteracy retention that will enable them to make healthy choices about food, active engaged learning by doing, and personal conservation practices for the duration of their lives.
- Our three specialty teachers' areas of expertise are: Teacher 1) ecoliteracy, environmental science, STEAM education and regenerative organic agriculture; Teacher 2) art and movement practice for the protection of the environment and personal physical health and well-being; and Teacher 3) Storytelling and play acting that focuses on tales of indigenous people, both here in California and the homeland of the children and their families. There will be many hero tales where children can explore what it means to be an animal, a bird or an insect living in a cared for and respected natural world. These are stories that have been passed on from generation to generation in indigenous cultures worldwide.
- Our most significant goal is that by the time they leave the program ready for kindergarten, children and families will intimately know five of the main plant

communities in our region. They will know 10 plants from each ecosystem, 10 insects, 10 birds, 2 lizards and 5 animals. Part of their immersion program will be to create a visual sign language for each species as well as the place, or home, where it originates and lives its life. We call this our nature alphabet.

- In addition, they will understand what Regenerative Organic Agriculture is and why it's different and better for our health and our planet's health. They will learn what a regenerative organic farm looks like. They will experience in a sensual way how it is connected to the natural world. They will participate in group and then nurturing them until they are ready to harvest. (I don't understand this sentence.) Activities will include planting seeds of plants that grow there. Over the course of the year, they will grow and eat 25 different food plants. There are six categories of foods they will learn: native food plants, perennials, drought tolerant, nitrogen fixing, super foods and comfort foods. They will be able to recognize them, taste them, know why they are good for them, and learn how to plant, grow, harvest, and prepare and eat them.

A few sample lessons with main objectives:

Our Educational Philosophy

At CNGF, we believe that immersing children in nature and engaging all their senses are keys to their health, happiness and overall well-being. Being in awe of the magical world of nature ignites their curiosity and awakens their senses. Children need to learn how nature sustains life and how we can live as part of the ecosystem. With proper guidance and developmentally appropriate curriculum, it is possible to empower even very young children to become aware of interconnectedness and be good stewards of earth. As we are faced with the urgent task of creating a more sustainable society, the development of ecological intelligence in children is critical – equal to logical-mathematical, social or emotional intelligence.

Most children spend more time indoors and adults in their lives are disconnected from the natural world. Thus, we take our learning to the outdoor classroom, where children have opportunities to see, touch, feel, play, imagine, investigate, test, and directly experience what they are learning, all the while strengthening their connection to nature.

Teaching Garden and Healthy Eating

Because our program draws inspiration from the wisdom of native ecosystems and regenerative organic agriculture, children willbe involved in planting a native food garden with wild hedgerows. They will learn about native plants and foods, their origins, and their relationship with local pollinators. When children taste food they have grown or helped prepare and learn about its health benefits, they will better appreciate the food and likely develop lifelong healthy eating habits.

Learning to Think Like a Naturalist

Children will learn about intricate relationships between plants, animals, and native environments, such as grassland or wetland in the San Francisco Bay Area. Unlike a typical ecological education model for young children, we believe studies of plants and animals should include focused attention to actual species of plants and animals in a certain environment. When children become intimately familiar with the plant or animal (in the same way they become knowledgeable about their favorite characters from stories), they will remember them and care about them more. That familiarity may include its name, appearance, sound, behaviors, diet, and predators, or, in the case of plants, where they grow, what they need to grow, and what their habitats/plant communities look like. Learning about plants and animals that children could well encounter when they venture outdoors helps make the learning more meaningful. Learning to think like a naturalist will further deepen the bond between children and the natural world. They will be taught through rich experiential processes, including stories and experiments, that incorporate many senses. Children will be invited to express their discoveries, ideas and feelings through various imaginative explorations, such as creative movement, play-acting, story making and visual arts that deepens their learning.

Learning Opportunities for Everyone

This program is designed to teach both children and their parents/caregivers. While most activities are aimed toward the 3 to 5 year age group, parents/caregivers can be cued as to how to adjust the activities to serve younger children.

Part 3: Utilizing ELSEE

Utilizing the Flagship ELSEE as additional enrichment for teachers, families and staff Here is a list of activities and events that will be held at CNGF/ELSEE.

- One training day for each resource center's staff, three times a year. Participating will be three First 5 staff, three CNGF teachers, four interns, and one director. This will focus on the specific ways we have helped each resource center create its own ELSEE version and specific ways it can be uniquely used to meet our teaching objectives. As there are 25 resource centers, there will be 75 training days each year. It will be on Mondays from 9-12, including lunch from the farm and garden. Cost: for 75 events $33,750.
- Four family and intern days will be held at the garden. This event is for up to 100 people. There will be one each quarter. One additional day will include a hike to a local park with a nature guide. These events at ELSEE are all day events, 10-6, and will include a maker's faire, farmers market, games, recipe contests, demonstrations, talks, workshops, entertainment, etc. Cost for 4 events is $8,884, which includes feeding up to 100 people pizza and barbecued goat.
- Four guest speaker days/year; 25 attendees per day; 3 hours (9-12 or 10-1) plus lunch, includes speakers and workshop. Cost for all 4 days: $5,500
- Three in-service learning days. Teacher enrichment. 5.5 hours, 25 people, workshop activities, farm to table lunch plus gift. Cost for 3 days: $5,580
- Option for six in-service learning days. Cost for 6 days: $11,160
- Along with the transformation of the physical environment and the lessons and learning activities that will set the children and families on a lifelong pursuit of healthy eating and active living, First 5 will have access to the Flagship ELSEE lab at our corporate headquarters. Here, First 5 teachers, managers and staff will have additional in-service learning days, special group workshops, and guest

speakers. On other days, CNGF will host special events for First 5 families. There will also be off-site visits for family members, mothers and children. These experiences may include nature hikes to state and county parks, visits to farmers markets, shopping for health, etc.

Part 4: Internships

- Also invited to these events, and integral to Playing with Intent, will be college interns pursuing degrees in science education, ecology, public health, art education, physical education, music, landscape design, environmental studies, drama, health and nutrition, and ecological engineering. The interns will be assisting in the long-term execution of this program, both as teaching assistants and as researchers, studying the efficiency and efficacy as well as measuring, recording data and reporting findings to evaluate outcomes comparing this program to others.
- The college internship program selects four interns, including a graduate student pursuing a thesis in conjunction with this project, to assist each teacher with lessons and activities. Interns are participating in a paid internship for an ecoliteracy/ROA field practicum with required research topic, data collection and evaluations included.

- Each student's research topic and requirements are approved by their professor in their major and the director of the Playing with Intent program at CNGF. Cost: $50,000

Part 5: Budget

- A- Baseline budget to plant, irrigate and mulch 4,000 sq. ft. of existing site: $30,000
- B- Child height used stainless steel work table: $500
- C- Adult height used stainless steel kitchen work table: $500
- D- Three used stainless steel sinks w/counters: $500
- E- Plumbed to a constructed greywater wetland system with subterranean piping and no exposed surface water: $700
- F- Covered cooking and eating area for protection from rain and sun and capture of storm water for reuse: $2,000
- G- Large sand pit with boulders for imagination play and building (cost?)
- H- Locate water spicket near sand pit: $2,500
- I- Fencing for large garden and adjacent ROA garden: $8000
- J- Outdoor kitchen and eating area near existing raised beds; we will replace existing asphalt with decomposed granite: $4,000
- K- Building regen farm plot: $5,000

- L- Design fee: $7,980
- Total Cost: $61,680
- May have to add 10% to each figure
- Rent must be calculated on top of the expenses of providing the staff, direct costs and programming. Per diem rental fee is $216. First 5 will use ELSEE for 87 days. Total rental fees: $18,792
- Cost to design and build the ELSEE model and refurbish the two outdoor raised beds areas:
- Costs of teaching staff to manage the program & teach the lessons: Three teachers two days per week. Art and storyteller rotate every other lesson. Lead environmental science teacher teaches one day per week on Tuesday, others rotate on Thursday.

Totals:

- $72,106 ELSEE enrichment days for teachers and families
- $50,000 college intern research, training and data collection and evaluations
- $18,000 teacher's compensation
- $61,180 design and construction of teaching gardens
- $60,000 project manager Alrie
- $30,000 Garden program manager/teacher at ELSEE
- Total $291,286

If the Kaiser grant is awarded, Kaiser will make a $100,000 contribution to offset costs.